Appendix 1:
Notice of Preparation/Initial Study and Responses

1.1 - Notice of Preparation/Initial Study (NOP/IS) for Fulton Mall Reconstruction Project, October 2013

Please see the October 2013 Notice of Preparation and Initial Study already on file separately.

1.2 - Comments on Fulton Mall Reconstruction Project NOP-IS, October 2013

DEPARTMENT OF TRANSPORTATION
DISTRICT 6
1352 W. OLIVE AVENUE
FRESNO, CALIFORNIA 93721
PHONE (559) 444-2493
FAX (559) 445-5875
TTY 711
www.dot.ca.gov

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November 13, 2013

2131-IGR/CEQA
6-FRE-99-020.885
Fulton Mall Reconstruction TIS

Ms. Wilma Quan
Urban Planning Specialist
City of Fresno
2600 Fresno Street
Fresno, California 93721

Dear Ms. Quan:

We have completed our review of the proposed reconstruction of the existing pedestrian Fulton Mall located between Tuolumne and Inyo Streets in the City of Fresno. The purpose of the reconstruction is to improve parking and vehicle access to the local businesses along Fulton Street. The project would convert the pedestrian mall into street right-of-way. Caltrans has the following comments:

- The Fulton Mall Reconstruction project may benefit from providing Shared Lane Marking (SLM) also known as sharrows as described in the *California Manual on Uniformed Traffic Devices, 2012 Edition*. The benefits of the SLM are as follows:
  - Assist bicyclists with lateral positioning in a shared lane with on-street parallel parking in order to reduce the chance of a bicyclist's impacting the open door of a parked vehicle;
  - Assist bicyclists with lateral positioning in lanes that are too narrow for a motor vehicle and a bicycle to travel side by side within the same traffic lane;
  - Alert road users of the lateral location bicyclists are likely to occupy within the traveled way;
  - Encourage safe passing of bicyclists by motorists; and
  - Reduce the incidence of wrong-way bicycling.
- As tenant improvements are approved, pedestrian traffic along with vehicle traffic may increase within the project area. The City of Fresno may consider diagonal crossing at the intersections of Fulton at Fresno Street and Fulton at Tulare Street. Diagonal crossing with exclusive pedestrian signal phases, diagonal crossings are allowed as well as conventional crossings. Daytime pedestrian activity may be heavy in the downtown area due to the concentration of businesses and services. The primary concern may be the high number of conflicts between pedestrians and vehicles at the intersections, especially during holiday seasons. Large pedestrian flows may block crosswalks to turning traffic during the entire green signal phase.
- Any significant change in the land use within the facility along within the Fulton Mall development that would significantly increase the Project traffic in the future and impact State Route (SR) 41, SR 99, and or SR 180 interchanges would need to be addressed.

If you have any further questions, please contact David Padilla, Transportation Planner, Planning and Local Assistance at (559) 444-2493.

Sincerely,

DAVID PADILLA
Transportation Planner

RESOURCE MANAGEMENT AGENCY

Community and Economic Development
Department of Planning and Building

Norman L. Allinder, AICP
Director

- 2037 W. Cleveland Avenue
- Mail Stop G
- Madera, CA 93637
- (559) 675-7821
- FAX (559) 675-6573
- TDD (559) 675-8970
- mc_planning@madera-county.com

November 14, 2013

Mr. Elliott Balch
Downtown Revitalization Manager
City Manager's Office
2600 Fresno Street, 2nd Floor
Fresno CA 93721

Re: Fulton Mall Reconstruction Project
Notice of Preparation

Dear Mr. Balch,

On November 5, 2013 the Madera County Board of Supervisors directed staff to participate in all active regional planning projects being undertaken by the City of Fresno. I am therefore submitting this letter on the recently published Notice of Preparation for the Fulton Mall Reconstruction Project, which will have significant impacts upon the citizens of Madera County, and the region as a whole.

In accordance with the California Environmental Quality Act (CEQA) Section 15206 this project is considered to be of regional significance and the City of Fresno must therefore address the following regional impacts:

- AIR QUALITY – This project must analyze the construction and operational impacts associated with air quality, and the further exacerbation of the City of Fresno's jobs-housing imbalance this project will create with the City of Fresno importing traffic into the region to serve the over concentration of commercial and industrial land uses, while failing to provide for adequate housing for those individuals working in the community. This is a significant regional issue that will only become worse with the proposed project. The City should require the project to secure a Voluntary Air Emission Reduction Agreement (VERA) with the San Joaquin Air Pollution Control District. This is an achievable verifiable mitigation measure for air quality impacts, and therefore must be considered and adopted as a part of the project.

- PROJECT ALTERNATIVES – In addition to the two alternatives identified in the Initial Study the Environmental Impact Report should analyze the following project alternatives:
  - No project
  - Removal of all commercial/office land use in Fulton Mall, and placing strictly residential land use.

- TRANSPORTATION - The transportation section of the NOP and initial study fail to address regional impacts to transportation. Madera County recommends a

Regional Traffic Impact Study be prepared to analyze impacts to regional transportation corridors such as:

- Avenue 9
- Avenue 12
- State Route 41
- State Route 99
- State Route 145

The project intends to improve vehicle access to local businesses. The majority of consumerism for the region takes place in the City of Fresno; improved access will only lead to additional traffic from neighboring cities and counties such as Madera County. The EIR must include mitigation measures such a regional transportation mitigation fee to address the impacts the project will have upon Madera County roadways.

- WATER – This project must analyze the regional impact of construction and build-out of water consumption associated with the project. The underlying aquifers throughout the San Joaquin Valley are in a state of overdraft, and placing a massive development project within nine miles from Madera County will have an impact upon the Madera Subbasin and must be addressed within the Environmental Impact Report for the project. This project should also prepare a Water Supply Assessment in accordance with Senate Bill 610. The City of Fresno, like Madera County should look at requiring all new development required to prepare a Water Supply Assessment to create a 1:1 water balance, which would require the development to secure surface water rights prior to construction to address the severe overdraft of the basin.

Madera County looks forward to participating in this process. Please forward all studies and information regarding impacts to this office as well as the Madera County Transportation Commission, and the City of Madera for review.

Sincerely,

Norman Allinder
Planning Director

CC: Madera County Board of Supervisors
Mayor Ashley Swearengin
Fresno City Council
Eric Fleming, County Administrative Officer
Doug Nelson, County Counsel

FRESNO METROPOLITAN FLOOD CONTROL DISTRICT

File 170.21
310. "FF"
550.30 "FF"

November 12, 2013

Mr. Elliott Balch
Downtown Revitalization Manager
City of Fresno, City Manager's Office
2600 Fresno Street, 2nd Floor
Fresno, CA 93721

Dear Mr. Balch

Fresno Metropolitan Flood Control District (District) Comments for Notice of Preparation of an Environmental Impact Report and Notice of Public Scoping Meeting for the City of Fresno Fulton Mall Reconstruction Project Drainage Area "FF"

There are existing storm drain facilities located throughout the project area. Any proposed relocation, construction of proposed or reconstruction of existing storm drainage facilities will need to be reviewed and approved by the District prior to implementation. Any storm drainage facilities that are not located within the public street right-of way shall be within a pipeline easement dedicated to the District. No encroachments into the easement shall be permitted including, but not limited to, foundations, roof overhangs, swimming pools, and trees.

The District requests that the Engineer contact the District as early as possible to review the proposed storm drain replacement for routing and pipe sizing. The District will need to review and approve the final improvement plans for all development (i.e. grading, street improvement and storm drain facilities) within the boundaries of the proposed project to insure consistency with the approved Storm Drainage Master Plan.

Any proposed new structures within the Fulton Mall Reconstruction Area with street level entry may be at risk for flooding during a large event storm. Therefore, any new development within the project area is required to provide street capacity calculations and/or check the overflow point to determine the finish floor that provides protection of the structure from flooding during a large event storm.

If there are to be storm water discharges from private facilities to the District's storm drainage system, they shall consist only of storm water runoff and shall be free of solids and debris. Landscape and/or area drains are not allowed to connect directly to District's facilities.

k:\letters\environmental impact report letters\eir-fulton mall reconstruction(ff)(gc).docx

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Roof drains from the buildings fronting the Fulton Mall may be currently connected to the existing storm drain facilities. The District encourages, but does not require that roof drains from non-residential development be constructed such that they are directed onto and through a landscaped grassy swale area to filter out pollutants from roof runoff.

The District requests the following correction to the Initial Study comments:

Regarding Subsection 3.9(a): The Initial Study does not take into account the District's regional stormwater basins. The third sentence should be replaced to read.....Once within the storm drain system, these materials are conveyed to regional stormwater basins and could be discharged into receiving waters.

Thank you for the opportunity to comment. Please keep our office informed on the development of these plans. If you should have any questions or comments, please contact the District at (559) 456-3292.

Very truly yours,

Gary Chapman

Gary Chapman
Engineering Technician III

GC/lrl

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

November 14, 2013

Elliot Balch
City of Fresno
Downtown Revitalization Manager
City Manager's Office
2600 Fresno Street 2nd Floor
Fresno, CA 93721

Project: Notice of Preparation of an EIR for the Fulton Mall Reconstruction Project

District CEQA Reference No: 20130909

Dear Elliot Balch:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the project referenced above proposing to reconstruct the Fulton Mall as a complete street by reintroducing vehicle traffic lanes to the pedestrian mall. The District offers the following comments:

1. Based on information provided to the District, project specific emissions of criteria pollutants are not expected to exceed District significance thresholds of 10 tons/year NOX, 10 ton/year ROG, and 15 tons/year PM10. Therefore, the District concludes that project specific criteria pollutant emissions would have no significant adverse impact on air quality.

2. Based on information provided to the District, the proposed project would/may equal or exceed 9,000 square feet of space. Therefore, the District concludes that the proposed project is subject to District Rule 9510 (Indirect Source Review).

   District Rule 9510 is intended to mitigate a project's impact on air quality through project design elements or by payment of applicable off-site mitigation fees. Any applicant subject to District Rule 9510 is required to submit an Air Impact Assessment (AIA) application to the District no later than applying for final discretionary approval, and to pay any applicable off-site mitigation fees before issuance of the first building permit. If approval of the subject project constitutes the last discretionary approval by your agency, the District recommends that demonstration of compliance with District Rule 9510, including payment of all

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

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applicable fees before issuance of the first building permit, be made a condition of project approval. Information about how to comply with District Rule 9510 can be found online at: http://www.valleyair.org/ISR/ISRHome.htm.

3. The proposed project may be subject to District Rules and Regulations, including: Regulation VIII (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), Rule 4601 (Architectural Coatings), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). In the event an existing building will be renovated, partially demolished or removed, the project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants). The above list of rules is neither exhaustive nor exclusive. To identify other District rules or regulations that apply to this project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business Assistance Office at (559) 230-5888. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm.

If you have any questions or require further information, please call Ms. Debbie Johnson, at (559) 230-5817.

Sincerely,

David Warner
Director of Permit Services

Debbie Johnson
for
Arnaud Marjollet
Permit Services Manager

DW: dj

Cc: File

To: Elliot Balch
From: Downtown Fresno Coalition
Re: November 5, 2013-- Scoping Meeting for Fulton Mall Reconstruction Project

My name is Hal Tokmakian, and I am a member of the Downtown Fresno Coalition.

Our detailed comments for the scoping topic for the Fulton Mall Reconstruction Project (Project) will be submitted in writing to you and all other responsible agencies and organizations before the November 15, 2013, deadline.

But, there are three comments we will bring to your and others' attention now that we feel are pertinent to the meeting at hand. Each of these comments leads to the conclusion that the Notice of Preparation (NOP) underlying this meeting is fatally flawed and this process should be halted.

1. The publicly advertised NOP states that the notice and this scoping meeting are conducted as part of the California Environmental Quality Act (CEQA) process. However, the Fulton Mall Reconstruction Project is mostly funded by federal dollars. The National Environmental Policy Act (NEPA) provides that any project funded by federal money is subject to evaluation for environmental impacts according to that Act. That information was omitted from the public notice and we submit that this scoping should be halted and re-noticed as being part of the NEPA process.

2. This NOP for the Fulton Mall Reconstruction Project describes the project as having two alternatives 1) reconnect the grid on traditional streets, and 2) reconnect the grid with "vignettes." This presents a second reason why the NOP and this meeting should be terminated now.

The City of Fresno on about August 12, 2013, signed an agreement with Royston, Hanamoto, Alley & Abey (RHAA) for landscape services, designs, plans, and working drawings, etc. for the Fulton Mall Reconstruction Project. The City required this contractor to develop three (3) alternatives.

1) Reconnect the grid with a traditional street.
2) Reconnect the grid with "vignettes."
3) Restore and complete the Fresno Fulton Mall as a pedestrian mall.

The schematic design phase of RHAA's contract has being ongoing since last month, October, 2013, with a schedule of steering committee meetings (at which Ashley Swearingin appeared, and City staff attended) and workshops with the general public and special interest groups, etc. (also attended by City staff).

At every one of these gatherings discussion and consideration was specifically sought about all of the *three* alternatives. Additionally, it was specifically represented to attendees that all three alternatives were being examined on an equal basis, that no decision had been made about which alternative to pursue, and

that the City Council will receive a report from the consultants that will include an evaluation of all three alternatives.

Do you see the problem now between the NOP and the public process? Were the people of Fresno being duped at public meetings to consider three alternatives when, while the meetings were still ongoing, the City quietly removed one alternative from the environmental process? Will the City Council be similarly deceived?

3. A third reason why the NOP is irreparably flawed is this:

The two alternatives described in the NOP are inconsistent with the existing General Plan of Fresno and with the Central Area Community Plan. Both the GP and the CACP maintain the Fresno Fulton Mall as a pedestrian area. City and State planning law requires that all projects be consistent with the general plan and relevant specific plans *before* they proceed. On this basis the project described in the NOP is unlawful and cannot proceed.

The DFC will submit additional detailed comments on issues of concern prior to November 15, 2013, the deadline for written comment published by the City.

HERITAGE FRESNO

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November 4, 2013

Mr. Elliott Balch
Downtown Revitalization Manager
City of Fresno
City Managers Office
2600 Fresno Street, 2nd Floor
Fresno, CA 93721

Re: Fulton Mall Scoping Meeting

Dear Elliott,

The "Scoping conference" for the Fulton Mall project is at hand. We are informed that "option 3," calling for the restoration of the mall without loss of its unique features as a public park and art object, has been omitted from the scope of review. We hope that we are incorrectly informed.

We recall that this process started with a citizens' advisory committee chaired by Sally Caglia. That committee preferred, you may recall, the restoration of the Fulton Mall. At the request of the City's agents, they also acknowledged that opening side streets to traffic was an option. At the further request of City agents, they were further required to add that ripping out the Fulton Mall in favor of automobiles was still another option. In our view, respect for the opinion of the public, requires study and consideration of all three options before one is discarded out of hand.

Heritage Fresno advocates for the preservation of Fresno's historic structures, districts and objects. The Fulton Mall, created by the renowned Garrick Eckbo, is a qualifying structure, object and district. Absent objection by the City of Fresno, this cherished and valuable urban park, itself an object of public art, would be listed on the National Register of Historic Places.

We regret that the current executive department of the City of Fresno seems determined, even in the face of manifest and widespread popular opposition, to "redesign" Mr. Eckbo's unique, irreplaceable work only in such a way that motorized vehicular traffic is reintroduced. We see this as a giant step backward. It does not just "rearrange the furniture," so to speak. It destroys a work of art by a known artist. Such a "redesign" is, in our view, a fundamentally inconsistent new use which necessarily obliterates Mr. Eckbo's artistic creation "*which yet survive, stamped on these lifeless things.*" If this is accomplished, Fulton "Street" will no longer qualify for listing on any register. It will just be a street, while a public art treasure, now part of our heritage, is lost to our nation.

In the face of a manifestly relentless executive determination, our last hope for the triumph of principle over expediency is the operation of California's Environmental Quality Act. We remain confident that you will be true to the public and restore study of the restoration option to the scope of review. We hope that the act will not be abused in order to accomplish an end not embraced within its purpose. We trust, therefore, that the City will adhere to the Act's spirit as well as it's terms. Please act openly, with ample opportunity for all alternatives and mitigations to come forward. Allow, if you will, a study that is both dispassionate and candid in service to complete objectivity for the public good.

In this regard, and consistently with our mission, please advise us in ways that we might assist you in advancing the general public good.

Very truly yours,

Charles R. Barrett

Charles R. Barrett
Heritage Fresno

cc: Downtown Coalition
Fresno Arts Council
Tehipite Chapter, Sierra Club
Harold Tokmakian

2930 N. West Ave. Fresno, CA 93705-3901 Ph. 559.243.5848 Fax 559.243.0100
www.heritagefresno.org

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CITY OF FRESNO
Mr. Elliott Balch
Downtown Revitalization Manager
City of Fresno
City Managers Office
2600 Fresno Street, 2nd Floor
Fresno CA 93721

PLAN TO PRESERVE & IMPROVE THE FULTON MALL

Presented by a Subcommittee of the Fresno Fulton Mall Reconstruction Steering Committee on October 23, 2013

Below is an outline of individual improvements which would enhance the existing Fulton Mall. None of these suggested improvements would result in the destruction of any of the important features of the Fulton Mall, and would in fact be in keeping with the vision of a unified whole which was conceived by Garrett Eckbo and executed under his direction. The Fulton Mall (designed by Mr. Eckbo) is an important "work of art" in and of itself, which happens to be composed of individual works of art in the form of topographical line drawings, sculptures, murals, fountains and water features.

The objective of this plan is to have the Fulton Mall finally obtain it's rightful recognition as being one of the largest and most important collections of outdoor public art in the country. This will allow the Fulton Mall to become a prime tourist destination, which will in turn attract specialty shops and eateries to the area to meet the needs to the incoming tourists. Further, this is in keeping with the preservation of Fresno history, the maintenance of our sense of identity, and the desire to facilitate the revitalization of the downtown area generally.

Stan Bitters

DESIRED IMPROVEMENTS

1. Replace the concrete floor and duplicate the topographical design (restoration).

2. Install significant outdoor lighting (stadium style) all along the Fulton Mall, making the quantity / quality of light such that one could not differentiate day from night.

3. Build new restroom facilities near the center of the Fulton Mall (and perhaps elsewhere).

4. Build an Information Center near the center of the Fulton Mall.

5. Install directional signage to inform visitors of what is located on the Fulton Mall and where it is located.

6. Introduce an Electric Tram system to convey visitors the length of the Fulton Mall, with a supporting docent program which would be competent to provide information about the sculptures and related art, buildings, businesses, and history of both the Fulton Mall and Fresno in general.

7. Add more fountains and sculptures to the Fulton Mall.

8. Add locations where there can be small shops - perhaps "tunnels" which would break through the wall of some building on the Fulton Mall and provide access to the rear alleyway where there could be additional small shops.

9. Encourage improves to storefronts so that the stores become more "outdoor visitor" friendly.

10. Create a budget to promote the Fulton Mall in the form of advertising to be placed in nationally recognized and nationally distributed magazines. This should be done in conjunction with regular print articles about the Fulton Mall and the events which take place in the Mall.

11. Refurbish existing sculptures, fountains and water-features.

12. Establish a maintenance program for the Fulton Mall.

13. Place 24 hour security in the Fulton Mall to provide a greater sense of local safety.

14. Design and install a shade structure (perhaps incorporating a fabric type material) over the raised platform in the "free speech area."

15. Establish a City Department (or private entity) which would organize and conduct "Mall Entertainment," such as music events, puppet shows, mimes, theatrical performances, art exhibits, some sporting competitions, etc. . .

16. More . . .

Mike Houlihan - Fulton Mall

From: janet moore <janetkmoore@gmail.com>
To: Elliott Balch <Elliott.Balch@fresno.gov>
Date: 11/10/2013 9:15 AM
Subject: Fulton Mall

Please, no cars or parking meters on the Mall. Use the money to renovate the facades of the beautiful old buildings. Incidentally, why allow the Granville Medical Complex locate in the foothills? Why not bring it downtown? Think of all the young people, teachers utilizing apartments, grocery stores, news shop, pubs, boutiques, etc. We must stop using cars.

Janet Moore
720 E. Cambridge
Fresno 93704
226-1960

Mike Houlihan - RE: Fulton Mall Scoping Meeting

From: bcdyer <bcdyer@att.net>
To: Elliott Balch <Elliott.Balch@fresno.gov>
Date: 11/4/2013 3:10 PM
Subject: RE: Fulton Mall Scoping Meeting
CC: 'Downtown Fresno Coalition' <downtownfc@sbcglobal.net>, 'Dianna' <1000friends@sbcglobal.net>, 'Linda Zachritz' <lzachritz@sbcglobal.net>

Date: Monday November 4, 2013

To: Elliott Balch, Downtown Revitalization Manager

Subject: Fulton Mall Scoping Meeting

The initial study required under CEQA for the current analyses of Fulton Mall must address potential effects on the environment from each of the three alternatives eligible for study under the TIGER Grant. If study of restoration of the Fulton mall is not eligible, deletion of the restoration alternative will also, of course end the mall's historical status.

Robert E. Dyer, Retired Principal Planner/Architect
559/583-7144

From: Downtown Fresno Coalition [mailto:downtownfc@sbcglobal.net]
Sent: Tuesday, October 22, 2013 9:16 AM
To: Dianna; Linda Zachritz; Doug Richert
Subject: RE: Fulton Mall Scoping Meeting

Dear Downtown Fresno Coalition Members

The City is holding a legally required "scoping meeting" regarding the Fulton Mall on November 5, 2013, at 5:30 p.m. at City Hall council chambers.
This scoping meeting is a first step in the CEQA/environmental report process.

They have deleted alternative three, restoration of the mall, from the definition of the project.

It is important that as many of you as possible attend, if only long enough to register your objection to this tactic and your support for restoration of the mall. We understand that there have been many recent meetings regarding the mall, but it may be essential that citizens object at this meeting, or in writing, in order to protect your, and our, right to later take issue with the City's tactics. If you prefer to make your comments in writing direct them to:

Elliott Balch
Downtown Revitalization Manager
City of Fresno, City Manager's Officer
2600 Fresno Street, 2nd Floor
Fresno, CA 93721

Elliott.Balch@fresno.gov

Mike Houlihan - Notice of Preparation of EIR for Fulton Mall Reconstruction Project

From: Jeff Becker <jbecker@fcoe.org>
To: Elliott Balch <Elliott.Balch@fresno.gov>
Date: 10/31/2013 11:48 AM
Subject: Notice of Preparation of EIR for Fulton Mall Reconstruction Project
CC: Jan Biggs <JBiggs@fcoe.org>

Hi Elliott,

I reviewed the Initial Study prepared by FirstCarbon Solutions dated October 15th for the Fulton Mall Reconstruction Project and offer a couple of clarifications. First, the Fresno County Office of Education buildings located on Van Ness between Mariposa and Fresno are shown on *Exhibit 3 – Existing Land Use* as commercial office space and may be more appropriately shown as government offices. Second, on page 171 under *Schools*, the study identifies the Fresno County Office of Education as the Fresno County Special Education Local Plan School (public). It is important to note that the Fresno County Office of Education downtown offices house administrative staff, including but not limited to special education staff, but no students are served at this location.

Finally, my office submitted a comment letter dated April 27, 2012 regarding the EIR for the Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and Downtown Development Code. These comments are applicable to the Fulton Mall Reconstruction Project as well.

If you have any questions, please let me know.

Thanks,

Jeff Becker
Director of Facilities & Operations
Fresno County Office of Education
1111 Van Ness Ave.
Fresno CA, 93721
(559) 497-3721
jbecker@fcoe.org

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Mike Houlihan - City of Fresno, Fulton Mall Reconstruction Project

From: "Moua, Bounma" <b2m3@pge.com>
To: Elliott Balch <Elliott.Balch@fresno.gov>
Date: 10/28/2013 12:09 PM
Subject: City of Fresno, Fulton Mall Reconstruction Project
Attachments: City of Fresno, Fulton Mall Reconstruction.pdf

Elliott,

Thank you for notifying Pacific Gas and Electric (PG&E) of the proposed plans to improve the Fulton Mall area. At this moment, we have no comments regarding the proposed project. Please send us some plans when available. We would like to make certain our existing underground facilities will not be disturbed, if there are to be any new pavement.

Thank you.

Bounma Moua
Land Agent
Pacific Gas & Electric Company
Phone (559) 263-5688
Internal 821-5688
Fax (559) 263-5720

PG&E is committed to protecting our customers' privacy.
To learn more, please visit http://www.pge.com/about/company/privacy/customer/

Mike Houlihan - Fwd: Fulton Green Proposal -- 1

From: Steve Weil <mweil0777@aol.com>
To: Elliott Balch <Elliott.Balch@fresno.gov>
Date: 10/28/2013 9:15 AM
Subject: Fwd: Fulton Green Proposal -- 1
CC: Karana Hattersley-Drayton <Karana.Hattersley-Drayton@fresno.gov>
Attachments: Fulton_Green[1].pdf

Elliott:

RE: Fulton Scoping Process

Please include the attachment forwarded below, which is in graphic and text format, as part of my written comments.

Steve Weil

Sent from my iPad

Begin forwarded message:

> **From:** Steve Weil <mweil0777@aol.com>
> **Date:** October 17, 2013, 10:58:17 AM PDT
> **To:** karana.hattersley-drayton@fresno.gov
> **Subject: Fwd: Fulton Green Proposal**
>
> Karana:
>
> Attachment: FYI
>
> Questions or comments are welcome.
>
> Steve Weil
>
> Sent from my iPad
>
> Begin forwarded message:
>
> > **From:** Martin Weil <mweil0777@aol.com>
> > **Date:** April 29, 2012, 4:17:53 PM PDT
> > **To:**
> > **Subject: Fulton Green Proposal**

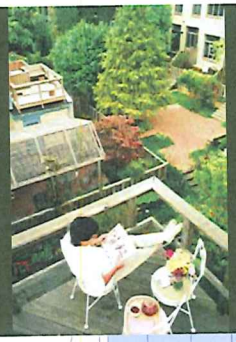
Fulton Mall: Main Street or Copenhagen-style Housing Green?

Proposal for adaptive reuse as a neighborhood green instead of a street.

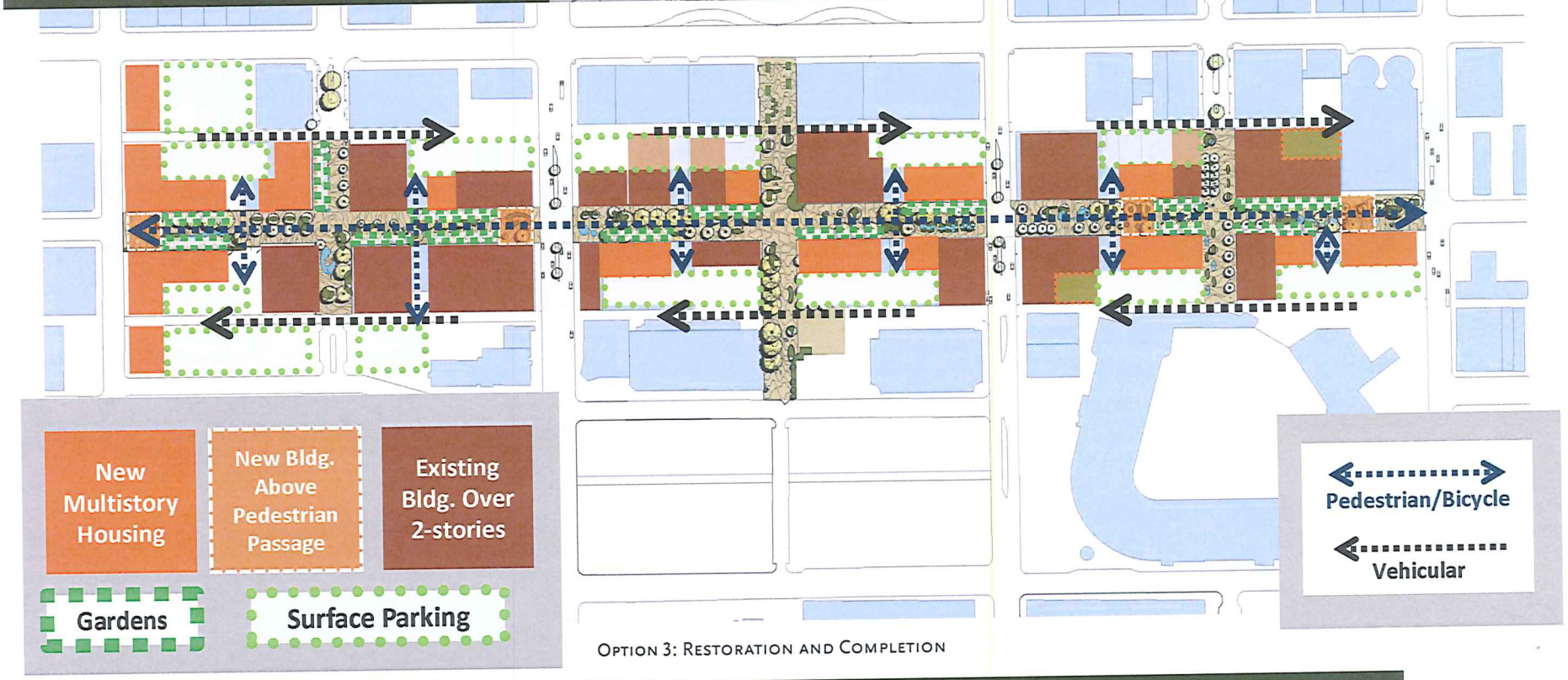
Courtyard Housing Copenhagen, Denmark

Courtyard Housing Seattle area, WA

Chandlers Yard Baltimore, MD



Jackson Heights Queens, NY



Option 3: Restoration and Completion

Courtyard Housing Blocks (Copenhagen, Denmark) reinterpreted utilizing Fulton Mall.
In support of "Fulton Mall Option 3" -- Restoration -- adding Community Gardens.
Emphasis: Multistory Housing, Neighborhood-oriented retail and services.

Mike Houlihan - Fulton Green Proposal -- 2

From: Steven Weil <sweilhorizon@gmail.com>
To: Elliott Balch <Elliott.Balch@fresno.gov>
Date: 10/28/2013 9:09 AM
Subject: Fulton Green Proposal -- 2
CC: Karana Hattersley-Drayton <Karana.Hattersley-Drayton@fresno.gov>

Elliott:

RE: Fulton Scoping Process

My written comments, in text and graphic form, are below. A second email will follow shortly.

Steve Weil

Fulton Green Proposal: In support of original "Option 3" -- Preservation
ADAPTIVE REUSE OF FULTON MALL AS A COMMUNITY GREEN

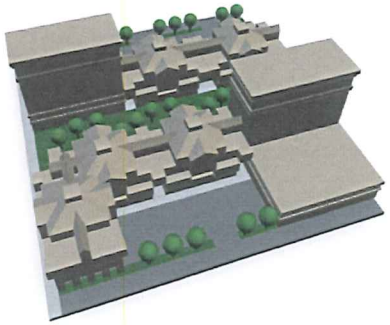
Urban Development Concept:

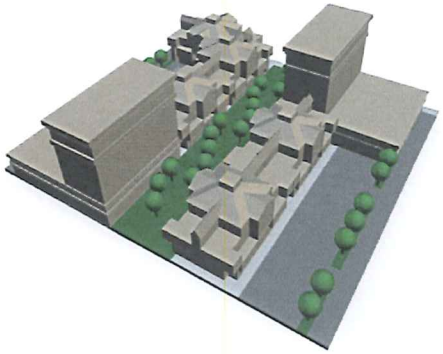
Preservation of iconic historic towers.

Infill mid-rise housing replacing structures less than three stories tall.

Access to new surface parking behind mid-rise housing via upgraded alleys.

Pedestrian and bicycle access from surface parking to Fulton Green via passage ways and/or mews at ground level under new housing.





Sent from my iPad

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To: Elliott Balch <Elliott.Balch@fresno.gov>
CC: Karana Hattersley-Drayton <Karana.Hattersley-Drayton@fresno.gov>
Date: 11/6/2013 7:16 AM
Subject: Fulton Scoping Process comments

Elliott:

To be completely clear, my two prior recent emails to you on this subject, which included attachments with graphics and 3-D depictions, were intended as comments by me on BOTH the current Notice of Preparation and the subsequent Draft EIR, for which I may submit additional comments upon its release.

My comments to date depict an urban design concept that directly addresses the deficiencies of the current situation with respect to vehicular access and surface parking in an innovative way that allows for preservation and adaptive reuse of the Fulton Mall as a "community green". As such, my submittal provides the only urban design solution to date that directly addresses the articulated shortcomings of the mall corridor with respect to retail commerce and at the same time protects the mall as an historic resource found eligible for the National Register.

Since none of the currently contemplated alternatives identified in the Notice of Preparation accomplish all of the above, the circulation, parking and urban design alternative I have described here and in my previous two comments by email should be included in the EIR and any corresponding NEPA document.

Please include this email as a part of my comments on the Notice of Preparation.

Steve Weil

Sent from my iPad

Elliott Balch

CITY OF FRESNO
NOV 15 2013
RECEIVED BY: Helen R.

November 15, 2013
Elliott Balch
Downtown Revitalization Manager
City of Fresno, City Manager's Office
2600 Fresno Street, 2nd Floor
Fresno, CA †93721

RE: EIR for Fulton Mall Reconstruction Project

Dear Mr. Balch:

Before offering our comments on the scope of the Draft EIR for the Fulton Mall Reconstruction Project, we wish to state for the record that this process is fundamentally flawed for the following reasons:

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2. This NOP for the Fulton Mall Reconstruction Project describes the project as having two alternatives: 1) to restore the original street grid, and 2) to partially restore the original grid while maintaining vignettes of the Mall. This limitation of the Project to only two alternative is a second reason this process should be terminated.

The City of Fresno on about August 12, 2013, signed an agreement with Royston, Hanamoto, Alley & Abey (RHAA) for landscape services, designs, plans, and working drawings, etc. for the Fulton Mall Reconstruction Project. The City required this contractor to develop three (3) alternatives.
Reconnect the grid with a traditional street.
Reconnect the grid with vignettes.
Restore and complete the Fresno Fulton Mall as a pedestrian mall.

The schematic design phase of RHAA s contract has being ongoing since last month, October, 2013, with a schedule of steering committee meetings (at which Mayor Swearingin appeared and City staff attended) and workshops open to the general public and also attended by City staff. At every one of these gatherings discussion and consideration was specifically sought about all of the three alternatives. Additionally, it was specifically represented to attendees that all three alternatives were being examined on an equal basis, that no decision had been made about which alternative to pursue, and that the City Council will receive a report from the consultants that will include an evaluation of all three alternatives.

These facts suggest that the people of Fresno were being duped at public meetings at which they were invited to consider three alternatives regarding the Fulton Mall while at the same time the City quietly removed one alternative from the environmental process.

3. A third reason why the NOP is irreparably flawed is that the two alternatives described in the NOP are inconsistent with the existing General Plan of Fresno and with the Central Area Community Plan. Both the General Plan and the Central Area Community Plan maintain the Fresno Fulton Mall as a pedestrian area. City and State planning law requires that all projects be consistent with the general plan and relevant specific plans before they proceed. On this basis the project described in the NOP is unlawful and cannot proceed.

4. Finally, the NOP is flawed because separating the proposed alternatives for the Fulton Mall from the Fulton Corridor Specific Plan is a clear case of segmentation.

Following are comments on the scope of the Draft EIR for the Fulton Mall Reconstruction Project:

A. Historic and Cultural Significance

A.1. The EIR must consider the significance of the Fulton Mall as a historical resource eminently worthy of preservation. The Mall was found eligible for the National Register of Historic Places and is listed in the California Register of Historical Resources. To quote the National Park Service announcement, the Mall is important as a work of master landscape architect, Garrett Eckbo, whose career as both teacher and practitioner helped transform the field of post-war landscape architecture.

A.2. The EIR must consider the historic significance of the Fulton Mall as one of Garrett Eckbo s major achievements and the historic significance of Fresno being chosen as the location for its construction. The EIR must take into account of the historic role of the Fulton Mall as setting a high standard for civic design in the nation s urban renewal efforts and its worldwide attention and acclaim (more than fifty cities sent official delegations to see it) [1].

A.3. The EIR must consider the historic contribution of local personalities to the creation of a Downtown Mall Art Selection Committee, chaired by O.J. Woodward II, and the public display of modern art that grew out of that committee s patronage.

A.4. The EIR must consider the historic significance of the Free Speech Area and Free Speech Platform, a Historically-registered site (California Historical Landmark No. 873). The EIR must consider the historic nature of the Free Speech Area as the site of the Fresno Free Speech Fight of the Industrial Workers of the World, and the Free Speech platform as symbolic commemorative site where the first free speech legal conflict in California took place. The EIR should take into account the social justice aspects associated with this location s availability as a center for free-speech and the potential effects on its current users.

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A.6. The EIR must consider the cultural significance of the Fulton Mall as one of the last remaining and best preserved examples of a modernist landscape architecture design for a

pedestrian mall in the United States, specifically including, but not limited to, the effect of purposefully destroying one of the last intact modernist pedestrian malls in the United States.

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A.9. The EIR must consider the effects of the proposed projects on social justice issues, specifically including, but not limited to, the displacement of current tenants (as opposed to property owners), of disabled patrons of Fulton Mall tenants, of the numerous elderly residents in the area, and the homeless population currently residing in or around downtown Fresno.

A.10. The EIR must consider the cultural significance of the pedestrian-friendly gathering places provided by the Fulton Mall for numerous ethnicities and socio-economic classes in Fresno throughout the year (Market on Kern, Thursday Night Live, Cinco de Mayo, Over the Edge, Fiestas Patrias, Chile Festival, El Grito, Christmas Parade, among others).

B. Aesthetic Significance

B.1. The EIR must re-examine the assessment of the First Carbon Solutions report which in its section on Aesthetics dwells inappropriately on the consequences of the City of Fresno s neglect of the Fulton Mall [4]; these are aspects that can be corrected in a manner other than demolitions.

B.2. The EIR must compose an accurate definition of 20th-Century Modernism and appraise the aesthetic significance of the Fulton Mall as the work of a 20th-Century Modernist landscape architecture master (Garrett Eckbo) and as a rare example of his work that has survived with a high degree of design integrity [5].

B.3. The EIR must recognize and explore its design relevance given that the Mall is already listed on the California Register of Historical Resources, was found eligible for the National Register [6], and is potentially significant as a National Historic Landmark.

B.4. The EIR must consider the aesthetic significance of Eckbo s design of the Fulton Mall as it captures and represents the Central Valley and Fresno in particular. Eckbo himself explained his design for the Fulton Mall by highlighting the importance of agriculture in the San Joaquin Valley: "The plentitude of quiet and moving waters, and of shade and greenery from trees and arbors, symbolizes the bursting vitality of irrigated agriculture in the hot interior valley of the arid west [7]. The EIR must pay attention to the many aspects of this representation, for example,

the color palette of earth tones, the topographical gradations, the supreme importance of water as it flows through the landscape, the play of light and shadow in a torrid climate.

B.5. The EIR must consider the aesthetic significance of the Fulton Mall as a contiguously designed whole. The EIR must consider how the exact placement of every feature in the Fulton Mall was determined by Garrett Eckbo: the art, the landscaping, the water features, the seating structures, and the pavement. The EIR must recognize that the works of art on the Fulton Mall do not comprise a collection of individually-commissioned pieces of art that can be freely relocated. The EIR should study the design unity, aesthetic contributions, placement and configurations of all the 80-ft wide stained concrete right-of-ways, all the multiple ribbon design patterns of 8 Ω -inches wide concrete aggregate crossing all Mall right-of-ways and intersections, the 80 seating areas (18 of which with benches with brightly colored mosaic backs), the 2 tot lots; the 19 water features, among them pools, fountains and flowing streams; and the 26 sculpted ceramic pipes that are part of the water features [8].

B.6. The EIR must consider the aesthetics of the relationships between the individual art pieces on the Fulton Mall and the Mall itself. As part of Eckbo, Dean, Austin and William s design for the Fulton Mall, pieces of art were placed in specific landscape environments that include pools, seating areas, and fountains and should be considered as design highlights to the overall landscape plan. For example, a piece of art such as the Bruno Groth s Rite of the Crane must be viewed in the context of the environment it was designed for and its specific role in the overall design of the Mall. In this particular example, a simulated wetlands hardscape environment was created by Eckbo, Dean, Austin and Williams as freeform pools in the Merced Mall to display the crane sculpture among reeds and grasses, appropriate for the valley where the marshlands still protect them today [9]. The original landscape plan includes specifications for wetlands vegetation [10]. The EIR must study how moving the Rite of the Crane sculpture out of its fountain to another area in the Mall will be detrimental to the design aesthetics and its original design context, the illustration of a crane in its natural environment. The same approach should be considered for the flowing water hardscape features that highlight The Visit (Clement Renzi), the various pools and fountains that highlight the clay standpipes and that represent agricultural irrigation sources (Stan Bitters), and the flowing water hardscape features that highlights the Obos sculpture (George Tsutakawa) at the southern end of the Mall.

B.7. The EIR must consider the aesthetics of the local design language within the Art and Architectural modernist movement of the 1950s and 1960s in the United States and how those will be affected under the various Fulton Mall options.

B.8. The EIR must consider the aesthetics and the contribution of the local artistic movements currently represented on the Mall. Local Fresno artists with a genuine design language, namely Jean Ray Laury, Stan Bitters, and Joyce Aiken came together to create a local artistic expression in numerous locations throughout the Mall: mosaic panel seating areas (Laury, Aiken and Bitters), fired clay standpipes in numerous fountains, and large hardscape settings such as Dancing Waters (Bitters) which includes a setting where local Hans Sumpf clay tile was used.

B.9. The EIR must consider the aesthetic effects of displacing pieces of art designed by local artists that are an integral part of the hardscape environments they were created for. Given that the majority of art pieces that can be effectively displaced without damage were created by artists that are not local, the EIR must study (for all the Mall options) what is the effect on the

proportional representation of local Art and Artists in the scenarios when art pieces are displaced from their original locations.

C. Transportation/Traffic Aspects

C.1. The EIR must consider how creating other modes of transportation will not necessitate opening the Fulton Mall to traffic. Specifically, reviving the tram service that was originally provided when the Fulton Mall was built would be a more environmentally friendly way to encourage visits to the Mall.

C.2. The EIR must include detailed analysis of the circulation rationale for returning automobiles to the Fulton Mall in light of the fact that Fulton dead-ends within a few blocks to the south.

C.3. The EIR must expand its scope to evaluate methods to improve access to the city core without opening Fulton Mall to cars.

C.4. The EIR must consider the re-opening of Broadway from Tuolumne to Tulare Streets in order to provide frontage for additional business and access to parking structures.

C.5. The EIR must evaluate improvement of the south side of Tuolumne between H St and Van Ness to remove the existing frontage road and provide a strong pedestrian link between the Fulton Mall and the Cultural Arts District.

C.6. The EIR must consider how to develop the alleys parallel to Fulton Mall as follows: (a) link them to Fulton Mall by removing some buildings and creating paseos/gallerias/passageways to the Mall; (b) encourage development of frontages along these walkways to include small shops, display windows, cafes, etc.; (c) create pocket parking spaces in the alleys.

C.7. The EIR must consider the creation of a parking district to eliminate the need for parking meters on streets and parking charges in garages and lots must be based on long-term and short-term turnover needs.

D. Environmental and Health Considerations

D.1. The EIR must consider the adverse environmental and health effects of introducing gasoline-driven vehicles to the Fulton Mall. The EIR must consider how the production of pollutants and greenhouse gases will worsen the air quality of a city already known for its unhealthy air [11]. The EIR must take into account the concentration of soot, dust, noise levels, and other pollutants in the existing Mall as compared to a motorized street; it must also study the effect of auto traffic pollution of the Mall buildings.

D.2.† The EIR must consider the environmental air quality effects associated with demolition and/or construction for all the Fulton Mall options.

D.3. The EIR must address environmental and health effects of noise pollution associated with the different Fulton Mall options. re-examine the conclusion of First Carbon Solutions Initial Study that there would be Less Than Significant Impact.

D.4. The EIR must consider how either alternative in the Fulton Mall Restoration Project will produce more heat in the environment because of the loss of trees, wisteria-covered pergolas, and water features. The EIR must also consider the deleterious effect of removing mature trees, wisteria-covered pergolas, and shaded seating areas and replacing them with juvenile trees and large expanses of pavement, in effect replacing an urban park with a heat island. The EIR must consider how the loss of these environmental cooling sources will affect the Fulton Mall s usefulness as a gathering place for the public throughout the year, and in particular during the hottest season of the year.

D.5. The EIR must measure and evaluate how much shaded surface versus unshaded surface will be the result of each alternative, in effect creating a heat island in the six blocks currently occupied by the Fulton Mall. The EIR must compare the difference in the amount of heat and glare created on Fulton with automobiles and without automobiles.†††††

D.6. The EIR must consider the effects of potential environmental ground and ground water source contamination by placement of a street with automobile traffic and parking and the necessary introduction of gasoline, motor oil, radiator fluid, and petrochemicals, on the gathering place for numerous ethnicities and socio-economic classes in Fresno.

D.7. The EIR must consider how slow-moving vehicles release a higher volume of pollutants than faster moving vehicles and what effect this will have on pedestrians and outdoor seating areas.

D.8. The EIR must consider how sunlight striking parked vehicles creates both heat and glare, and what effect this will have on pedestrians and outdoor seating areas.

D.9. The EIR must consider the safety risks to all pedestrians, including large numbers of families with young children, and and office workers, many government employees, associated with changing a pedestrian protected area into a pedestrian risk area, and how informing the public of these risks may result in a reduction of foot traffic.

D.10. The EIR must take into account the effects of all the Fulton Mall options on public health such as, but not exclusively on obesity levels, stress, and lung diseases.

D.11. The EIR must evaluate the environmental and biological impact of the project on existing wildlife currently inhabiting the Project area, including but not limited to squirrels, kangaroo rats, and birds.

E. Land Use/Planning Aspects

E.1. The EIR must address Fresno s history of public policy-making that allowed the decentralization that caused the decay of the downtown. It will not be sufficient to mention that the construction of large shopping centers drew businesses and shoppers away from the downtown. The decisions by elected officials that allowed this construction must be thoroughly examined as well as who benefitted from them.

E.2. The EIR must consider the effects of the potential failure to build a high speed rail station, as currently proposed for Mariposa street, approximately one block west of the Fulton Mall.

E.3. The EIR must consider the fact that in the vicinity of Fulton Mall are three housing facilities whose residents depend on having the Mall as a passive use park.

E.4. The EIR must acknowledge and thoroughly analyze the finding of The Trust for Public Land in its 2013 ParkScore Index that For the second consecutive year, Fresno, California, was the lowest-rated city park system. † The analysis must include, but not be limited to, the effect of paving of a functional urban park to install a roadway, the effect of removing a park setting from an area of high concentrated poverty, largely minority and disabled community of users and business owners, as opposed to building owners.† The analysis must demonstrate how the proposed project will advance public health in terms of the following information from Adrian Benepe of The Trust for Public Land, You can t have a great city without great parks [. . .] Parks bring neighbors together and help create a sense of community.† They give kids and adults a place to play, walk, around, and just relax and experience nature.† That s why we believe that cities with great park systems tend to be healthier and have lower rates of obesity [12].

F. Economic Considerations

F.1. The EIR must consider the economic effects on the value of buildings and land currently existing on and immediately adjacent to the Fulton Mall.

F.2. The EIR must consider the economic effects on the value of buildings and land held by landlords living and/or residing in outside of the City of Fresno.

F.3. The EIR must consider the economic effects on the value of buildings and land held by landlords and tenants who have underinvested in their respective properties on the Fulton Mall.

G. Other Considerations

G.1. The EIR must consider the appropriate use of all sources of public fundsa for all Fulton Mall alternatives including preservation of the Mall.

G.2. The EIR must consider the effect on the public s trust and faith in the City of Fresno in light of the City s support of a plan to spend millions of public funds to improve private property.

G.3. The EIR must consider the effect of the City of Fresno s honesty in defending multiple lawsuits wherein the City states that the Fulton Mall is public property (see, e.g., Rosendahl v. City of Fresno, Fresno County Superior Court Case number 11CECG01124), while also testifying before state and national agencies that the Fulton Mall is private property.

Sincerely yours,

Harold Tokmakian, AICP

Linda Zachritz

Ray McKnight

Miguel Santos
89 Belcher St., Holbrook, MA 02343

Eldon Daetweiler
251 W. Los Altos Ave., Fresno, CA 93704

Douglas Richert
1458 W Chennault Ave., Fresno, CA. 93711

Erich Schmidt
7417 N Bain Ave, Fresno CA 93722

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[3] Anonymous. 1968. Pedestrian Mall System gets Another Top Award . Fresno Bee, Oct 15, pp. 1-C, 5-C.

[4] First Carbon Solutions. 2013. Initial†Study†Fulton†Mall†Reconstruction†Project† City†of†Fresno,†Fresno†County,†California . http://www.fresno.gov/NR/rdonlyres/E25FC8C3-FC25-4751-B374-F597E9B3DD9F/28241/FultonMallIS10152013.pdf

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DOWNTOWN FRESNO COALITION

4781 E. Gettysburg Avenue • Fresno, California 93726 • Phone 559-291-2261 • Fax 559 291-4991

November 15, 2013

Elliott Balch
Downtown Revitalization Manager
City of Fresno, City Manager's Office
2600 Fresno Street, 2nd Floor
Fresno, CA 93721

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8. The EIR must consider the significance of the Fulton Mall as a cultural representation of the Central Valley ecosystems.The EIR should consider that in the Mall's design special care was pursued to ensure a cultural connection to the Fresno region: the Mall's pavement is an illustration of the area's topography, the concrete is stained an adobe color to suggest the valley's soil, and is crossed at frequent intervals by undulating ribbons of aggregate to convey a sense of the texture and gradations of the valley floor, the water features contain ceramic sculptures that suggest the irrigation standpipes commonly found in valley fields and orchards.

9. The EIR must consider the effects of the proposed projects on social justice issues, specifically including, but not limited to, the displacement of current tenants (as opposed to property owners), of disabled patrons of Fulton Mall tenants, of the numerous elderly residents in the area, and the homeless population currently residing in or around downtown Fresno.

10. The EIR must consider the cultural significance of the pedestrian-friendly gathering places provided by the Fulton Mall for numerous ethnicities and socio-economic classes in Fresno throughout the year (Market on Kern, Thursday Night Live, Cinco de Mayo, Over the Edge, Fiestas Patrias, Chile Festival, El Grito, Christmas Parade, among others).

Aesthetics- 20th -Century Modernism

1. The EIR must re-examine the assessment of the First Carbon Solutions report which in its section on Aesthetics dwells inappropriately on the consequences of the City of Fresno's neglect of the Fulton Mall; these are aspects that can be corrected in a manner other than demolition.

2. The EIR must compose an accurate definiition of 20th-Century Modernism and appraise the aesthetic significance of the Fulton Mall as the work of a 20th-Century Modernist landscape architecture master (Garrett Eckbo) and as a rare example of his work that has survived with a high degree of design integrity.

3. The EIR must consider the aesthetic significance of the design of the Fulton Mall as representational of the Fresno

4. The EIR must consider the aesthetic significance of Eckbo's design of the Fulton Mall as it captures and represents the Central Valley and Fresno in particular. Eckbo himself explained his design for the Fulton Mall by highlighting the importance of agriculture in the San Joaquin Valley: "The plentitude of quiet and moving waters, and of shade and greenery from trees and arbors, symbolizes the bursting vitality of irrigated agriculture in the hot interior valley of the arid west." The EIR must pay attention to the many aspects of this representation, for example, the color palette of earth tones, the topographical gradations, the supreme importance of water as it flows through the landscape, the play of light and shadow in a torrid climate.

5. The EIR must consider the aesthetic significance of the Fulton Mall as a contiguously designed whole. The EIR must consider how the exact placement of every feature in the Fulton Mall was determined by Garrett Eckbo: the art, the landscaping, the water features, the seating structures, and the pavement. The EIR must recognize that the works of art on the Fulton Mall do not comprise a collection of individually-commissioned pieces of art that can be freely relocated. The EIR should study the design unity, aesthetic contributions, placement and configurations of all the 80-ft wide stained concrete right-of-ways, all the multiple ribbon design patterns of 8 ½ -inches wide concrete aggregate crossing all Mall right-of-ways and intersections, the 80 seating areas (18 of which with benches with brightly colored mosaic backs), the 2 tot lots; the 19 water features, among them pools, fountains and flowing streams; and the 26 sculpted ceramic pipes that are part of the water features.

6. The EIR must consider the aesthetics of the relationships between the individual art pieces on the Fulton Mall and the Mall itself. As part of Eckbo, Dean, Austin and William's design for the Fulton Mall, pieces of art were placed in specific landscape environments that include pools, seating areas, and fountains and should be considered as design highlights to the overall landscape plan. For example, a piece of art such as the Bruno Groth's "Rite of the Crane" must be viewed in the context of the environment it was designed for and its specific role in the overall design of the Mall. In this particular example, a simulated wetlands hardscape environment was created by Eckbo, Dean, Austin and Williams as freeform pools in the Merced Mall to display the crane sculpture among reeds and grasses, appropriate for the valley where the marshlands still protect them today. The original landscape plan includes specifications for wetlands vegetation. The EIR must study how moving the "Rite of the Crane" sculpture out of its fountain to another area in the Mall will be detrimental to the design aesthetics and its original design context, the illustration of a crane in its natural environment. The same approach should

be considered for the flowing water hardscape features that highlight "The Visit" (Clement Renzi), the various pools and fountains that highlight the clay standpipes and that represent agricultural irrigation sources (Stan Bitters), and the flowing water hardscape features that highlights the "Obos" sculpture (George Tsutakawa) at the southern end of the Mall.

7. The EIR must consider the aesthetics of the local design language within the Art and Architectural modernist movement of the 1950s and 1960s in the United States and how those will be affected under the various Fulton Mall options.

8. The EIR must consider the aesthetics and the contribution of the local artistic movements currently represented on the Mall. Local Fresno artists with a genuine design language, namely Jean Ray Laury, Stan Bitters, and Joyce Aiken came together to create a local artistic expression in numerous locations throughout the Mall: mosaic panel seating areas (Laury, Aiken and Bitters), fired clay standpipes in numerous fountains, and large hardscape settings such as "Dancing Waters" (Bitters) which includes a setting where local Hans Sumpf clay tile was used.

9. The EIR must consider the aesthetic effects of displacing pieces of art designed by local artists that are an integral part of the hardscape environments they were created for. Given that the majority of art pieces that can be effectively displaced without damage were created by artists that are not local, the EIR must study (for all the Mall options) what is the effect on the proportional representation of local Art and Artists in the scenarios when art pieces are displaced from their original locations.

Transportation/Circulation

1. The EIR must consider how creating other modes of transportation will not necessitate opening the Fulton Mall to traffic. Specifically, reviving the tram service that was originally provided when the Fulton Mall was built would be a more environmentally friendly way to encourage visits to the Mall.

2. The EIR must include detailed analysis of the circulation rationale for returning automobiles to the Fulton Mall in light of the fact that Fulton dead ends to the south within a few blocks.

3. The EIR must expand its scope to evaluate methods to improve access to the city core without opening Fulton Mall to cars.

4. The EIR must consider the re-opening of Broadway from Tuolumne to Tulare Streets in order to provide frontage for additional business and access to parking structures.

5. The EIR must evaluate improvement of the south side of Tuolumne between H and Van Ness to remove the existing frontage road and provide a strong pedestrian link between the Fulton Mall and the Cultural Arts District.

6. The EIR must consider how to develop the alleys parallel to Fulton Mall as follows: (a) link them to Fulton Mall by removing some buildings and creating paseos/gallerias/passageways to the Mall; (b) encourage development of frontages along these walkways to include small shops, display windows, cafes, etc.; (c) create pocket parking spaces in the alleys.

7. The EIR must consider the creation of a parking district to eliminate the need for parking meters on streets and parking charges in garages and lots must be based on long term and short term turnover needs.

Environmental and Health Considerations

1. The EIR must consider the adverse environmental and health effects of introducing gasoline-driven vehicles to the Fulton Mall. The EIR must consider how the production of pollutants and greenhouse gases will worsen the air quality of a city already known for its unhealthy air. The EIR must take into account the concentration of soot, dust, noise levels, and other pollutants in the existing Mall as compared to a motorized street; it must also study the effect of auto traffic pollution of the Mall buildings.

2. The EIR must consider the environmental air quality effects associated with demolition and/or construction for all the Fulton Mall options.

3. The EIR must address environmental and health effects of noise pollution associated with the different Fulton Mall options. re-examine the conclusion of First Carbon Solutions' "Initial Study" that there would be "Less Than Significant Impact."

4. The EIR must consider how either alternative in the Fulton Mall Restoration Project will produce more heat in the environment because of the loss of trees, wisteria-covered pergolas, and water features. The EIR must also consider the deleterious effect of removing mature trees, wisteria-covered pergolas, and shaded seating areas and replacing them with large expanses of pavement, in effect replacing an urban park with a heat island. The EIR must consider how the loss of these environmental cooling sources will affect the Fulton Mall's usefulness as a gathering place for the public throughout the year, and in particular during the hottest season of the year.

5. The EIR must measure and evaluate how much shaded surface versus unshaded surface will be the result of each alternative, in effect creating a heat island in the downtown. The EIR must compare the difference in the amount of heat and glare created on Fulton with automobiles and without automobiles.

6. The EIR must consider how slow-moving vehicles release a higher volume of pollutants than faster moving vehicles and what effect this will have on pedestrians and outdoor seating areas.

7. The EIR must consider how sunlight striking parked vehicles creates both heat and glare, and what effect this will have on pedestrians and outdoor seating areas.

8. The EIR must consider the safety risks to all pedestrians, including large numbers of families with young children, and and office workers, many government employees, associated with changing a pedestrian protected area into a pedestrian risk area, and how informing the public of these risks may result in a reduction of foot traffic.

9. The report must evaluate with the environmental and biological effects of the project on wildlife currently inhabiting the Project area, including but not limited to squirrels, kangaroo rats, and birds.

Land Use

1. The EIR must address Fresno's history of public policy-making that allowed the decentralization that caused the decay of the downtown. It will not be sufficient to mention that the construction of large shopping centers drew businesses and shoppers away from the downtown. The decisions by elected officials that allowed this construction must be thoroughly examined as well as who benefitted from them.

2. The EIR must consider the effects of the potential failure to build a high speed rail station, as currently proposed for Mariposa street, approximately one block west of the Fulton Mall.

Open Space

1. The EIR must consider the fact that in the vicinity of Fulton Mall are three housing facilities whose residents depend on having the Mall as a passive use park.

2. The EIR must acknowledge and thoroughly analyze the finding of The Trust for Public Land in its 2013 "ParkScore Index" that "For the second consecutive year, Fresno, California, was the lowest-rated city park system." The analysis must include, but not be limited to, the effect of paving of a functional urban park to install a roadway, the effect of removing a park setting from an area of high concentrated poverty, largely minority and disabled community of users and business owners, as opposed to building owners. The analysis must demonstrate how the proposed project will advance public health in terms of the following information from Adrian Benepe of The Trust for Public Land, "You can't have a great city without great parks . . . Parks bring neighbors together and help create a sense of community. They give kids and adults a place to play, walk, around, and just relax and experience nature. That's why we believe that cities with great park systems tend to be healthier and have lower rates of obesity." (Trust for Public Land press release, 6/5/2013.)

Other Considerations

1. The EIR must consider the appropriate use of all sources of public fund for all Fulton Mall alternatives including preservation of the Mall.

2. The EIR must consider the effect on the public's trust and faith in the City of Fresno in light of the City's support of a plan to spend millions of public funds to improve private property.

3. The EIR must consider the accuracy and consistency of the City of Fresno's claim that the Fulton Mall is private property while on other occasions stating that the Mall is the City's property.

Sincerely yours,

Harold Tokmakian, AICP Linda Zachritz Ray McKnight Douglas Richert

Miguel Santos Eldon Daetweiler Eric Schmitt Ryan L. Eddings

From: george bursik [mailto:gbursik@gmail.com]
Sent: Friday, November 15, 2013 1:06 PM
To: Elliott Balch
Subject: Notice of preparation of an environmental impact report for the City of Fresno Fulton Mall

Mr. Elliot Balch, Downtown Revitalization Manager
2600 Fresno Street
Fresno,CA93721

Dear Mr. Balch,
Thank you for this opportunity to respond to your notice regarding plans for the destruction of the treasured, historic Fulton Mall.

One of the reasons indicated for this proposition is to "lower crime and improve safety for the people walking between parking areas and businesses located on the Fulton Mall and for people who live in, work in, and visit the project area."

As a former resident of downtown for 15 years, I had frequent occasion to visit the Mall, often with grandchildren, and had at no time feared for my safety or that of the grandchildren. Allowing car traffic will only invite car thieves, potentially increasing crime. Also, it increases the probability of accidents, jeopardizing the safety of pedestrians. A "slow moving, cautiously driven" car is often an indication that the driver is texting, thus further reducing safety. Cars would also increase pollution, noise, and other factors known to raise a persons level of anxiety and likelihood of committing a crime.

For these and numerous other reasons, I respectfully urge that the City abandon this misguided plan in favor of a comprehensive plan to restore, revitalize and improve the Mall in its present form. The people of Fresno deserve no less.

George Bursik
113 West Minarets
Pinedale 93650.

Comments on the Scope of the Environmental Impact Statement for the Fulton Corridor Mall Reconstruction Project

My comments regarding the proposed scope of the Environmental Impact Statement on the project of placing a road on the Fulton Mall Corridor will be about the following topics:

- Traffic impacts on downtown streets as compared to alternatives that do not include parking on the Mall;
- Recreational, aesthetic, historical, cultural, artistic, and spiritual values impacted by altering the core design of the current pedestrian mall;
- The economic impact of returning cars to the corridor versus that of the various alternatives;
- The impact of altering the current design of the mall upon future economically viable growth patterns in the properties adjacent to the mall;
- And, lastly, I propose another scenario for the Fulton Corridor that I wish to see considered as an alternative to the current plan to build a road down the corridor.

Traffic Impacts on Downtown Streets as Compared to Alternatives That Do Not Include Parking on the Mall

I expect the EIR to fully investigate the impact of having a street down the Fulton Corridor upon the traffic patterns of other downtown streets in the vicinity. There is much traffic that currently crosses the corridor smoothly and fast, only having to stop occasionally when Mall pedestrians are given the green light to walk across these cross streets. The proposed revisions of plans for a straight road (Alternative 1) and for a curved road (Alternative 2) have incorporated wide sidewalks and made an attempt to preserve some sculptures and water features at the behest of popular sentiment as was expressed in the community planning meetings.

Of necessity, this entails that the two-way street be fairly narrow, without bicycle lanes, and with traffic moving about the same speed as a bicycle would on a residential street. My concern is that a street with limited parking and slow traffic will have automobiles backed up on the cross streets waiting to enter the Fulton Street by either right or left turns, thereby congesting the currently speedy cross streets by taking up room in turn lanes and perhaps even in lanes otherwise dedicated to moving traffic along to the other side of downtown. Traffic should be allowed to move smoothly both to get to the high-speed rail station and to a revitalized Chinatown district.

Once on Fulton Street itself, these cars will then be creeping along hoping for a parking place close by their destination, much as happens today in large shopping center parking lots where a significant percentage of drivers circle about repeatedly in the hope of getting a space close by a particular store. An investigation of the impact of this slow-moving traffic congesting both the proposed Fulton Street and its cross streets should include the increased time spent by drivers in cars, the additional noise and air pollution to the city and especially to those living and working in venues alongside the corridor, new safety hazards to pedestrians, and the inconvenience and aesthetic detriment imposed upon those walking in the corridor and wanting to cross from one side to the other.

These impacts should be compared to the outcomes of similar variables when the mall is left intact as a pedestrian corridor, as well as with the alternative of a road which does not allow any parking at all, but only limited standing time by occupied cars in loading zones.

Recreational, Aesthetic, Historical, Cultural, Artistic, and Spiritual Values Impacted by Altering the Core Design of the Current Pedestrian Mall

The EIR should thoroughly document the impact of destroying the integrity of the Eckbo landscape design in order to bring back a street with cars to the Fulton Corridor. Any alternative that includes cars, as opposed to relatively small public transit vehicles that could navigate along a pedestrian mallway, will have to destroy elements of Garrett Eckbo's comprehensive artistic and world-renowned masterpiece. As currently laid out, the sculptures in combination with the water elements express artistic interpretations and reflections of our Central Valley's physical and agricultural landscape. As such, there is not merely an aesthetic and artistic aspect to Eckbo's design, but a spiritual one, as well. The current design serves as an historical, cultural, and artistic focal point of, not only the city, but the entire San Joaquin Valley and all of those residents who derive their livelihood in some way from the agricultural enterprises that make this region so important to the nation.

Furthermore, the current pedestrian mall is one of the few downtown urban parks available within walking distance of several apartment buildings occupied by a large population of retired senior citizens who live downtown. Many of these seniors do not own cars. They derive much of their healthful exercise by walking in the downtown area. The impact of removing an urban park from a city that already ranks last in the nation for per capita parkland will be significant upon the health, well-being, and general quality of life of the senior citizens who visit the corridor on a frequent basis.

Also, these recreational, aesthetic, historical, cultural, artistic, and spiritual values, which would be significantly and negatively impacted by having a road built down the Fulton Corridor, will be significantly and positively enhanced by following the alternative of restoring the Fulton Mall according to the original Garrett Eckbo design. By replacing the walkways with new artistic paving, and polishing up all of the aesthetic elements that remain from the original plan, we will be celebrating those values that stand to be lost if the Fulton Road plan is adopted by the City of Fresno.

The Economic Impact of Returning Cars to the Corridor Versus that of the Various Alternatives

I believe it is a false assumption that bringing cars into the Fulton Corridor will be the determining factor in improving the economy of downtown Fresno. A wider investigation into studies on the success and failure of pedestrian malls in the United States needs to be conducted as part of the scope of this EIR. There are indeed many successful pedestrian malls across the country today, and the keys to their success are likely due to manifold parameters, including the nature of neighboring streets and businesses, nearby destinations, aesthetic qualities in the landscape and urban fabric, past and present urban growth and development policies of local city and county administrations, and how the citizenry feel about their own downtown.

The EIR must consider the potential for a successful revitalization of downtown if the alternative of restoring a vibrant pedestrian mall is accomplished by following a different set of urban growth and improvement policies than just bringing cars back into the Fulton Corridor. The Fulton Corridor is narrower than other parallel streets, and the buildings alongside it are denser. This is all the more reason to examine its development potential using a different set of parameters than are applied to nearby streets like Van Ness, and to seriously consider the economic potential of retaining the complete pedestrian character of the corridor.

The Fulton Corridor is not likely to draw in consumers from the north part of the city if all they are going to get on Fulton Street is a repetition of the retail environment of shopping centers in the suburbs. There is not presently a competitive market for retail property in the City of Fresno, as demonstrated by the many shopping malls in the north of the city that have large portions of their retail properties still unfilled. Fulton Mall may originally have been built partly to emulate the suburban shopping mall experience, but today its value as a pedestrian mall lies in following a different model for economic growth.

The Impact of Altering the Current Design of the Mall upon Future Economically Viable Growth Patterns in the Properties Adjacent to the Mall

For a restored Fulton Mall (or even a Fulton Street with cars) to succeed economically, it will have to have destinations that are unique within the city sphere, establishments that exist nowhere else between the San Francisco and Los Angeles metropolises. With such destinations, visitors will be drawn from throughout the whole of Fresno and the Valley community. The EIR should consider the possibility of the Fulton Corridor hosting establishments such as a museum of San Joaquin Valley history, a museum of Hispanic culture, or a children's museum. It can become an arts and entertainment complex, or a center for celebrating international culture and food. With agriculture being of central importance to the industry of Fresno, the downtown corridor is a perfect place to build an agricultural technology hub, perhaps tied in with having Fresno's growing computer tech community relocating to the Mall. A college can be built downtown on property near or alongside the Fulton Corridor. All of these alternatives for downtown development must be considered in the EIR, and the report should consider whether such prominent and promising development will stand to benefit more from having a street down the Fulton Corridor or leaving it as a pedestrian mall. Personally, I would rather see children enthusiastically exit a museum onto a wide pedestrian mall with fascinating sculptures than have to warily come out onto a sidewalk beside a street heavy with automobiles.

With the high-speed rail station located less than two blocks from the Fulton Corridor, there is an ideal opportunity to present a fresh face of Fresno to visitors on their way to the national parks of the Sierra Nevada via bus tours or car rentals. If they stay in a hotel on the Fulton Mall instead of one by the airport, they could come out of the building into the vibrant night life of a lighted Fulton Mall with restaurants, clubs, music venues, and art galleries. They will ultimately leave Fresno with a positive sense of the city, encouraging others to stay downtown when they come to visit our nearby mountain parks. Again, the alternative of keeping the pedestrian mall (Option 3) is more conducive to the economic success of such a scenario than putting in a street for cars (Options 1 & 2).

Unique destinations such as suggested above do not require a location where one can drive by in an automobile in order to advertise themselves. People are drawn to these venues for their own sake, not because they happen upon them by accident, which seems to be the proposed model for success for future business investments in Fulton Corridor properties, where owners openly state that they are relying on a street being built. Also, when people come to a museum or an entertainment center or a tech hub (none of which are exclusive of one another), they will then patronize the smaller enterprises that spring up to cater to their more prosaic needs like lunch or a power meeting over dinner. All of the downtown will be revitalized if the Mall is made a success by encouraging the right kind of development.

An Additional Proposed Scenario for the Fulton Corridor to Be Considered in the EIR as an Alternative to the Current Plan for a Road down the Corridor

Finally, I wish to propose an additional scenario for the Fulton Mall, to be considered in the EIR as an alternative to the current plan of building a road down the corridor. This alternative recognizes the property alongside the Fulton Mall, between Fresno and Tulare Streets and on the southwest side between the Mall and the high-speed rail station, as having the ideal potential to host construction of one of perhaps the first vertically integrated, publicly accessible, complete mixed-use high-rise urban environments in the United States. This would be a modern megastructure intimately connecting and helping to preserve the three historically and aesthetically valuable high-rise structures remaining in that stretch of the Fulton Mall. This three-dimensional urban streetscape will house apartments and condominiums along with all of the businesses needed to service those residents, as well as having room for all of the unique destinations suggested for the Mall in the paragraphs above. All of the spaces in the structure, which will include spacious interior plazas and a sky park on the top, will be as accessible to the public as any sidewalk on a city street.

I append an article I wrote in the October-December issue of *Tehipite Topics*, the newsletter of the local Tehipite Chapter of the Sierra Club, which goes into more detail describing this scenario. What I refer to as the Fulton Green Project would have to be built with private investment, not public funds, but such a project could be arranged in such a way that all of the property owners along this side of the Mall can have equity in the project and share in the profits of its success, a success that would rebound to all of the surrounding downtown area.

There is such a huge potential for economic success in these valuable properties alongside the Fulton Corridor that the EIR must consider this kind of alternative in its predictions for the future vitality of downtown Fresno, which benefit from the Fulton Corridor being improved according to its original design. I believe that a proper analysis will conclude that the economic success of the downtown stands to benefit more by leaving the Fulton Corridor as a purely walkable mall without cars than by opening it up to automobiles as under the current plan being proposed with this EIR.

—Robert Turner, November 15, 2013

The Fulton Green Project:
Introducing a Broader Vision for the Future of Fresno

by Robert Turner

The future of Fresno's historic Fulton Mall hangs in the balance. Whether it remains as a car-free corridor, a welcoming place to pedestrians, strollers, and bicycles, or is returned to its former habit as drivable street with curbs and parking meters, will soon be decided by the City Council. It is hoped that they will choose to take guidance from the will of the citizens of this city, most of whom, I have come to believe, value urban parks and pedestrian ways, and treasure the artwork that adorns and is the Fulton Mall.

The voices arrayed against the Mall and in favor of cars are well-organized and currently hold the reins of power. On the other hand, they share a lack of vision of what downtown Fresno is capable of becoming. By opening up our imaginations to embrace bold new ideas, we can see the enormous potential held by the most valuable locations in the center of the city, especially those alongside the Mall. Connect with this vision and you too will have a confident optimism in the future of Fresno to become an economic and technological powerhouse of the state.

First of all, let us get straight that returning cars to Fulton is not the economic driver needed to revitalize the Mall and downtown. What Fulton Mall needs to be successful is a destination that takes advantage of its unique pedestrian character — a destination that will synergistically provide the impetus that lets the pedestrian corridor finally live up to its full potential. My proposal is to keep the Mall free of cars, while building alongside it a fabulous multi-level, multiuse megastructure that will be that needed destination. What I call the "Fulton Green" Project will bring people to the Mall not just from throughout the city, but from across the state, while also putting Fresno on the national map as a leader in modern urban planning. I will return to that idea later in this essay, but first we must examine the argument that our Fulton Mall is a failure that has driven our downtown, like other downtowns with pedestrian malls across the country, to decay.

Critics are correct in stating that many, if not most, of the pedestrian malls in the United States have failed to create the lively and economically viable environments that were promised when they were first built. Because of this, our mayor and many downtown business leaders believe cars will restore the economic prospects of the former main street of our city. However, if cars are the solution, then why are the streets on either side of the Mall, where cars now are allowed to drive and park, not more vital than the Mall is today? Some of these streets, like Broadway to the northwest and Fulton Street southeast of Chukchansi Park, are virtually dead, with boarded-up abandoned buildings, despite the presence of drivers and parking on these blocks.

That cars can cure the depression of downtown is a false hope. People flock to Fashion Fair and River Park, not because they can drive down the center of the malls to check out the shops. No, they bring their cars in close to the edge and park for free, then walk in and enjoy the walkable centers, ambling by storefronts that open only to the inside of the complex. Rather than wiping out the valuable architectural resource that is the Fulton Mall, a better step in the right direction would be to turn all of downtown's multistory parking garages into free parking lots in order to balance out the competition between the downtown and the suburban shopping malls. Remove all of the parking meters on the city's streets and restrict parking by time instead — one hour, two hours, or four hours. Right now, people can leave their car in a spot all day if they return to put more coins in the meter, not particularly helpful to the businesses close by.

But focusing on parking and access by cars is missing the point altogether. The push to turn the Mall into a street is retrogressive and counter to the trends evident in many successful cities across the country, but especially in Europe, where residents have long valued their walkable centers. As Fresno moves toward encouraging infill development, and the transformation of corridors along bus rapid transit routes into high-density walkable communities, it just seems counterproductive to spend millions on a project that is meant to encourage more people to drive into the center of the city.

One can cite numerous examples in this country of successful malls that are an asset to their city. Several are associated with nearby college campuses, such as Ithaca Commons near Cornell University, Ped Mall in downtown Iowa City, State Street in Madison, Wisconsin, Church Street Marketplace in Burlington, Vermont, and Pearl Street in Boulder, Colorado. Charlottesville, Virginia's Main Street Mall is anchored at one end by the Pavilion, an outdoor amphitheater that holds 3,500 people for concerts and city events. That mall has an active nightlife that draws thousands of college students in the evening.

As described by landscape architect Andy Meessmann, "The space may become a giant open air bar, with food vendors and live music that filters out of venues. After a night of indulgence and entertainment, the streets are swept and the space is once again bustling with daytime normalcy." He goes on to say, "For countless towns, the pedestrian mall has been converted back to automobile use and labeled a planning and design blunder. However, their success in the American college town is unmatched. In virtually every college town, somewhere at the edge of campus and downtown, there is a transition away from the school environment that often goes unnoticed. The best college towns can create, capture, and enhance this experience in the form of a pedestrian mall." Other successful pedestrian malls in the U.S. include Miami Beach's Lincoln Road Mall, Boston's Faneuil Hall Marketplace, Santa Monica's Third Street Promenade, San Diego's Horton Plaza, the Fremont Street Experience in Las Vegas, the River Walk in San Antonio, and Oklahoma City's East California Avenue, alongside the Bricktown Canal. Then there are the hybrid transit malls like Denver's 16th Street, Minneapolis' Nicollet Mall, and Memphis' Main Street transit corridors. In our own neighbor city Clovis, farmers markets, antique fairs, and sporting events like bike races and the annual pole vaulting competition turn Old Town's Pollasky Street and several of the side streets into a highly successful pedestrian-only venue on a frequent basis throughout the year.

The key to the success of every outdoor pedestrian mall is that they have destination points that draw people to the area throughout the day and into the night. For the college town it is the campus nearby. For others it is an arena or theater complex, an ice skating rink, a riverfront, or a promenade along a canal. Nearby shops and restaurants open in the daytime, while night clubs and bistros draw people in at night. By itself a pedestrian mall can never be a successful destination if the area is blighted to begin with.

The Fulton Mall never fully succeeded because the downtown was already dying when it was built. The construction of McDonald's on Blackstone near Shields and of Manchester Center signaled the shift of commerce away from downtown toward the new neighborhoods in the north of the city. Today Fresno's Fulton Mall has Chukchansi Park nearby, but that space is alive only during the occasional games and rare concerts. The area currently lacks a popular destination that is active at all hours on every day. Adding cars to the Fulton Mall will just make it another typical street in a still blighted downtown. Adding a unique and magnetic development will make the Mall something truly exceptional.

When I first walked the Fulton Mall a little over a year-and-a-half ago, I was immediately struck by the beauty of the historic buildings still left standing along the way, skyscrapers erected between 1914 and 1925, a time when beaux arts reigned supreme in American architecture and buildings were elaborately decorated on their front-facing walls with ornate glazed architectural terra cotta. Peering through the windows, it was apparent that a couple of these beautiful old buildings had reached a sad, nearly condemnable condition; yet, still, I had hope, as I studied them that early spring day, that the city will be able to keep them intact until economic conditions improve enough to allow for their restoration and re-occupation. (I was pleased when I read a month later that the historic 1914 Helm Building was purchased by Sevak & Serko Khatchadourian, developers from Beverly Hills who also own the Pacific Southwest Building across the Mall. But I also was saddened that, like Mayor Swearengin, they too support the restoration of vehicular traffic to the Fulton corridor.)

Looking at the sides of each building where the structure faces away from the main streetscape, one sees only a plain painted brick wall with windows, as if the builders expected someday another equally tall structure would be erected directly alongside their building, a new structure with its own decorated façade to form a flush continuity of style along the north-facing street wall. This never happened (or buildings were built and later torn down). These historic skyscrapers, too beautiful to demolish today, expressed to me not just a nostalgic look at a bygone time of different, in some ways more extravagant, aesthetic standards, but also the melancholy of lost promise and an uncompleted optimism and grandeur.

Then the thought naturally came, why not complete that promise and fulfill that vision of a tall wall of connected buildings along Fulton Street, but not as a completed line of ersatz beaux arts façades (which we can never afford today, in any case), but with an equally tall modernistic structure to fill in the gaps. Attach the structure to each brick side wall of the three historic buildings, then build up to that height and you have a single two-block-long architectural front on the southwest side of the most important stretch of the old main street, Fulton between Fresno and Tulare. That structure will be centered on Mariposa Street, bisected by the central axis that runs through the Courthouse and City Hall. This two-block-long megacomplex, connecting the old Bank of Italy Building on the Tulare Street corner to the Mattei Building (Guarantee Savings) on Fresno Street, and wrapping itself around the Helm Building in the middle, will not be just another skyscraping office building, hotel, or condominium complex. It will not be so simple as to serve only a single use. Nor will it be dense inside and limited in its access to just those who live, work, or have business there. No, what shall be built in this space is something worthy of the enormous potential of the location, an open multi-use public space serving as a platform for shops, apartments, offices, restaurants, and entertainment establishments, all arranged in a airy three-dimensional shopping, work, and living complex, like a shopping center with businesses and apartments in the mix, upended into the third dimension to produce what I like to call a "vertical streetscape," and crowned with a public city park on top, a veritable island in the sky where anyone can go to admire the view and children can fly kites in the windy aerie.

A structure like this calls to mind Paolo Soleri's arcologies or Richard Register's ecological urban neighborhoods — automobile-free, three-dimensional urban fabrics that increase the density of land use while at the same time expanding the architectural space to make the downtown urban scene more spacious and airy due to the elimination of streets, curbs, parking, and everything else associated with cars. A large amount of city may be contained on a very small acreage, but by utilizing the vertical space wisely, there is a sense of openness and space rather than the heaviness and density of a typical office building. And — very important for the success of such a complex — like with any shopping center mall, ordinary citizens are free to come and go without the security checkpoints ubiquitous in most of today's skyscrapers.

A vertical car-free streetscape, which I envision for this two-block stretch of Fulton between Fresno and Tulare will become the heart of downtown Fresno, occupying the central crossing place of the city's two main axes. Such an interconnected and integrated complex will be a destination worthy of the extraordinary potential of this prime location, which is the most economically promising real estate in the city, being just a block away from the future high-speed rail station, also situated on the Mariposa Street axis. Not only will this megastructure provide a working, shopping, and living environment for people who want to live a car-free lifestyle in the heart of downtown, but it will also draw users from across the city to its shops, restaurants, and night clubs. They will come at all hours of the day and night, so long as there is an adequate mix of purposes for the commercial space.

Because people live in the structure, there will be all of the services necessary for neighborhood life, such as a grocery store, bank or credit union, laundry, barber, health club, perhaps a branch of the county library, and other such prosaic establishments. But with people coming from the entire metropolitan area, and even beyond, this is also be the best place to locate a unique shop or business that relies on customers and clients drawn from an area wider than just a neighborhood or city district. This vertical streetscape will have a diversity of commerce unequaled by any other shopping center in the city, or even the whole Valley.

Beyond that, visitors will come not just for the stores, services, and entertainment, but to experience the space itself. The sky park alone, with its unparalleled views, is a unique draw. But the structure can also be designed to bring in visitors who want to see revolutionary architecture, with large interior plazas along the lines of the interior space of the Hyatt Regency in San Francisco, and promenades at multiple levels, festooned with hanging indoor plants. As urban design Fulton Green will have no equal in this country, setting a new standard for big cities to emulate. Such a structure will put Fresno's downtown on the national map.

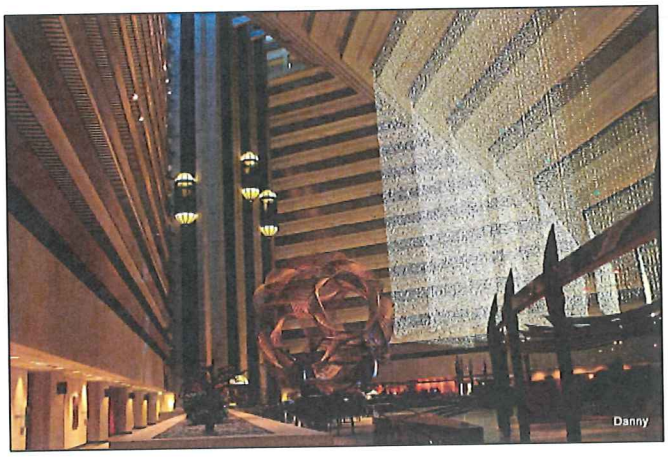
It will also put the *there* there in downtown Fresno. Now people will have a reason to go to the Mall. The pedestrian axes of Fulton and Mariposa will be full of life, people, and activity throughout the day. The car-free environment of the Mall will complement and enhance the same car-free character of the Fulton Green megastructure. People will reside in this space, as well as on nearby streets like Broadway, where new complexes similar to downtown's recently built Granville townhouses, will allow residents to enjoy life without having to own a car. For those who require more than trains to transport them around the state, one of the parking lots beside the megastructure can be set up to house a car rental business providing for residents who otherwise have no need to own a car, and for visitors to Fresno who arrive by high-speed rail.

Keeping with Soleri and Register's tradition of ecological architecture, the megastructure will utilize the latest in green building and maintenance technology, something made easier when designing a large complex in an integrated manner. This is why I call the project "Fulton Green."

It is my hope that people will be inspired and thrilled by this vision for Fresno to want to contribute by elaborating on the ideas here presented. Let's build some momentum for an ecological megastructure joining, preserving, and enhancing the three beautiful buildings on the south side of Fulton Mall, while saving the historic Mall itself from the blight of cars. Time is short. The ultimate fate of our Fulton Mall may well be determined by City Hall before March of 2014.

As I am neither an architect nor an urban planner by profession, nor much of an artist either, my part in this effort at crowdsourcing will be to facilitate an architectural competition to create a more fleshed-out face for the Fulton Green Project. In this city and up and down the state are new students and skilled professionals in the fields of green architecture, environmentally friendly landscaping, and sustainable urban design, as well as many talented and capable artists, who can work out aspects of this idea in greater detail and render realistic imagery that will move so many more people than can be done with just the written word. Sometime in early 2015 I will begin to gather the resources and sponsors to hold such a competition. A year-and-a-half ago I arrived in Fresno for the first time. Being without a car of my own, I quickly found the Fulton Mall. That first walk down the Mall inspired this vision. I saw the seeds of grandeur and the enormous potential of this place. And the more I learned about what makes Fresno special — one of the largest cities in California, agricultural center, gateway for tourists, future hub on the high-speed rail system, growing tech community, and a dedicated population that loves and believes in its city — the more this vision seemed not just reasonable, but inevitable. Fresno will indeed have a lively and vital downtown, filled with residents who live and work and play within walking distances. These downtown residents will treasure their pedestrian mall park. Certainly Fulton Green would work if it opened up onto a street, but such a complex begs to have a pedestrian plaza as its main entrance. The synergy that will develop from the combination of the Green and a restored and still car-free urban mall can be enough by itself to launch a new era of growth in Fresno's downtown. Whoever builds such a complex will both kick-start and be in a position to capitalize on the inevitable downtown renaissance that is the destiny of our city.

It is because of the extraordinary potential of this two-block stretch between Fresno and Tulare that I want to keep the layout of the Fulton Mall as it is today, to preserve this option for the future, when a developer will come along who has the vision and guts to do something amazing and help make Fresno the great city it can be.



IN DESIGNING LARGE INTERIOR PUBLIC PLAZAS THE POSSIBILITIES ARE ENDLESS. THIS IS THE FAMOUS HYATT REGENCY HOTEL IN SAN FRANCISCO, OPENED IN 1973.

ANY LARGE INTERIOR PUBLIC SPACE WILL BE ADORNED WITH ART, ENHANCING THE TRANSITION FROM INSIDE TO THE ART OUTSIDE ON THE MALL.

1.3 - Comments from Fulton Mall Reconstruction Project Scoping Meeting, November 5, 2013

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CITY OF FRESNO

FULTON MALL RECONSTRUCTION PROJECT

EIR SCOPING MEETING

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EIR SCOPING MEETING

ELLIOTT BALCH: Good morning, ladies and gentlemen. The clock on the wall says it's 5:35 p.m. So let's get started.

Again, good evening. My name is Elliott Balch. I'm the Downtown Revitalization Manager for the City of Fresno. First, on the City's behalf, I want to thank you for attending tonight's Scoping Meeting for the Environmental Impact Report, or EIR, relating to the Fulton Mall Reconstruction Project. This evening we'll sometimes refer to this as the "Mall Project" or simply the "Project."

In a moment we'll hear an overview of the process -- of the purposes and context of tonight's meeting from Mike Houlihan of First Carbon Solutions/Michael Brandman Associates, whose firm is preparing the EIR and belated documentation for the mall project. If you'd -- if you'd like to speak after that, please get a pink speaker card from the back, fill it out, and bring it forward right here. You can do that now, if you like, and we'll call the speakers up a little later in the order received.

First I'd like to provide some history about how the Project and the environmental review for the Project have come to take the form that they have.

The Project was originally identified to be assessed in a Notice of Preparation issued by the City in April 2012. That original Notice of Preparation stated that the City intended to prepare an EIR to access the impacts from the adoption of the proposed Downtown Neighborhoods Community Plan, the proposed Fulton Corridor Specific Plan, and a Downtown Development Code, known collectively, all three, as the Downtown Plans.

The Mall Project was to be assessed in connection with the review of the Fulton Corridor Specific Plan, because the Specific Plan identified revitalizing the Fulton Mall as a top priority. For Community Advisory Committee for the Specific Plan recommended three options out of ten considered to be further analyzed in the environmental documentation, and these were:

Option 1, Reconnect the Grid on Traditional Streets. In basic terms, this is a street -- two-way through Fulton and its cross streets, with street parking on both sides of the street, and existing artwork incorporated into other areas of the landscape. This is Alternative 1 identified in the Initial Study circulating now with the current Notice of Preparation of the EIR for the Project.

Option 2 was Reconnect the Grid with Vignettes. Here again is a two-way street with existing artwork

incorporated, but the street curves its way through the landscape, and there are some areas with street parking but other areas where the retention of features, such as fountains, at full scale, precludes street parking. This is Alternative 2 identified in the current Notice of Preparation and Initial Study.

And the 3rd option, No. 3, was Restoration and Completion of the Mall. Like the others, this option would also generally demolish and rebuild the existing landscape, but as a pedestrian mall, in much the same configuration as today, albeit with a variety of upgrades for safety and functionality. This option is not proposed as part of the Project for purposes of the current EIR, as it will not qualify for TIGER grant funds, which we'll describe in a minute. It is the City's intent to consider this option as an alternative to the Project in the forthcoming EIR.

Getting back to the original approach with the Specific Plan. The purpose for the additional study of the Mall Project in the -- in the EIR for the Downtown Plans, was to allow the Council to select one of those three options for the Mall Project when the Specific Plan was adopted.

The City has determined to prepare an EIR for the Mall Project now, independent of the Specific Plan or the Downtown Plans because the City has been awarded Federal

1 grant funds -- Federal grants for Project, which require
2 environmental review to be completed by March 20, '14, and
3 it is unlikely, or at least uncertain, that the Downtown
4 Plans and the EIR to review those plans will be brought to
5 the Council before the Federal grant timelines run.
6 In August 2012, the Federal Highway
7 Administration, or FHWA, announced the award of $1 million
8 from the Transportation, Community, and System Preservation
9 Program to the City for preconstruction expenses for the
10 Mall Project, and in September 2013, the U.S. Department of
11 Transportation announced that Fresno had been awarded
12 nearly $16 million in Transportation Investments Generating
13 Economic Recovery, or TIGER, funding for Project
14 construction expenses.
15 As a result of receiving the grant awards, the
16 City is required to prepare a National Environmental Policy
17 Act document for the Project and otherwise treat the
18 Project as a Federal undertaking by the Federal Highway
19 Administration. Caltrans, the designated lead agency for
20 this Federal review, is currently preparing the federally
21 mandated documents for the Project. This is a separate
22 process, which is not the subject of tonight's meeting.
23 The TIGER grant requires that obligation of the
24 construction funds must occur no later than September 30th,
25 2014. This means that Caltrans and the Federal Highway

Administration must have approved the Project with the fully completed engineering drawings ready for bid, finalized after the adoption or certification of Federal and State environmental reviews. To meet this deadline, the EIR for the Project will need to be certified by 2013.

You heard me say that the -- the design process as well as the environmental process must be complete to meet the Federal deadline. There is a separate design process that has been happening recently, at much the same time as this environmental process, which many of you here tonight have also been involved in. The options I described earlier have been defined and refined as design work has progressed and will continue to evolve through the design and environmental processes for the Project.

The City is currently considering bringing the Downtown Plans to the City Council for adoption after the General Plan update, which is also being prepared in draft form now. Given the many complicated issues, the Downtown Plans and the updated General Plan must address in preparation for adoption, the City determined that it would be unrealistic to expect the combined Downtown Plans, environmental review to be completed in time to meet TIGER deadlines. It is in light of the TIGER grant, therefore, that the City is preparing this new EIR, which addresses the Project on its own, and is also focused on the Project

as being conditioned on the allowed purposes of the TIGER grant funds.

This brings us to tonight and this Scoping Meeting, which is an integral part of the preparation of the EIR for the Project. I will now turn it over to Mike Houlihan of First Carbon Solutions/Michael Brandman Associates to describe more of that context as well as the kinds of input we are seeking from you tonight. Mike.

MIKE HOULIHAN: Thank you, Elliott.

Again, I'm Mike Houlihan with First Carbon Solutions/Michael Brandman Associates. We're preparing the environmental document for the Fulton Mall Reconstruction Project.

First of all, I wanted to go over kind of the outline of our Scoping Meeting that we're -- we are holding tonight. First I want to go over the purpose of the Scoping Meeting and then a general description of the environmental setting of Fulton Mall, the Proposed Project, the overview of the environmental issues that we are addressing -- again, these are the preliminary environmental issues -- and then preliminary list of alternatives to be considered, and then last we'll talk about the -- the next steps after tonight's meeting.

First, the purpose of the Scoping Meeting, again, it's to provide the public and agencies an opportunity for

1 input into what issues to be addressed in the EIR. As many
2 of you know, we have submitted -- the City has distributed
3 and made available for review an initial study as part of
4 Notice of Preparation. And in that initial study, there
5 was a fair -- a fairly amount of detail of the potential
6 environmental issues associated with the two options of the
7 Proposed Project.
8 The -- the purpose of tonight's meeting is not to
9 debate the merits of the two options of the project. It's
10 to understand the environmental issues that are of concern
11 of the public individuals, as well as any of the agencies
12 that are here.
13 First, the environmental study, the location, I
14 think everyone understands where the location is, but in
15 terms of Fulton Mall, it includes Fulton itself, along with
16 Kern -- along with Kern, Mariposa, and Merced. Those
17 areas -- those malls are part of Fulton Mall. Then, as far
18 as the physical characteristics, there is various elements
19 within Fulton Mall, from your pattern pavement that was
20 part of the original design, numerous trees that are
21 located there, shrubs and flowers, as well as the planters,
22 seating areas and benches, sculptures -- a variety of
23 sculptures that are there, and water features, and also two
24 top lots that are located within mall.
25 Each of those features are a different level

of -- of condition, current condition. Some of the sculptures -- or I should say the water fountains -- have not been working, have -- because of electrical problems or other types of issues associated with them, mainly stemming from maintenance and so forth, cracks and so forth. So in -- in trying to understand the -- the conditions of the current Fulton Mall, that condition is the baseline of what we are evaluating the var -- the -- the options, the Project options on.

The surrounding land uses, areas that are directly or nearby Fulton Mall, this exhibit illustrates, for example, in the purple area is a regional commercial, and then the -- the red area is identified up here as general heavy commercial. But in the area from Van Ness, Tuolumne, Broadway, and "H" Street and Inyo, in that square area, which was the original super block, in that area there is an accounting of the amount of square feet, and it's shown up here. Again, this is a replica of what is in the initial study, but this is within that super block, what -- how much development is currently located there. And, again, with the reconstruction of Fulton Mall, it is not to result in any new land use development. It's only related to the Proposed Mall itself.

The Proposed Project, there's two options. As Elliott had explained, we have an Alternative 1 that we

identified in the Initial Study, and that was to reconnect the grid on the traditional streets, and, again, with that is a two-way, two-lane street down Fulton as well as on Kern and Mariposa and Merced.

The Alternative 2 is a -- is a little bit different. It still has the two-way, two-lane street, but there are certain vignettes or areas where additional features will be restored and retained. And I believe there's six locations -- or around six or so.

Okay. With the Proposed Project, the two options, there are required approvals, and listed here, the required approvals include General Plan Circulation Element. Plans and Specifications, those are the detailed plans of how and where the different features are going to be located and also the specific location of where the streets will be located.

Construction Funding, the Central Area Community Plan Amendment, that amendment is related to Fulton Mall itself and the references related to Fulton Mall.

Conditional Use Permit. With the different options, there is a proposal, as part of the Project, to relocate the existing top lots to an area that is west or south of Mariposa and along Convo Alley. And the City currently doesn't own that property, but there's a -- a proposal for a property acquisition. It's currently an

1 open piece of land.
2 And the last, there's a Fresno Municipal Code
3 Amendment, again, that's related to Fresno Mall and the
4 discussion of Fresno Mall.
5 One -- one other item I wanted to let everyone
6 understand, in addition to the City providing the Scoping
7 Meeting to provide an opportunity for the public to provide
8 comments on the scope of the environmental document, they
9 would normally have done this, but there is a requirement
10 in the California Environmental Quality Act, specifically
11 for a project like this. And the reason why it's required
12 is because there is a General Plan Amendment, any project
13 that has a General Plan Amendment has to have a Scoping
14 Meeting so that there could be input from the public and
15 from agencies, if the agencies want to provide input into
16 that process.
17 Now, for the overview of the environmental
18 issues, in the issue study, there are various levels of --
19 of environmental issues and determinations that -- is
20 preliminary determinations that have been made. First, we
21 are -- I'm going to go through and identify the -- the
22 issues that were addressed. These are general issues, and
23 there are specific issues within the general categories.
24 And then there are issues found to be significant in the
25 Notice of Preparation in the Initial Study, and then there

are issues found that were less significant after mitigation. And then last, there are issues that were determined to be significant and then after our brief evaluation, we believe that it's going to be unavoidable. So I'm going to go through those issues.

First, this list of issues -- and the reason why I have "Cultural Resources" twice and "Aesthetics" twice is because there is a -- a difference between short-term for aesthetics -- short-term effects, as opposed to long-term effects. These long-term effects occur beyond ten years from now. The short-term effects are within the first five to ten years.

For "Cultural Resources," there's a number of types of cultural resources, and that's why I've divided that out between "Archaeology" and "Paleontological" and "Human Remains." Those are issues related to cultural resources. And then also separating out the -- the "Historical Resources." As many of you know, Fulton Mall itself is a historic resource.

Okay. And then the remaining of the issues are listed up here. These are all issues that we have looked at and -- and provided our preliminary environ -- our evaluation within the Initial Study. Again, the Initial Study is out for public review right now.

Okay. The issues that we found that were

significant. We -- we identified short-term aesthetics, the long-term aesthetics, the biological resources, the -- the cultural resources, hazardous and hazardous materials, hydrology and water quality -- and that's primarily water-quality issues related to construction, land use and planning, primarily with the consistency of the proposed options within the existing plans, and then transportation and traffic. That, as many of you would understand, is with the Project. We're not generating any more traffic land uses; therefore, we're redistributing traffic, but with that redistribution is adding to a cumulative level of increase in traffic.

Okay. Issues that were found to be less than significant after incorporations of mitigation measures. Here's the list. We've identified in the Initial Study mitigation measures that are required to be implemented in order to reduce the potential significant effects for each one of these issues.

And, last, the -- the two areas that we determined from our initial review, that there weren't mitigation measures to be able to reduce the effect, unless you end up changing the option to a different alternative. Our aesthetics, short-term, specifically related to the removal of the trees. You have a substantial change in that Fulton Mall if you end up removing the trees.

And, last, with cultural resources, if you place a two-lane, two-way street within Fulton Mall, it would no longer be able to qualify for the existing designation by the -- the State Historical Resource.

Okay. The preliminary list of alternatives that are being considered. The no-project no-development is one that is required by the California Environmental Quality Act. And then all of these other issues or other alternatives are alternatives that has -- that have gone through discussion over the last year or year and a half or more. Or more. And each one of these have gone through some discussion and trying to understand what the -- the different features or components of these -- these proposed or alternative projects.

The Restoration and Completion, that is the Option 3 that Elliott had mentioned. The Restoration with Open Cross Streets, that's opening up the -- the Kern, Mariposa, and Merced to two-way, two-lane traffic.

The Restoration and Completion with Economic Subsidies, this is more of an increase in funding by the City to provide -- and also to restore and complete the Fulton Mall. The -- open the outer blocks and cross streets, those are the Kern and Merced opening these up to two-lane, two-way traffic on Fulton and on these streets while keeping the inner blocks or retaining Fulton Mall as

a pedestrian mall.

The -- keeping the south and center three blocks and the three blocks closed. That's the -- the center three blocks and the -- and the south.

Keep the center two blocks closed. Again, those are the two that are going to be open on the outer ends.

And reconnect the grid one-way street as placing a one-way street within Fulton Mall. Also, a one-way street within the cross streets too.

UNIDENTIFIED MALE SPEAKER: I'm sorry. You said this is going to be in the Kern work to be done?

MIKE HOULIHAN: This is -- these are the alternatives that we will consider while going through an alternative discussion. So we want a reasonable range of alternatives, and these are ones that we will draw upon to determine that reasonable range.

And then there's three more.

Keeping the six blocks of the mall open -- or -- of the mall and open the cross streets with two-way, two-lane traffic.

And then two-way vehicle traffic through the mall, and the Fulton Mall -- Fulton will be open.

And then last is shifting the roadway east or west. That one is a little bit less credible, but it's at the intersections allowing the Fulton Street to actually

curve and, therefore, actually requiring some of the structures to be removed -- the existing structures. Again, it's to retain the components of Fulton Mall -- some of the -- more of the components of Fulton Mall.

So those are the -- the preliminary list of alternatives that we are considering.

And then last regarding the next steps, where do we go from here? As you've seen, we've prepared the Initial Study, and we -- we've sent it out for public review so that we can get comments from you so that we can end up adding additional information or trying to respond to your -- your concerns.

Now, we are -- the next step will be preparing the draft EIR. And once we have that draft EIR completed, we will send it out for public review so everyone can see what that draft EIR will -- what the information is within the draft EIR.

We will receive comments. Similar to receiving comments on the Initial Study, we'll receive it on the draft EIR at that time, and that has a 45-day public review period. We'll respond to the comments provided, and then we'll prepare a Response to Comments document, so that you can see where your comments are responded to.

And then last, that's where you end up talking about the merits of the project at public hearings -- at

1 the public hearings, both at the Planning Commission and
2 City Council. So what -- what we want to do now is with
3 the basic understanding of the issues that have been
4 addressed in the Initial Study, the ones I've identified
5 above, if there are any specific issues that you see that
6 you would like to be addressed in the EIR, those are the
7 issues we want your input on to the scope of the
8 environmental evaluation. So, again, it is not to -- to
9 come up and talk about the merits of the -- the two Project
10 alternatives that -- or two options that are being
11 evaluated. It's to understand the -- the environmental
12 evaluation and if there are other issues that should be
13 addressed.
14 So I think what we'll do is -- you'll go through
15 the cards?
16 ELLIOTT BALCH: Yeah.
17 MIKE HOULIHAN: Okay.
18 ELLIOTT BALCH: Yep. So we're going to invite the
19 speakers up to the lectern in the order we receive the
20 cards. And, again, if -- if you'd like to speak, there are
21 pink speaking cards at the back, and we'd invite you to
22 drop one off here. To ensure everyone has a chance to
23 share the -- at least the gist of their comments, we'll ask
24 you to limit your remarks to three minutes. But after
25 that, if everyone's had their first shot, we'll open it up

to come back for seconds. And you can also provide -- I should mention you can also provide comments in writing, and we have forms for that in the back as well. So those comments are due no later than November 15th.

So, again -- I'm sorry -- not again, but one more note, which is that all comments that are made are being recorded at this meeting and will be considered in the preparation of the EIR. So if you have a comment and you hear someone say essentially the same thing, just, please, know that the comment's already been received on the record.

So with that -- oh, and when you do come up, please begin by stating your name so that we can match your comment to your card in our record. And you'll have, again, three minutes.

Our first will be Robert Turner, followed by Jason -- is it Piecuch?

JASON PIECUCH: Piecuch.

ELLIOTT BALCH: Yeah.

ROBERT TURNER: Hello. My name is Robert Turner. I'm a member of the local Tehipite Chapter of the Sierra Club. I'm also a member of the Downtown Fresno Coalition. I live in Clovis at 1724 Minnewawa.

I want to state that I hope that the EIR addresses long-term traffic patterns after the construction

is done, because I believe that the -- the size of the street being small and having limited amount of parking is going to mean that there will be a lot of traffic on the street looking for parking that won't find it and will being circulating around, pretty much like in a shopping center parking lot when people can't find their parking. And I want that to be addressed, the -- the impact of the increase in traffic and the large number of people trying to make left turns and right turns into the -- into the Fulton Street will, I believe, slow down traffic on the cross streets. So I think there will be significant traffic impacts.

Also, because the point of the street, I think, is to bring more people downtown in their cars to see the street -- there might be some difference of opinion on this -- but I think there needs to be addressing pollution noise -- especially air pollution, and if the traffic is slowed down, then that could be significant impact.

The safety of pedestrians with the increase of mall traffic, compared to the current baseline where pedestrians are entirely safe on the street from cars.

And the safety of the artwork is important. Cars can -- can crash into the art and damage them pretty -- pretty severely.

Also, the current baseline -- the baseline is the

current condition of the mall, I -- but I guess in the alternative, the restoration of the mall is -- is -- that's considered -- one of the alternatives that will be considered, right?

So I think it's important to look at what -- what we will -- to compare the -- the current -- the conditions of the mall when it's restored to the condition it will be in if it has cars on the street.

And I also believe that keeping the mall has an equal, if not greater, potential for being a driver in the increase of an economic development. So the future development options of the alternative are very important. It's not a given that keeping the pedestrian mall, even if it's restored, is necessarily going to lower the economic potential. I believe it's going to increase the economic potential for downtown to have that pedestrian mall there, greater than it would be if the street were there. So I want that future potential for economic development to be considered in the alternative that keeps the mall.

Thank you.

ELLIOTT BALCH: Mr. Piecuch and Ms. Harris.

JASON PIECUCH: Greetings. Greetings. My name is Jason Piecuch. I live on Fulton Street, downtown Fresno. I'm employed by the Salvation Army, Fresno Silvercrest, as a weekend and property manager.

My questions for you just, Elliot, here, you're talking about the pre -- prelim this to your Option 3 or Alternative 3, an environmental impact report here, this will not be covering that. When will there be an environmental impact report for Option 3 or that alternative? Just asking that, putting that out there.

And my question here is the historic. I hear -- I've seen historic, less than significant, significant. Taking out the mall takes away the historic value of it. So a long-term aesthetic value -- an aesthetic long-term effect, well, it was said it was less than significant aesthetic value for long-term. I personally believe it would be -- should be greater. It would be a very, very serious loss to Fresno and the region. It wouldn't be historic. It would be a street with cars on it.

Other than that, I'd just like to say that I appreciate what you guys are doing in opening up this hearing. Thank you very much.

ELLIOTT BALCH: Ms. Brunette Harris and then Doug Richert.

BRUNETTE HARRIS: My name is Brunette Harris.

And I would like to say I don't think one should even be done an EIR. If you're not including all three, you shouldn't be doing any of it, because you made the statement that those three were supposed to be considered.

1 But now you guys are only talking about two. So I don't
2 know how you can do an environmental study on just two and
3 eliminate the one. There's no way you can do that. It
4 shouldn't be legally anyway. Because if you guys are
5 having three of them that was recommended, and you're
6 supposed to do three, and all you're talking about is two.
7 So -- so far as the environment study, as the
8 gentleman was saying -- I mean, this is the Valley. And
9 everybody knows that what comes down in the Valley stays in
10 the Valley. So you're talking about all of the cars.
11 You're talking about the emission and everything else. Now
12 you had a plan where you were talking about -- I guess it
13 was called the -- where you put it on hold. All of it was
14 on hold. It's supposed to be -- the General Plan and all
15 of that. If all of that's on hold, there's no way in the
16 world you can pull something out. I don't -- I'm not
17 understanding what's really going on, because if you got
18 the General Plan and the Downtown Fulton Plan, all of that
19 was included and all of that is supposed to be on hold, and
20 I don't know how you can legally pull that out and say you
21 gonna do this separate from the plan. Because it's in the
22 plan, period, but it's on hold -- your 2035 plan. So I,
23 mean, what you're doing, I don't know how it can be legally
24 done. And so you're moving forward with it. I don't think
25 you should be able to move forward with it until all of

1 those things are addressed.
2 There's supposed to be three plans. All three of
3 them should have an environmental study. And as the
4 gentleman say, here you got all of this emission. It's
5 going to stay down in the Valley. There's no way for you
6 to get it out.
7 Now, you did an EIR, talking about you wasn't
8 going to put any more drive-throughs for the simple fact of
9 the emission, the air pollution. But now here you're
10 talking about putting in two-way street down on the mall.
11 That doesn't even make any sense. So I don't know what
12 kind of study that you guys have been doing, but obviously
13 you're studying the wrong things. You need to go back to
14 school.
15 ELLIOTT BALCH: Doug Richert and then Stephen -- is it
16 Mensel?
17 STEPHEN MENSEL: Yes, it is.
18 DOUG RICHERT: Hi. My name is Doug Richert. I'd like
19 to see the impact of exhaust on the artwork addressed into
20 the environmental studies report, also, the impact of
21 exhaust on people sitting on the cafe -- or sitting on --
22 next to the curb in the planned cafe scenarios.
23 Also, I'd like to see a comparison of how much
24 parkland will be -- I'd like to see the Fulton Mall is
25 considered as parkland and then compared how it's gonna --

how much is gonna be lost to the residents of the area and then a comparison of that to other areas of the city to see if those residents are impacted by the loss of additional parkland, and also a comparison of car-free areas, an acreage study, there where you had the commercial acreage of the parking and -- or square footage -- I'm sorry. You had square footage of those various buildings. I'd like to see the Fulton Mall considered parkway on that -- or parkland and compare the loss of that in the various plans.

Also, with the loss of trees, that's going to raise temperatures. I'd like to see temperature comparisons of potential loss in the heating effect that will occur and a comparison addressing the potential cost for those business owners through increased usage of that. And, plus, with the automobiles and loss of trees, there should be temperature considerations taken into effect on that, on the increase and of the differing types of pavement used in the project.

Thank you.

ELLIOTT BALCH: Mr. Mensel and Hal Tokmakian.

STEPHEN MENSEL: I'm sorry. I didn't -- Elliot, I didn't -- I was -- I came in late and didn't hear what your title is.

ELLIOTT BALCH: Oh. I'm the Downtown Revitalization Manager for the City.

STEPHEN MENSEL: Ah-hah. My name is Stephen Mensel, and I'm a -- I'm a resident of downtown Fresno and have been for many years, and I have actually had a business downtown for many years. I'm now retired. But I watch these things from time to time and thought I'd come down and watch this one, which most everybody who has -- I think everyone who has addressed us before you has made better points than I have. I -- I suppose I'd just like to add one more thing.

I have a question about the -- the lighting. We have a light pollution problem here in Fresno, and I would like it if you addressed the change in lighting, because I -- I gather that if you have City streets, you have to have them lit in a particular way, according to our plans and our ordinances. And if there's going to be a change in the lighting and it's going to add to the light pollution, I'd like to know about that.

Everything else I had to say or I wanted to say has been said and probably said better by the people that proceeded me.

Thank you for your attention.

ELLIOTT BALCH: Mr. Tokmakian and Ms. Zachritz.

HAL TOKMAKIAN: I may take more than the prescribed three minutes, so I'm giving you Linda Zachritz' talk sheet. That makes it six. But I don't think I'll need it

1 all. My name is Hal Tokmakian, and I'm a member of the
2 Downtown Fresno Coalition. I'm going to read this
3 statement verbatim, which will be -- and add a few ad libs,
4 of course, and give a copy of what we have written to
5 Mr. Balch.
6 We are going to be submitting detailed comments
7 on the various topics in time for the November 15th
8 deadline, but there are three comments we will bring to
9 your attention and to everyone else here that we feel are
10 pertinent to the meeting at hand. Each of these comments
11 leads to the conclusion that the Notice of Preparation
12 underlying this meeting is fatally flawed, and this process
13 should be halted.
14 No. 1, the publicly advertised Notice of
15 Preparation states that the Notice and the Scoping Meeting
16 are conducted as part of the California Environmental
17 Quality Act process. However, the Fulton Mall
18 Reconstruction Project is mostly funded by Federal dollars.
19 That check from the Department of Transportation was handed
20 over to the Mayor with a lot of hoopla and publicity.
21 The National Policy for Environmental Protection
22 provides that any Federal dollars that are used in a
23 project be subject to evaluation under this act. The in --
24 that information was omitted from the public notices, and
25 we submit that this scoping should be halted and renoticed

1 as part of the National Environmental Policy Act process.
2 Now, I know, as a professional planner for a long
3 time, that this can be done to join CEQA and NEPA. I don't
4 know why it's not done here, except because of some
5 convoluted internal decision that perhaps has no bearing on
6 the subject that we're trying to deal with.
7 Second, this Notice of Preparation for the Fulton
8 Mall Reconstruction Project describes the -- describes the
9 project as having two alternatives -- one, to connect the
10 grid on traditional streets; and, two, to reconnect the
11 grid with vignettes. This presents a second reason why the
12 NOP and this meeting should be terminated now.
13 The City of Fresno on or about July or August the
14 12th, 2013, signed an agreement with Royston, Hanamoto,
15 Alley & Abey for landscape services, designs, plans, and
16 working drawings for the Fulton Mall Reconstruction
17 Project. The City required this contractor to develop
18 three alternatives: Reconnect the grid with a traditional
19 street, reconnect the grid with vignettes, and reconstruct
20 and complete Fulton Mall as a pedestrian mall.
21 The schematic design phase of the consultant's
22 contract has been ongoing since last month, October, with a
23 schedule of steering committee meetings, incidentally,
24 where the Mayor appeared and applauded the meeting process
25 and the public process and also with workshops that met

1 with special interest groups and so forth. All of these
2 were attended by City staff. At every one of these
3 gatherings, discussion and consideration was specifically
4 sought for all three alternatives. Additionally, it was
5 specifically represented to the attendees that all three
6 alternatives were being examined on an equal basis and that
7 no decision had been made about which alternative to pursue
8 and that the City Council will receive a report from the
9 consultants that would include an evaluation of all three
10 alternatives.
11 Now, do you see the problem here in this public
12 process? Were the people of Fresno being duped at public
13 meetings to consider three alternatives while the meetings
14 were still ongoing and the quietly -- and the City quietly
15 removed the one alternative of Fulton Mall? Will the City
16 Council similarly be deceived during this process?
17 Now, a third reason why the NOP is irreparable
18 flawed is this: The two alternatives described in the NOP
19 are inconsistent with the existing General Plan, the 2025
20 General Plan. And when the Central Community -- and as
21 well with the Central Area Community Plan. Both the
22 General Plan and the Central Area Community Plan maintained
23 the Fulton Mall is a pedestrian area. City and State
24 planning law requires that all projects be consistent with
25 the existing General Plan and relevant specific plans

before they proceed.

On this basis, the project described in the NOP as -- isn't lawful and should not proceed. Now, we will submit further detailed comments on this before the November 15th deadline.

But, certainly, how can we prepare an environmental impact document when the General Plan does not provide for such projects? Let's get to the heart of the matter and deal with the procedure and process properly. We don't want to deal with the problem of fragmentation of this entire process in a -- in a possible later proceeding.

Thank you.

ELLIOTT BALCH: (Inaudible) and Mitch Freund. That is the last name that I have. So if others would want to speak, please bring your cards forward.

MITCH FREUND: Hello. I'm Mitch Freund. I work -- I'm the Ambassador Director for the Downtown Fresno Partnership and also a downtown resident.

As a representative of the Downtown Fresno Partnership, representing the business community of downtown Fresno, the partnership feels the scope of the EIR process for the Fulton Mall Reconstruction Project has been and continues to be adequate and sufficient, and that's all I have.

1 ELLIOTT BALCH: Thank you. And, Chuck, did you want
2 to speak?
3 CHARLES BARRETT: Yeah. Yes. My name is -- my name
4 is Charles Barrett. I'm with Heritage Fresno. I live
5 at -- at 516 East Portland Avenue in Fresno, California.
6 That's in the 93720. And I'm also the -- one of the
7 co-chairs of Heritage Fresno, which is a preservation
8 organization dedicated to the advocacy for the preservation
9 of historical resources.
10 One of which, of course, is the Fulton Mall, so
11 we oppose the Project. But in any event, if the Project is
12 -- if the Executive Department is determined to carry the
13 Project forward, we'd like to note for the record that --
14 our objection to the cover that's provided by the TIGER
15 grant. We foresee the day when the members of the City
16 Council will say that they have to change the Fresno Mall
17 in order to comply with the terms of the Federal government
18 mandate, and that was -- that was a way the thing has been
19 set up, and I guess there's nothing we can do about it,
20 except to advise the experts who will study the
21 environmental impact. That, first of all, there's
22 considerable public opposition to this project in the
23 public -- general public and every sensing is done
24 discloses that.
25 But above that, we also hope that you will expand

the scope of the study sufficiently to dis -- to determine if the objectives of the Executive Department can be met with use -- with the utilization of the original trams that once served the mall or busses or electric vehicles or something that can move people about and still -- without disturbing -- ruining the plan of Garrett Eckbo and without a substantial destruction of the urban forest and the structures of the mall. We hope you will at least consider that.

And thank you.

ELLIOTT BALCH: Thank you, Mr. Barrett.

Is there anybody else?

Seeing -- seeing no further comments, we will -- we will adjourn the meeting. Thank you for coming.

(End of recorded EIR Scoping Meeting.)

-- o0o --

STATE OF CALIFORNIA)
) ss
COUNTY OF FRESNO)

I, Sally Anna Frits, CSR No. 11709, a Certified Shorthand Reporter in and for the County of Fresno, State of California, do hereby certify:

That I transcribed the recorded Fulton Mall EIR Scoping Meeting to the best of my ability, which was taken down by me in shorthand and thereafter reduced to computerized transcription under my direction and supervision. I hereby certify the foregoing transcript is a full, true, and correct transcript of my shorthand notes so taken.

I make no representations as to the accuracy of the speakers and/or testimony since I was not physically present during the recording.

I further certify that I am neither counsel for nor related to any party to said action nor in any way interested in the outcome thereof.

Sally Anna Frits
Certified Shorthand Reporter No. 11709

1.4 - Comments on DNCP/FCSP/Fulton Mall NOP-IS, April 2012

County of Fresno
Department of Public Health
Edward L. Moreno, M.D., M.P.H., Director-Health Officer

May 1, 2012

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LU0016360
PE 2602

City of Fresno
Development and Resource Management Department
Attention: Wilma Quan, Urban Planning Specialist
2600 Fresno Street
Fresno, CA 93721

Dear Ms. Quan:

PROJECT: Notice of Preparation for a Draft EIR

Thank you for the opportunity to review and comment on the above noted project. The Fresno County Department of Public Health, Environmental Health Division has reviewed the *Notice of Preparation for a Draft Environmental Impact Report for Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and Downtown Development Code* and offers the following comments:

- Should any underground storage tank(s) be found during projects, the applicant/owner shall apply for and secure an Underground Storage Tank Removal Permit from the Fresno County Department of Public Health, Environmental Health Division. Contact the Certified Unified Program Agency at (559) 600-3271 for more information.

- All wells (not intended for use) and septic systems that exist or that have been abandoned within the project area shall be properly destroyed by an appropriately licensed contractor.

The following comments pertain to demolition/remodel of existing structures:

- Should any structures have an active rodent or insect infestation, the infestation should be abated prior to demolition/remodel of structures in order to prevent the spread of vectors to adjacent properties.

- In the process of demolishing/remodeling existing structures, the contractor may encounter asbestos containing construction materials and materials coated with lead based paints.

- If asbestos containing materials are encountered, contact the San Joaquin Valley Air Pollution Control District at (559) 230-6000 for more information.

- If structures were constructed prior to 1979 or if lead-based paint is suspected to have been used in structures, then prior to demolition/remodel work the contractor should contact the following agencies for current regulations and requirements:

  - California Department of Public Health, Childhood Lead Poisoning Prevention Branch, at (510) 620-5600.

- United States Environmental Protection Agency, Region 9, at (415) 947-8000
- State of California, Industrial Relations Department, Division of Occupational Safety and Health, Consultation Service (CAL-OSHA) at (559) 454-5302.

- Any construction materials deemed hazardous as identified in the demolition/remodel process must be characterized and disposed of in accordance with current federal, state, and local requirements.

If I can be of further assistance, please feel free to contact me at (559) 600-3271.

Sincerely,

Janet Gardner

R.E.H.S., M.P.H.
Environmental Health Specialist
Environmental Health Division

jg

cc. Glenn Allen, Supervising Environmental Health Specialist
Vince Mendes, Supervising Environmental Health Specialist
Steven Rhodes, Supervising Environmental Health Specialist

MAY 0 1 2012

DOWNTOWN FRESNO COALITION

4781 E. Gettysburg Avenue • Fresno, California 93726 • Phone 559-291-2261 • Fax 559 291-4991

May 1, 2012

City of Fresno Development and Resource Management Department
Attn: Wilma Quan, Urban Planning Specialist
2600 Fresno Street, room 2156
Fresno, CA 93721

RE: EIR for Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and Downtown Development Code

Dear Ms. Quan:

We are writing to express our procedural concerns in response to the Notice of Preparation of the Draft EIR for Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan (FCSP), and Downtown Development Code. We question the procedural validity of the Fulton Corridor Specific Plan process including the NOP. The purpose of a specific plan by law is to implement the adopted General Plan. The 2035 General Plan is in the process of being prepared. Therefore, we question whether the FCSP process can be legally designed to implement a nonexistent 2035 General Plan. Accordingly, please identify the General Plan that the FCSP is intended to implement.

We direct your attention to the following sections from the California Government Code.
Section 65450.

> Preparation of specific plans. After the legislative body has adopted a general plan, the planning agency may, or if so directed by the legislative body, shall, prepare specific plans for the systematic implementation of the general plan for all or part of the area covered by the general plan. (Repealed and added by Stats. 1984. Ch. 1009.)

> Section 65454. Consistency with the General Plan. No specific plan may be adopted or amended unless the proposed plan or amendment is consistent with the general plan. (Added by Stats. 1984, Ch. 1009)

Also, in the interest of avoiding confusion in the future, please identify, and provide contact information for, the chain of command and distribution of responsibilities for the EIR, CEQA, NEPA and section 4f processes.

Sincerely yours,

Harold Tokmakian — Linda Zachritz

Harold Tokmakian, AICP — Linda Zachritz

cc: James Sanchez, Fresno City Attorney
Susan Brandt-Hawley, Esq.

Steering Committee: Joyce Aiken, William M. Donleavey, Bob Dwyer, Robert Dyer, Coke Hallowell, Walter Hernandez, Sue McCline, Ray McKnight, James Oakes, Mabelle Selland, Harold Tokmakian, Linda Zachritz

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Sincerely yours,

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cc: James Sanchez, Fresno City Attorney
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MAY 01 2012

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May 1, 2012

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Attn: Wilma Quan, Urban Planning Specialist
2600 Fresno Street, room 2156
Fresno, CA 93721

RE: EIR for Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and Downtown Development Code

Dear Ms. Quan:

Following are comments on the scope of the Draft EIR for the Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and Downtown Development Code Project.

1. An EIR must address Fresno's history of public policy-making that allowed the decentralization that caused the decay of the downtown. It will not be sufficient to mention that the construction of large shopping centers drew businesses and shoppers away from the downtown. The decisions by elected officials that allowed this construction must be thoroughly examined.

2. The Notice of Preparation discusses Fulton Mall at length on pages 11-12 but fails to give equal attention to the other districts mentioned on page 9. The EIR should not replicate this disproportionate emphasis on Fulton Mall. It needs to analyze in equal scope and depth each district and the FCSP area as a whole. In addition, any proposed alternative must be given the same thorough analysis given to the project's preferred alternative.

3. The EIR should discuss in a comprehensive manner the interrelationships between all the districts mentioned in the draft of the Fulton Corridor Specific Plan, including all facets of required elements for the FCSP. The FCSP is the principal project area for the EIR. Each of the seven "districts" are subordinate components.

4. The EIR must examine the effect of the Downtown Neighborhoods Community Plan on the Eaton Plaza Master Plan, which was adopted by the City Council.

5. The draft Fulton Corridor Specific Plan, page 1.9 par. 6, refers to implementation by the Redevelopment Agency. Now that the Redevelopment Agency has been abolished, the EIR must clarify how implementation is to be achieved. As tools to affect the Specific Plan, closely explore the following in detail: capital improvement programs to fund infrastructure projects. Apply special assessment districts for the CBD, Chinatown, Cultural Arts, etc

The following comments pertain to "Potential Environmental Effects of the Project" on page two of the Notice of Preparation.

6. **Air Quality and Greenhouse Gas Emissions**-- In light of Fresno's well-known problems with pollution and related health concerns, the EIR should analyze in detail the effect of each alternative for the FCSP area, including each option for Fulton Mall, on the production of pollutants and greenhouse gases.

7. **Cultural Resources**-- Analysis of Cultural Resources must consider landscapes, buildings, art, architecture, etc. in all the districts included in the Project. It is important that the EIR study the totality of the Fulton Mall, including the art, the landscaping, the water features, the seating structures, the pavement, and the total configuration of these components.

8. **Transportation and Traffic**--The EIR should specifically deal with a wide range of modes of transportation that do not necessitate opening the Fulton Mall to traffic. (See Proposed Alternative that follows.)

9. **Utilities and Service Systems**-- The EIR must thoroughly investigate the Project's effects on infrastructure. A well-maintained and up-to-date infrastructure system designed to support future private building and investment is essential.

PROPOSED ALTERNATIVE TO THE PREFERRED ALTERNATIVE

Analyze in detail the following alternative to the preferred alternative:

1) Retain and revitalize Fulton Mall in order to restore its historical integrity as a masterpiece of 20th-century modernist landscape architecture designed by Garrett Eckbo (see the nomination document for the National Register of Historic Places)

2) Develop alleys parallel to Fulton Mall as follows: (a) link them to Fulton Mall by removing some buildings and creating paseos/gallerias/passageways between Mall and alleys; (b) encourage development of walkway frontages to include small shops, display windows, cafes, etc.; (c) create parking spaces in the alleys.

3) Realign and widen Broadway as a landscaped boulevard parallel to Fulton Mall with adjacent parking structures and mixed use buildings;

4) Redesign Tuolumne as a landscaped boulevard. Integrate the existing frontage road on the south side of Tuolumne with adjacent surface parking to create mixed use building sites parallel to Tuolumne (shops on ground floor, parking above, with offices/residences on upper floors).

5) Reconceive H Street and integrate it functionally and aesthetically into the Central Business District.

6) Design a high intensity node of cultural arts including music, theater, visual etc. at Tuolumne and Fulton Mall. Complementary studios, cafes, housing and other shops would be very appropriate.

7) Install a free trolley system to link activity nodes in the FCSP area and revive the tram service that was provided when the Fulton Mall was built.

Sincerely yours,

Harold Tokmakian, AICP Linda Zachritz

cc: Susan Brandt-Hawley, Esq.

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

May 1, 2012

Wilma Quan
City of Fresno
Development and Resource Management Department
2600 Fresno Street, Room 2156
Fresno, CA 93721

Project: Notice of Preparation for a Draft Environmental Impact Report for Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and Downtown Development Code

District CEQA Reference No: 20110483

Dear Ms. Quan:

The San Joaquin Valley Unified Air Pollution Control District (District) has reviewed the Notice of Preparation (NOP) for the project above. The plans for the regeneration of Downtown Fresno, the Fulton Mall, and its surrounding neighborhoods in the City of Fresno themselves will not have an impact on air quality. However, future development within the area will contribute to the overall decline in air quality due to increased traffic and ongoing operational emissions. New development may require further environmental review and mitigation. The District makes the following recommendations regarding future development:

Emissions Analysis

1) The District is currently designated as extreme nonattainment for the 8-hour ozone standard, attainment for PM10 and CO, and nonattainment for PM2.5 for the federal air quality standards. At the state level, the District is designated as nonattainment for the 8-hour ozone, PM10, and PM2.5 air quality standards. The District recommends that the Air Quality section of the Environmental Impact Report (EIR) include a discussion of the following impacts:

   a) **Criteria Pollutants:** Project related criteria pollutant emissions should be identified and quantified. The discussion should include existing and post-project emissions.

      i) Construction Emissions: Construction emissions are short-term emissions and should be evaluated separate from operational emissions. The District recommends preparation of an Environmental Impact Report (EIR) if annual construction emissions cannot be reduced or mitigated to below the following

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

levels of significance: 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), or 15 tons per year particulate matter of 10 microns or less in size (PM10).

ii) Operational Emissions: Permitted (stationary sources) and non-permitted (mobile sources) sources should be analyzed separately. The District recommends preparation of an Environmental Impact Report (EIR) if the sum of annual permitted and non-permitted emissions cannot be reduced or mitigated to below the following levels of significance: 10 tons per year of oxides of nitrogen (NOx), 10 tons per year of reactive organic gases (ROG), or 15 tons per year particulate matter of 10 microns or less in size (PM10).

b) **Health Impacts:** Project related health impacts should be evaluated to determine if emissions of toxic air contaminants (TAC) will pose a significant health risk to nearby sensitive receptors. TACs are defined as air pollutants that which may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. The most common source of TACs can be attributed to diesel exhaust fumes that are emitted from both stationary and mobile sources. Health impacts may require a detailed health risk assessment (HRA).

Prior to conducting an HRA, an applicant may perform a prioritization on all sources of emissions to determine if it is necessary to conduct an HRA. A prioritization is a screening tool used to identify projects that may have significant health impacts. If the project has a prioritization score of 1.0 or more, the project has the potential to exceed the District's significance threshold for health impacts of 10 in a million and an HRA should be performed.

If an HRA is to be performed, it is recommended that the project proponent contact the District to review the proposed modeling approach. The project would be considered to have a significant health risk if the HRA demonstrates that project related health impacts would exceed the District's significance threshold of 10 in a million.

More information on TACs, prioritizations and HRAs can be obtained by:

- E-mailing inquiries to: hramodeler@valleyair.org; or
- Visiting the District's website at:

  http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm.

2) In addition to the discussions on potential impacts identified above, the District recommends the EIR also include the following discussions:

a) A discussion of the methodology, model assumptions, inputs and results used in characterizing the project's impact on air quality. To comply with CEQA requirements for full disclosure, the District recommends that the modeling

outputs be provided as appendices to the EIR. The District further recommends that the District be provided with an electronic copy of all input and output files for all modeling.

b) A discussion of the components and phases of the project and the associated emission projections, including ongoing emissions from each previous phase.

c) A discussion of project design elements and mitigation measures, including characterization of the effectiveness of each mitigation measure incorporated into the project.

d) A discussion of whether the project would result in a cumulatively considerable net increase of any criteria pollutant or precursor for which the San Joaquin Valley Air Basin is in non-attainment. More information on the District's attainment status can be found online by visiting the District's website at:

http://valleyair.org/aqinfo/attainment.htm.

District Rules and Regulations

3) Individual projects may be subject to District rules and regulations, including: Regulation VIII (Fugitive PM10 Prohibitions), Rule 4102 (Nuisance), and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations). In the event an existing building will be renovated, partially demolished or removed, the project may be subject to District Rule 4002 (National Emission Standards for Hazardous Air Pollutants).

4) Individual projects be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and will require District permits. Prior to construction, the project proponent should submit to the District an application for an Authority to Construct (ATC). For further information or assistance, the project proponent may contact the District's Small Business Assistance (SBA) Office at (559) 230-5888.

5) Individual development projects would be subject to District Rule 9510 (Indirect Source Review) if upon full build-out the project would include or exceed any one of the following:

- 50 dwelling units
- 2,000 square feet of commercial space;
- 25,000 square feet of light industrial space;
- 100,000 square feet of heavy industrial space;
- 20,000 square feet of medical office space;
- 39,000 square feet of general office space; or
- 9,000 square feet of educational space; or
- 10,000 square feet of government space; or

- 20,000 square feet of recreational space; or
- 9,000 square feet of space not identified above

The District recommends that demonstration of compliance with District Rule 9510, before issuance of the first building permit for each project phase including payment of all applicable fees, be made a condition of project approval. Information about how to comply with District Rule 9510 can be found online at: http://www.valleyair.org/ISR/ISRHome.htm.

6) The above list of rules is neither exhaustive nor exclusive. To identify other District rules or regulations that apply to this project or to obtain information about District permit requirements, the applicant is strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888. Current District rules can be found online at the District's website at:

   www.valleyair.org/rules/1ruleslist.htm.

General

7) These plans are the blueprint for future growth and provide guidance for the community's development. The District is currently designated as extreme non-attainment of the federal national ambient air quality standard for ozone and non-attainment for PM2.5, and as attainment for PM10 for the federal standards. The District, however, has not achieved the state standards for PM10 and is designated as non-attainment. It is reasonable to conclude that mobile source emissions resulting from growth and development would have significant impacts on air quality. To reduce the project related impacts on air quality these plans should include design standards that reduce vehicle miles traveled (VMT). VMT can be reduced through encouragement of mixed-use development, walkable communities, etc. Recommended design elements can be found on the District's website at http://www.valleyair.org/ISR/ISROnSite Measures.htm.

If you have any questions or require further information, please call Patia Siong at (559) 230-5930.

Sincerely,

David Warner
Director of Permit Services

for Arnaud Marjollet
Permit Services Manager

DW:ps

MAY 08 2012

CENTRO BINACIONAL PARA EL DESARROLLO INDÍGENA OAXAQUEÑO

BINATIONAL CENTER FOR THE DEVELOPMENT OF OAXACAN INDIGENOUS COMMUNITIES

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May 8, 2012

Wilma Quan
Urban Planning Specialist
City of Fresno
2600 Fresno Street, Room 2156
Fresno, CA 92721

Re: Scoping for the Downtown Neighborhoods Community Plan DEIR

Dear Ms. Quan:

We appreciate this opportunity to comment on the scope of the DEIR for the Downtown Neighborhoods Community Plan, the Fulton Corridor Specific Plan and the Downtown Development Code. These planning documents will affect the future of the City of Fresno for many years to come. The Binational Center for the Development of Oaxacan Indigenous Communities (CBDIO, its acronym in Spanish) supports the efforts the City has made to focus development around the principles of increasing density and smart growth.

The area covered by the two plans and the accompanying code amendment has some of the most dismal health indicators of any area in the Valley, including poor air quality and concentration of poverty. For this reason, attention should be paid to environmental indicators, including air quality and other elements to avoid further deterioration of the environmental and social conditions. Along these lines, CBDIO would like to make the following suggestions regarding the DEIR:

Downtown Community Development Plan:

1. As mentioned in the DNCP, Fresno is part of the 26 proposed stations for the High Speed Train (HST). Taking in consideration the well-being of surrounding communities, the questions that we pose are: What are the impacts of the HST station on the development in downtown neighborhood? And how will people residing in the surrounding areas be affected in terms of displacement, air quality, water supply, health hazards, traffic, and the effects while the construction of the station takes place?

2. What are the implications of future developmental "transformation" work in Downtown Fresno on the prospective commercial/retail services in the nearby residential and community uses? Please refer to p. 2:16 on

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policy 2.12.8 and perform a study of negative externalities of all the proposed potential locations for commercial and retail center not limited to the effects on traffic, affordable housing options, displacement, water quality, air pollution and local job opportunities that will inform the community.

3. Please address in detail policy 2.13. What negative impacts is the policy addressing? "Reduce the negative impacts of industrial, commercial, and airport uses on nearby residential and community uses" (p. 2:17).

4. How does the plan foster cultural preservation? And how does it keep people living in their current homes in the residential places they have been living for decades

5. In the code, what is the proximity among residential areas and industry areas? What are the environmental and health risks of residents living in the surrounding areas?

Mitigation measures
We request that adequate measures for areas of environmental impact be included in the DEIR and that are made public.

Thank you for allowing us this opportunity to suggest areas for review within the DEIR for the Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan and the Downtown Development Code Amendment. As an organization we maintain significant concern over this review process because of the future effects these plans will have on current residents and their children.

CBDIO urges the City of Fresno to consider meaningfully the suggestions above and to act accordingly, in other words, to use this window of opportunity to find the best alternative for Fresno residents and specifically those within the plan area.

Sincerely,

Leoncio Vasquez

Leoncio Vasquez Santos,
Executive Director

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Centro Binacional para el Desarrollo Indígena Oaxaqueño (CBDIO)
744 N. Abby Street
Fresno, CA 93701

Re: Scoping for the Downtown Neighborhoods Community Plan DEIR

Dear Wilma:

We appreciate this opportunity to comment on the scope of the DEIR for the Downtown Neighborhoods Community Plan, the Fulton Corridor Specific Plan and the Downtown Development Code. These planning documents will affect the future of the City of Fresno for many years to come. The Binational Center for the Development of Oaxacan Indigenous Communities (CBDIO, its acronym in Spanish) supports the efforts the City has made to focus development around the principles of increasing density and smart growth.

The area covered by the two plans and the accompanying code amendment has some of the most dismal health indicators of any area in the Valley, including poor air quality and concentration of poverty. For this reason, attention should be paid to environmental indicators, including air quality and other elements to avoid further deterioration of the environmental and social conditions. Along these lines CBDIO would like to make the following suggestions regarding the DEIR:

Downtown Community Development Plan:

- As mentioned in the DNCP, Fresno is part of the 26 proposed stations for the High Speed Train (HST). Taking in consideration the well-being of surrounding communities, the questions that we pose are: What are the impacts of the HST station on the development in downtown neighborhood? And how will people residing in the surrounding areas be affected in terms of displacement, air quality, water supply, health hazards, traffic, and the effects while the construction of the station takes place?

- What are the implications of future developmental "transformation" work in Downtown Fresno on the prospective commercial/retail services in the nearby residential and community uses? Please refer to p. 2:16 on policy 2.12.8 and perform a study of negative externalities of all the proposed potential locations for commercial and retail center not limited to the effects on traffic, affordable housing options, displacement, water quality, air pollution and local job opportunities that will inform the community.

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- Please address in detail policy 2.13. What negative impacts is the policy addressing? "Reduce the negative impacts of industrial, commercial, and airport uses on nearby residential and community uses" (p. 2:17).

- How does the plan foster cultural preservation? And how does it keep people living in their current homes in the residential places they have living for decades

- In the code, what is the proximity among residential areas and industry areas? What are the environmental and health risks of residents living in the surrounding areas?

Mitigation measures
We request that adequate measures for areas of environmental impact be included in the DEIR and that are made public.

Thank you for allowing us this opportunity to suggest areas for review within the DEIR for the Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan and the Downtown Development Code Amendment. As an organization we maintain significant concern over this review process because of the future effects these plans will have on current residents and their children. It is for them that we ask for your consideration regarding all of the points raised above.

CBDIO urges the City of Fresno to consider meaningfully the suggestions above and to act accordingly, in other words, to use this window of opportunity to find the best alternative for Fresno residents and specifically those within the plan area.

Again, thank you for the opportunity to participate in the environmental scoping process for the recently proposed downtown planning documents.

Sincerely,

Sarait Martinez
CBDIO, Community Worker

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May 2, 2012

VIA ELECTRONIC DELIVERY

Wilma Quan
Urban Planning Specialist
City of Fresno
2600 Fresno Street, Room 2156
Fresno, CA 93721
wilma.quan@fresno.gov

RE: Comments in response to Notice of Preparation on the scope and content of the EIR for Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and Downtown Development Code

Dear Ms. Quan:

Thank you for this opportunity to submit comments pursuant to California Environmental Quality Act ("CEQA") Section 15083 to inform the scope and content of the Environmental Impact Report (EIR) that will be prepared for the proposed Downtown Neighborhoods Community Plan ("Downtown Plan" or "Plan"), Downtown Development Code ("Downtown Code" or "Code"), and Fulton Corridor Specific Plan ("FCSP") and to propose specific mitigation measures and alternatives through which the project's significant effects may be avoided. These comments aim to assist the City of Fresno to comply with its obligations under the CEQA by considering the relationship between a high quality ecological system and the general welfare of the people that will be affected by the Plan, the Code, and the EIR (Pub. Resources Code § 21000(c)). To uphold the legislative intent expressed in CEQA, the City of Fresno must draft the EIR in a manner that gives major consideration to preventing environmental damage, while providing a decent home and satisfying living environment for the residents of the area covered by the Downtown Plan (Pub. Resources Code § 21000(g)).

Vibrant, mixed-income neighborhoods and minimized gentrification

The Downtown Plan establishes among its goals the achievement of vibrant, mixed-income neighborhoods and minimized gentrification (Ch. 1(b)(4)). The Plan states that this will occur by "providing a rich housing mix to accommodate and attract a wide-range of household types and income levels", among other actions. While we commend the fact that the Downtown Neighborhoods Citizens Advisory Committee (DNCAC), on December 13, 2011, approved that housing will remain affordable and that all new housing will include a certain percentage of low-income and extremely low-income housing, the City should ensure inclusion of that recommendation in the Plan and that it is also relayed in the Code.

LSC

Displacement of low-income residents

The planned development and revitalization of the downtown area will likely lead to increased housing prices and an elimination of affordable housing units in the downtown area. A rise in housing prices, without designating a minimum requirement of affordable housing, could lead to the displacement of low-income and very-low-income populations. Thus, an express commitment in both the Plan and Code to ensure that housing will remain affordable and all new housing will include a certain percentage of low-income and extremely low-income housing is vital to mitigate adverse effects that are social, economic, and environmental in nature. Further, a commitment to replace every affordable unit taken off the market with an affordable unit is necessary.

Vehicle Miles Travelled, Greenhouse Gas Emissions, and Air Pollution

Without appropriate mitigation measures, the displacement of residents and their resulting relocation could potentially result in a significant increase in air pollution due to increase in Vehicle Miles Travelled (VMT) by displaced residents. For example, if a displaced resident must travel further to get to work because of the lack of affordable housing in their former downtown community, their VMT may significantly increase and therefore, the Green House Gas Emissions (GHGs) and particulate matter generated by their transportation as well. Such increases in air pollution will further deteriorate Fresno's already poor air quality and further jeopardize resident health. More importantly, these particular health impacts will disproportionately affect low-income and racial minorities that live in the downtown area.

Compliance with California Housing Laws

Displacement of low-income residents from the area covered by the Downtown Plan due to a rise in housing prices could also result in non-compliance by the City of Fresno with California Housing Laws. California Housing Law requires cities to plan for forecasted population growth and identify potential sites suitable to house a variety of income levels. Cities must provide for sufficient low-income housing in their adopted Housing Element to meet the low-income housing share allocated to it by the California Housing and Community Development Agency. CEQA requires EIRs to discuss any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans, including regional housing allocation plans (14 CCR § 15125(d)). Under California Housing Law, all planning documents adopted by a city must conform with the city's housing element.

To comply with CEQA, the EIR should examine the aforementioned impacts and possible ways to mitigate the adverse effects by doing the following:

- Analyze the potential displacement of low-income residents from the downtown plan area and the likely air quality impacts, taking into account the City's mandate to plan for housing forecasts and consistency between the city planning documents and the housing element (14 CCR § 15125(d) & 15126.2)
- Analyze the options for the creation of an alternative or addition to the Downtown Code that incorporates the commitment to the policy that housing will remain affordable and that all new housing will include a certain percentage of low-income and extremely low-income housing. Without a provision in the Code ensuring sufficient, high-quality, affordable housing, and a proper alignment with transportation planning, the City risks not complying with California Housing Law in the future, given the significant potential for displacement of low-income and extremely low-income downtown residents.

- Include as a mitigation measure, the adoption by the City of an ongoing monitoring project to assess displacement as it occurs over the life of the Downtown Plan. Such a measure would allow the City to respond adequately to the changing housing needs of Fresno's low-income population and meet its housing requirements under the law.

Air quality degradation due to lack of public transportation

Parts of the area covered by the Downtown Plan – in particular, those in Southwest Fresno – are disproportionately lacking in affordable and reliable public transportation compared to other areas of Fresno. As written, the Downtown Plan will reinforce and potentially augment these disparities through its policy of focusing transit service and investments on "high-priority" transit corridors located in the northern part of the plan area (Ch. 3.1.3 & Fig. 3-2). Population increases in the Downtown Plan area, without the corresponding development of public transportation, may lead to an increase in VMT and consequently, to increased greenhouse gas emissions and particulate matter generated by the transportation sector. As expressed above, the existing poor air quality and further degeneration of air quality, along with inadequate transit options, may result in an indirect environmental impact and disproportionately effect low-income and ethnic and racial minority residents who reside in the Downtown Plan area and Southwest Fresno in particular.

To comply with CEQA, it is advisable:

- That the EIR analyze the environmental and health impacts of the availability of public transportation in the Downtown area as envisioned by the Downtown Plan, with consideration of the impacts in each of the Plan's neighborhoods, including Southwest Fresno (Pub. Resource Code §15126.2).
- An analysis of the environmental impacts of the availability of public transportation in the Downtown area with the reprioritization of public transit routes by the Plan such that the southern route in Downtown Plan Figure 3-2 assumes primary priority.
- Inclusion in the EIR mitigation report the designation of primary priority to the transit route resulting in the best environmental and health outcomes and the prioritization of investment in public transportation in areas that are not currently served by a high quality transportation system together with details of potential new public transit routes.

Environmental and health impacts of increased industrial activity

The Downtown Plan and the Downtown Code include numerous provisions aimed at facilitating industrial growth and easing and eliminating permit processes and requirements. While the Plan establishes policies that prioritize the minimization of negative impacts to the health and well-being of residents of the downtown area, many of these policies lack definitions in the Downtown Plan or the Downtown Code that would allow for the effective implementation and enforcement of those policies. In the absence of clear definitions, the Plan could stimulate an increase in polluting and toxic industrial activity in the downtown area, with associated heightened environmental impacts, and negatively impact the health and well-being of residents located near industrial sites.

Drafting an EIR that satisfies CEQA requirements depends on a clear understanding of existing conditions; therefore, we recommend inclusion of the following:

- A detailed identification and analysis of existing conditions including noxious uses in the Downtown Plan area, with a focus on the negative environmental impacts of those uses on air quality and on downtown resident health and quality of life (14 CCR §15126). To be complete,

this analysis should consider the environmental impacts generated not only by facilities engaged in noxious uses themselves, but also by commercial vehicular transit through the downtown area associated with the facility.

- A list of anticipated new industrial developments in the area covered by the Downtown Plan, including the location of the anticipated facilities, the nature of activities to be engaged in, and the possible environmental impacts of the activities, considered both individually and cumulatively with existing conditions and other anticipated sources of pollution (14 CCR §15130). This analysis should focus on the potential environmental and health impacts to vulnerable communities in the downtown area, including low-income communities and communities with high racial and ethnic minority concentrations, and to the social cohesion of those communities. In addition to allowing for an adequate environmental assessment of the Downtown Plan and Code, identification of the anticipated new developments will facilitate future decision-making in the approval process for proposed projects (14 CCR §15126.2).
- Analysis of the potential environmental, health, and social impacts of provisions of the Downtown Plan and the Downtown Code which discontinue the requirement for Conditional Use Permits for industrial uses in many geographical areas that previously required such a permit. We suggest that this analysis give particular importance to the potential impact on low-income and ethnic and minority residents as well as on community cohesion in the downtown area.
- We also request a confirmation that the Code has been updated to reflect that on December 13, 2011 the DNCAC approved keeping present Municipal Code language regarding appeals. The aforementioned language includes allowing appeals from any interested party, an initial decision by the Planning Director, a hearing before the Planning Commission on appeal, and a final possibility of appeal by the City Council member representing the proposed project location.

Mitigation measures that are clearly aligned with the findings above should protect the existing community and include an analysis provided for how each of those measures would in fact protect the community (Pub. Resources Code §21002, 14 CCR §15126.4). With regards to changes to Conditional Use Permit requirements for industrial uses, we suggest that the City maintain current permitting requirements as was approved by the DNCAC.

In addition, an adequate EIR will include a list each of the plausible definitions - in a clear and unambiguous manner - of the following terms and phrases included in the Downtown Plan and the Downtown Code which currently lack definition in either document. In addition, given the potential environmental, economic, and social effects of the Downtown Plan and Downtown Code, the EIR should analyze the potential impacts to the environment and to resident health and well-being that would result for each plausible definition.

- Downtown Plan Ch. 2.13.3, "buffers"
- Downtown Plan Ch. 7.6.4, "significant negative impact"
- Downtown Plan Ch. 7.6.5., "appropriate buffers"
- Downtown Plan Ch. 7.7.4, "appropriate distance"
- Downtown Code Table 3, "manufacturing (non-perishable items)", "manufacturing (perishable items)", "recycling center", "contractor storage yard".

As a mitigation measure, we propose that the EIR create a glossary to be adopted by the City including a definition for each term in a way that will provide clarity in the future while minimize negative impacts to the environment and to resident health of increased industrial development in the downtown area.

Public Services

To comply with CEQA, the EIR must analyze the Plan's potential impact on the availability of public services to residents of the downtown area (14 CCR §15126.2). In particular, the EIR must analyze the prospective availability of (1) adequately maintained and safe parks, open space, and recreational areas, (2) fire services, (3) police services, (4) health facilities and services, and (5) grocery stores with produce that is both fresh and reasonably priced. Beyond the fact that auto-oriented development could lead to worse health conditions in the proposed project area (higher levels of obesity, chronic diseases, and other health concerns), the lack of housing proximity to basic daily necessities also generates unnecessary air pollution through increased VMT and green house gas emission levels. An analysis of the existing services as well as anticipated services can guide decision-making in a way that will benefit the low-income community as well as air quality.

Impacts on Specific Populations

The City of Fresno has a responsibility to ensure that EIR development aligns with the CEQA intent which is to give major consideration to environmental quality while providing a decent living environment for the respective residents.

a. Vulnerable Populations

The EIR should analyze in as much specificity possible the potential impacts of the Plan on vulnerable populations, including youth, the elderly, low-income persons, and racial and ethnic minorities.

b. Small Business Owners

The EIR should analyze in as much specificity possible the potential impacts of the Plan on small business owners in the Downtown Plan area, and in particular, on racial and ethnic minority business owners and business owners located in the area covered by the Project.

Thank you for your thorough consideration of our comments as you prepare the EIR. Should you have any questions regarding this letter, please feel free to contact me at (559) 441-8721, ext. 305.

Sincerely,

CALIFORNIA RURAL LEGAL ASSISTANCE, INC.
Ashley Werner
Staff Attorney

cc: Amparo Cid, California Rural Legal Assistance Foundation

July 28, 2011

From: City of Fresno Bicycle and Pedestrian Advisory Committee
2600 Fresno Street
Fresno, California

To: Downtown Neighborhoods Community Plan (DNCP)
Fresno, CA

RE: Chapter 12.5 of the Fresno Municipal Code - Downtown Development Code Draft

Dear Sir or Madam,

The purpose of this letter is to provide comments regarding the recently released Downtown Code Draft. These comments are specifically meant to address the bicycle components of the document. The Bicycle and Pedestrian Advisory Committee (BPAC) did a complete review of the sections of the document that address bicycle facilities (Figures 9, 9.1 and paragraph 10.41-Requirements for Bicycle Parking) and offer the following comments:

A. No multipurpose trails (Class I) are shown on either figures 9 or 9.1 as shown in the City of Fresno Bicycle, Pedestrian & Trails Master Plan (BMP) adopted in October of 2010.

B. Bike Lanes (Class II) shown on the BMP that are missing from Figures 9 and/or 9.1 include:
   1. Whitesbridge & Amador not shown to West Avenue.
   2. Teilman Avenue/Pacific Avenue.
   3. Thorne Avenue north of Whitesbridge
   4. Walnut Avenue south of California Avenue
   5. Kearney Boulevard
   6. California Avenue East of B Street
   7. Van Ness Southwest of Los Angeles
   8. Golden State Boulevard Southeast of California Avenue
   9. Railroad Avenue Southeast of California Avenue

C. We would like to have designated the difference between existing and new facilities.

D. Bike parking requirements outlined in paragraph 10.41 include many needed requirements but do not encompass all the requirements shown on page 129 and table 5.5 of the BMP. Further embellishments can be seen from the photographs provided on page 134 of the BMP. Because of the downtown enhanced emphasis on pedestrian friendly modes of transportation we feel that an even more appropriate table of reference would be Table 5.6. Per our understanding this code would currently base bicycle parking on a percentage of the number of required automobile parking stalls. This code does allow exemptions for certain buildings for automobile parking if they are located within a certain distance

from a municipal parking facility. This would imply that no bicycle parking is required at these locations.

The Bicycle and Pedestrian Advisory Committee appreciates the efforts put into this document to this point including additional bike lanes not included in the BMP.

It is our hope that you will consider the inclusion in the final document of our review comments.

Sincerely,

Nicholas D. Paladino (Committee Chairman)
Philip Decker (Committe Vicechairman)

MAY 0 2 2012

May 1, 2012

City of Fresno Development and Resource Management Department
Attn: Wilma Quan, Urban Planning Specialist
2600 Fresno Street, room 2156
Fresno, CA 93721

RE: EIR for Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and Downtown Development Code

Dear Ms. Quan:

Following are the comments on the scope of the Draft EIR for the Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and Downtown Development Code Project.

A. Aesthetic Considerations:

A.1.The EIR must consider the aesthetics and context of a mid-century modern campus design developed as integral part of Victor Gruen urban renewal plan for downtown Fresno to which the Fulton Mall is central, specifically including, but not limited to, the mid-century modern buildings and public art along the Mariposa Mall and throughout downtown Fresno. The EIR must focus particularly in the Central Business District (subdistrict 1) and Civic Center District (subdistrict 3) as described in p.9 of the FCSP and DNCP Notice of Preparation document.

A.2. The EIR must consider the aesthetic significance of the Fulton Mall as the work of a modernist landscape architecture master (Garrett Eckbo) and as a rare example of his work that has survived with high degree of design integrity. The EIR must recognise and explore its design relevance given that the Mall is already listed on the California Register of Historical Resources, was found eligible for the National Register, and is potentially significant as a National Historic Landmark.

A.2. The EIR must consider the aesthetic significance of Eckbo's design of the Fulton Mall as developed within the context of the Central Valley Fresno region. Eckbo himself explained his design for the Fulton Mall by highlighting the importance of agriculture in the San Joaquin Valley: "The plentitude of quiet and moving waters, and of shade and greenery from trees and arbors, symbolizes the bursting vitality of irrigated agriculture in the hot interior valley of the arid west" [1].

A.3.The EIR must consider the aesthetic significance of the Fulton Mall as a whole contiguously unified design and not simply as a collection of individually-commissioned pieces of art that can be freely relocated. The EIR should study the design unity, aesthetic contributions, placement and configurations of the all the 80-ft wide stained concrete right-of-ways, all the multiple ribbon design patterns of 8 ½ -inches wide concrete aggregate crossing all Mall right-of-ways and intersections, the 80 seating areas (18 of which with benches with brightly colored mosaic backs), the 2 tot lots; the 19 water features, among them pools, fountains and flowing streams;

and the 26 sculpted ceramic pipes that are part of the water features **[2]**.

A.4. The EIR must consider the aesthetics of the relationships between the individual Art pieces on the Fulton Mall and the Mall itself. As part of Eckbo, Dean, Austin and William's design for the Fulton Mall, pieces of art were placed in specific landscape environments that include pools, seating areas, and fountains and should be considered as design highlights to the overall landscape plan. For example, a piece of art such as the Bruno Groth's "Rite of the Crane" must be viewed in the context of the environment it was designed for and its specific role in the overall design of the Mall. In this particular example, a simulated wetlands hardscape environment was created by Eckbo, Dean, Austin and Williams as freeform pools in the Merced Mall to display the crane sculpture among reeds and grasses, appropriate for the valley where the marshlands still protect them today **[3]**. The original landscape plan includes specifications for wetlands vegetation **[4]**. The EIR must study how will displacing the Rite of the Crane sculpture out of its fountain to another area in the Mall affect its design aesthetics and its original design context, the illustration of a crane in its natural environment? How will it affect the remaining landscape environments? The same approach should be considered for the flowing water hardscape features that highlight "The Visit" (Clement Renzi), the various pools and fountains that highlight the clay standpipes and that represent agricultural irrigation sources (Stan Bitters), and the flowing water hardscape features that highlights the "Obos" sculpture (George Tsutakawa) at the southern end of the Mall.

A.5.The EIR must consider the aesthetics of the local design language within the Art and Architectural modernist movement of the 1950s and 1960s in the United States and how those will be affected under the various Fulton Mall options.

A.6. The EIR must consider the aesthetics and the contribution of the local artistic movements currently represented on the Mall. Local Fresno artists with a genuine design language, namely Jean Ray Laury, Stan Bitters, and Joyce Aiken came together to create a local artistic expression in numerous locations throughout the Mall: mosaic panel seating areas (Laury, Aiken and Bitters), fired clay standpipes in numerous fountains, and large hardscape settings such as "Dancing Waters" (Bitters) which includes a setting where local Hans Sumpf clay tile was used.

A.7. The EIR must consider the aesthetic effects of displacing pieces of Art designed by local artists that are an integral part of the hardscape environments they were created for. Given that the majority of Art pieces that can be effectively displaced without damage were created by artists that are not local, the EIR must study (for all the Mall options) what is the effect on the proportional representation of local Art and Artists in the scenarios when Art pieces are displaced from their original locations.

B. Cultural Aspects:

B.1.The EIR must address the cultural significance of the Fulton Mall as recognized by national and international organizations, for example, but not exclusively, with honors for "Excellence in Community Architecture" (1965) from AIA **[5]** and "National Design Excellence" award from US

HUD (1968) [6].

B.2. The EIR must consider the cultural significance of the Fulton Mall as one of the last remaining and best preserved examples of a modernist landscape architecture design for a pedestrian mall in the United States, specifically including, but not limited to, the effect of purposefully destroying one of the last intact modernist pedestrian malls in the United States.

B.3. The EIR must address the cultural significance of the Fulton Mall as a representation of a unique, localized Architecture and artistic expression, by the incorporation of the work of local artists, methods of construction and materials.

B.4. The EIR must consider the significance of the Fulton Mall as a cultural representation of the Central Valley ecosystems.The EIR should consider that in the Mall's design special care was pursued to ensure a cultural connection to the Fresno region: the Mall's pavement is an illustration of the area's topography, the concrete is stained an adobe color to suggest the valley's soil, and is crossed at frequent intervals by undulating ribbons of aggregate to convey a sense of the texture and gradations of the valley floor, the water features contain ceramic sculptures that suggest the irrigation standpipes commonly found in valley fields and orchards [2].

B.5. The EIR must consider the effects of the proposed projects on social justice issues, specifically including, but not limited to, the displacement of current tenants (as opposed to property owners), of disabled patrons of Fulton Mall tenants, and the homeless population currently residing in or around downtown Fresno.

B.6. The EIR must consider the cultural significance of the Free Speech Area and Free Speech Platform, a Historically-registered site (California Historical Landmark No. 873). The EIR should take into account the social justice aspects associated with this location's availability as a center for free-speech and the potential effects on its current users.

B.7. The EIR must consider the cultural significance of the pedestrian-friendly gathering places provided by the Fulton Mall for numerous ethnicities and socio-economic classes in Fresno throughout the year (Market on Kern, Thursday Night Live, Cinco de Mayo, Over the Edge, Fiestas Patrias, Chile Festival, El Grito, Christmas Parade, among others).

C. Environmental and Health Considerations:

C.1. The EIR must consider the environmental and health effects of air pollution for all the Fulton Mall options. The EIR must take into account the concentrations of soot, dust, noise levels, and other pollutants in the Mall compared to a motorized street; it must also study the effect of auto traffic pollution of the Mall buildings. The EIR must also include the environmental air quality effects associated with demolition and/or construction for all the Fulton Mall options.

C.2. The EIR must address environmental and health effects of noise pollution associated with the different Fulton Mall options.

C.3. The EIR must take into account the environmental and health effects of all the Fulton Mall options on public health such as, but not exclusively on obesity levels, stress, and lung diseases.

C.4. The EIR must address environmental and health aspects pertaining to pedestrian safety and visual safety associated with all the Fulton Mall options.

C.5. The EIR must consider the effects of environmental cooling sources available under all alternatives as it relates to the Fulton Mall serving as a gathering place for the public throughout the year, and in particular during the hottest season of the year.

C.6. The EIR must consider the environmental cooling effects of all the 144 mature trees, Wisteria-covered pergolas, and the remaining shady environments provided by the Fulton Mall in connection with the area's intense sun and heat.

C.7. The EIR must consider the environmental cooling effect of all the water feature environments provided by the Fulton Mall (streams, pools, and fountains as originally created, including original water features currently serving as earth-filled planters). This should be done in connection with air cooling properties of these features and consider the area's intense Summer heat.

C.8. The EIR must consider the effects of potential environmental ground and ground water source contamination by placement of a street with automobile traffic and parking and the necessary introduction of gasoline, motor oil, radiator fluid, and petrochemicals, on the gathering place for numerous ethnicities and socio-economic classes in Fresno.

D. Historic Significance:

D.1. The EIR must consider the historic significance of the Fulton Mall as one of Garrett Eckbo's major achievements **[7]** and the historic significance of Fresno being chosen as the location for its construction. The EIR must take into account of the historic role of the Fulton Mall as setting a high standard for civic design in the nation's urban renewal efforts and its worldwide attention and acclaim (more than fifty cities sent official delegations to see it) **[8]**.

D.2. The EIR must consider the historic contribution of local personalities to the creation of a Downtown Mall Art Selection Committee, chaired by O.J. Woodward II, and the public display of modern art that grew out of that committee's patronage.

D.3. The EIR must consider the historic significance of the Free Speech Area and Free Speech Platform, a Historically-registered site (California Historical Landmark No. 873). The EIR must consider the historic nature of the Free Speech Area as the site of the Fresno Free Speech Fight of the Industrial Workers of the World, and the Free Speech platform as symbolic commemorative site where the first free speech legal conflict in California took place.

E. Economic Considerations

E.1. The EIR must consider the economic effects on the value of buildings and land currently existing on and immediately adjacent to the Fulton Mall.

E.2. The EIR must consider the economic effects on the value of buildings and land held by landlords living and/or residing in outside of the City of Fresno.

E.3. The EIR must consider the economic effects on the value of buildings and land held by landlords and tenants who have underinvested in their respective properties on the Fulton Mall.

F. Land Use/Planning Considerations:

F.1. The EIR must consider the effects of the potential failure to build a high speed rail station, as currently proposed for Mariposa street, approximately one block west of the Fulton Mall.

F.2. The EIR must consider the effects on public finances for all Fulton Mall alternatives.

F.3. The EIR must consider the effect on the public's trust and faith in the City of Fresno in light of the City's support of a plan to spend millions of public funds to improve private property.

F.4. The EIR must consider the effect of the City of Fresno's honesty in defending multiple lawsuits wherein the City states that the Fulton Mall is public property (see, e.g., Rosendahl v. City of Fresno, Fresno County Superior Court Case number 11CECG01124), while also testifying before state and national agencies that the Fulton Mall is private property.

We, the undersigned request written responses to the comments submitted above.

Our best regards,

Eldon Daetweiler
251 W. Los Altos Avenue
Fresno, CA 93704

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5200 N Palm Avenue, Suite 302
Fresno, CA 93704-2225

Miguel Santos
5470 N 6th Street
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Kiel Famellos-Schmidt
1405 N. Adoline Avenue

Fresno, CA 93728

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7417 N Bain Avenue
Fresno CA 93722

References:

[1] Eckbo, G. 1986. "Fresno Mall Revisited". Landscape Architecture,Nov/Dec Issues

[2] McKnight R. Zachritz L., and Tokmakian, H. 2008. "Fulton Mall Application for Registration in the National Register of Historic Places", United States Department of the Interior, National Park Service. http://www.ohp.parks.ca.gov/pages/1067/files/nr%20application_070108.pdf

[3] PBID Partners of Downtown Fresno. "Fulton Mall Public Art - Rite of the Crane by Bruno Groth". Fulton Mall Public Art. http://www.downtownfresno.org/rite-of-the-crane-bruno-groth.html

[4] Gruen and Associates, Eckbo, Dean, Austin and Williams. 1964."Planting, Soil and Excavation Plan for the Merced Mall". Plans for Pedestrial Mall No 1, Job 4021, Sheet L-5. City of Fresno.

[5] Evon L. 1965. "AIA Presents Award for Fresno's Mall's". Fresno Bee, Oct, V84, N15482, pp. 1-A, 12-A.

[6] Anonymous. 1968. "Pedestrian Mall System gets Another Top Award". Fresno Bee, Oct 15, pp. 1-C, 5-C.

[7] Downtown Fresno Coalition. 2010. "Fulton Mall Deemed Eligible for Listing in the National Register of Historic Places at the State and Local Level". Press release, Sep 9 2010

[8] Taper, B. 1966. "The City that Puts People First", McCall's, April Issue, pp.62

Baker Manock
& Jensen PC
ATTORNEYS AT LAW

MAY 10 2012

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May 1, 2012

VIA ELECTRONIC & U.S. MAIL

City of Fresno Development and
Resource Management Department
Attention: Wilma Quan, Urban Planning
Specialist
2600 Fresno Street, Room 2156
Fresno, California 93721

Re: Comments of Fresno City and County Historical Society on the EIR for Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and Downtown Development Code

To Whom It May Concern:

I serve as Secretary and General Counsel of the Fresno City and County Historical Society (FHS). I am submitting these comments behalf of FHS in response to the City of Fresno Environmental Impact Report for Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and Downtown Development Code made available for public comment on April 3, 2012.

Boundaries of Plan Areas.

The Notice of Preparation indicates that current freeway routes are heavily used as neighborhood, plan area and district boundaries for the proposed Downtown Neighborhoods Community Plan and the Fulton Corridor Specific Plan. Most freeway construction in the overall plan area occurred long after the development of the historic neighborhoods. Therefore, the freeways are not indicative of traditional neighborhood boundaries. Most freeways through Fresno, and most significantly through historic downtown Fresno, divide existing neighborhoods by closing cross-streets and other access points to neighborhoods. These transportation facilities may facilitate automobile traffic through the city to the suburban edges, but they interrupt the street grid and divide residents and businesses that were once integrated parts of the built environment.

FHS recommends that the City consider revising the boundaries to include all portions of historic neighborhoods into plan areas. For example, the boundary on the north side of the DNCP area could be Belmont Avenue to observe a more traditional division between the

lower Tower District and the upper Lowell neighborhood and include the triangle between 180 and Belmont and Weber Avenues. Similarly, on the south side of the FCSP area, Ventura or another parallel street south of Ventura might be a better boundary choice and more accurately define the neighborhood than the 41 corridor.

Historic Preservation Element.

Because the planning area contains many historically significant structures, it is essential that the new plans contain a comprehensive preservation element that will ensure the protection of historic and contributing resources in the plan areas. The completed preservation element should provide predictability for those interested in developing in the downtown area in addition to protecting historic resources.

The first step in creating the preservation element should be to review, update and adopt the many historic resource surveys which have already been performed in the project areas. The adopted surveys will create a "threshold of significance" or baseline for future development in the plan areas. Established baselines for historic resources, including potential historic districts, will expedite future development by informing the public and potential developers at the very beginning of the process of historic features and their significance. Establishing this baseline is crucial, now that the City of Fresno has adopted the general plan update option that promotes downtown revitalization and in-fill development.

The historic preservation element should also include a prescribed project review process to efficiently evaluate a proposed project, its environmental impacts and determine appropriate mitigation measures if required. As the NOP states, "[o]ver the years, many significant or simply good urban buildings have been demolished and have replaced with vacant land and parking lots." (p. 14) The Fresno Morning Republican, the Brix Building, Firestone Store, and the Sullinger Building are some recent examples of unique historic buildings demolished without adequate environment review and without even firm, new projects to replace them, leaving vacant gaps in the urban fabric. Protection and reuse of historic, and even old "good urban buildings," are necessary to provide an environment for a healthy mix of uses and rents for the emerging downtown population.

In conclusion, we appreciate the City's detailed planning process and commitment to downtown revitalization. We believe that the appropriate handling of the historic resources in the planning area as we have discussed in these comments, must be addressed in specific detail in the next phase of planning for these areas. Because local knowledge is so important in addressing historical resources, we strongly encourage the City of Fresno to include FHS and the City of Fresno Historic Preservation Commission in early discussions about the

appropriate way to address each of the historic resources that are potentially affected by the proposed plans and to assist in creating the historic preservation element of the plans.

Thank you for your consideration.

Very truly yours,

Christopher L. Campbell
BAKER MANOCK & JENSEN, PC

CLC:tlw

cc: City of Fresno, Historical Preservation Commission

DOWNTOWN FRESNO PARTNERSHIP

Wilma Quan
City of Fresno
2600 Fresno Street
Fresno, California 93721

April 30, 2012

Dear Ms. Quan:

This letter is to provide comments on the scope of the Environmental Impact Report for the Fulton Corridor Specific Plan, Downtown Neighborhoods Community Plan and the Downtown Development Code. As President of the Downtown Fresno Partnership, I represent the property owners who are located within the Fulton Corridor. We cannot express greatly enough, how important these plans, and the Fulton Mall project in particular, are to the future of Fresno and the region that surrounds it.

Fulton Mall property owners are experiencing first-hand the factors of urban decay such as crime, vandalism, excessive litter, an increased vagrant population, low lease rates and high vacancy rates which result in lower investments in property maintenance and improvements. The Mall currently has a major retail vacancy rate and a vacancy rate in major historic buildings that are higher than other downtown areas. In order to fully understand the environmental impacts of the Fulton Corridor Specific Plan and the Fulton Mall project in particular, the impacts on urban decay of the available alternatives must be studied along-side other impacts such as air quality and cultural resources. We believe certain Fulton Mall options being studied, and not others, would alleviate the urban decay that we feel is present today along Fulton Mall and request that the City's EIR analyze these impacts.

Further, as Downtown Property owners, we believe that a vibrant, thriving Downtown Fresno plays a greater role in a healthy environment for all San Joaquin Valley residents. Fulton Mall presents the best opportunity for a dense urban population and transit oriented development. The reintroduction of vehicular traffic along the six blocks of Fulton Mall should be considered in the context of the many other transportation options, the greater transit accessibility, and the improved walkability that would result from the increased development and decreased vacancies in the adjacent buildings. A vibrant core in the Downtown will attract further investment to the center of the city and away from the suburban fringe thereby reducing environmental impacts from vehicle emissions in greater Fresno.

We have heard repeatedly from developers, both local and regional, that their investment interest is directly tied to traffic circulation and the ability for their clients to find on-street parking. If we are able to create the infrastructure that developers are looking for, they will undoubtedly bring their investment dollars to the Fulton Corridor. Inevitably this growth and increased development will result in more care, maintenance and infrastructure going into existing buildings and construction of new buildings, all of which would reduce the presence of urban decay along Fulton Mall and increase the amount of development density and transit use in the region.

Thank you for the opportunity to comment.

Sincerely,

Kate Borders, President/CEO

DOWNTOWN FRESNO PARTNERSHIP
845 Fulton Mall, Fresno, CA 93721 | phone 559.490.9966 | fax 559.490.9968 | www.downtownfresno.org

MAY 0 2 2012

302 Fresno Street #205
Fresno, Ca. 93706

April 30, 2012

RE: Scoping for the Downtown Neighborhood Community Plan DEIT

Dear Wilma:

We appreciate this opportunity to comment on the scope of the DEIR for the Downtown Neighborhoods Community Plan and the Downtown Development Code. These planning documents will affect the future of the City of Fresno for many years to come. West Fresno Family Resource Center supports the efforts the City of Fresno has made in recent years to focus development around the principles of increasing density and smart growth. At the same time we believe that there is significant room for manipulation within this process using a pro-environment message to accomplish goals that are almost purely economic and of ultimate harm to environmental realities both physical realties both physical and social.

The area covered by the two plans and the accompanying code amendment has some of the most dismal health indicators, indicators, air quality and concentration of poverty, of any area in the Valley. Attention should be paid to environmental indicators. A long these lines west Fresno Family Resource Center would like to make the following Suggestions regarding the DEIR:

The West Fresno Family Resource Center is in support for the Employee housing in this area. The Keaney-Heigths is considered mixed -affordable housing. In this area you have some of the original homeowners living the neighborhoods, along with new homeowners, and renting is the majority. What is truly needs is take the vacant neighborhoods parcels, west of State Route 99, making it into more suitable houses, affordable-mixed housing, and some apartments.

The private development and civic resources would create neighborhood-serving the residents use in retail, banking, and community satellite programs from local colleges, within the community.

Anne L. Gaston
Outreach Specialist

Anne L Gaston

Larry L. Powell
Superintendent

fresno county office of education

April 27, 2012

City of Fresno Development and Resource Management Department
Attn: Wilma Quan, Urban Planning Specialist
2600 Fresno Street, Room 2156
Fresno, CA 93721

Subject: EIR for Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and Downtown Development Code

Dear Ms. Quan,

Thank you for the opportunity to comment on the scope and content of the Environmental Impact Report (EIR) for the above project. The Fresno County Office of Education serves the 32 school districts in Fresno County and has a mandate to ensure that school districts remain fiscally solvent. Additionally, we provide a full range of support programs to districts and operate programs for students with special needs and at-risk students. We maintain our offices within the project boundaries of the Downtown Neighborhoods Community Plan and Fulton Corridor Specific Plan.

The Fresno County Office of Education is supportive of efforts to revitalize downtown and the concepts of the project as described in the Notice of Preparation (NOP). We have reviewed the Project Description in the NOP and ask that the following environmental impacts, alternatives and mitigation measures be analyzed in the EIR.

- Air quality, noise, and traffic impacts related to introducing traffic along the Fulton Mall, Kern, Mariposa, and Merced streets with consideration given to maintaining Mariposa as a pedestrian thoroughfare or installing a turnaround west of the alley to maintain the Van Ness underpass
- Aesthetic impacts and integration of traffic along corridors with buildings designed without anticipation of traffic on adjacent thoroughfares
- Mitigation of the impacts to the public art along the Fulton Mall, a significant cultural resource for the children of Fresno County

If you have any questions regarding this matter, please contact Jeff Becker, Director of Facilities & Operations, at (559) 497-3705.

Thank you for your consideration of these comments.

Sincerely,

Larry L. Powell
Superintendent of Schools

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MAY 0 2 2012

Faith In Community
2101 N. Fruit Avenue, Fresno, CA 93705
(559) 244-9227 FAX (559) 237-3121

Re: Scoping for the Downtown Neighborhoods Community Plan DEIR

Dear Wilma:

We appreciate this opportunity to comment on the scope of the DEIR for the Downtown Neighborhoods Community Plan, the Fulton Corridor Specific Plan and the Downtown Development Code. These planning documents will affect the future of the City of Fresno for many years to come. Faith in Community supports the efforts the City has made in recent years to focus development around the principles of increasing density and smart growth. At the same time we believe that there is significant room for manipulation within this process—using a pro-environment message to accomplish goals that are almost purely economic and of ultimate harm to environmental realities both physical and social.

The area covered by the two plans and the accompanying code amendment has some of the most dismal health indicators, including air quality and poverty, of any area in the Valley. Attention should be paid within the DEIR to environmental indicators that have historically been unacceptable within the plan area.

Recommendations for Study in the DEIR

We have become aware that the DNCP has the potential to impact environmental conditions in the southern neighborhoods significantly, especially in terms of added density. While increased density is a notable urban planning goal that our organization supports, we have serious concerns about the level of analysis that has been done to ensure that the plan will enhance the social and environmental quality of the area instead of diminishing it. The nature of these concerns include the following:

- ***Water Supply***—Faith in Community is concerned that present and potential water supply is adequate to meet demand for the plan area, current users and cumulative potential projects. The proposed plan will require major new water infrastructure to serve development, including wells, pipes and treatment facilities. According to the plan document itself, p. 5:4, the city faces the need for "additional supply to increase reliability under existing conditions" to meet fire flow demands and has planned a surface treatment facility to meet existing and projected demand within the city's boundaries apart from any growth caused by the plan. "Current City-wide water consumption trends are straining the City's available water resources." (p. 5:4) Fresno is facing a water shortage based solely on current demand projections and should adequately address any plans for added consumption before plan adoption.

  The statements listed above raise important questions about the feasibility of major new development within the city's oldest network of infrastructure without an adequate plan

for satisfying current demand projections in addition to expected growth from new development. Added to these concerns are the recent reports that the City of Fresno is at risk of bankruptcy amid unprecedented cuts in personnel and services. The present state of utility infrastructure causes concern that a bankrupt or nearly bankrupt city could provide the level of upgrades needed to support new growth in the area. "About 30 percent of the utility [infrastructure] networks in the downtown area are over 50 years old; roughly 5 percent are over 100 years old. These networks are either nearing or past their intended design life and are subject to capacity, reliability, and potential failure issues." (p. 5:7) The City of Fresno is facing a water infrastructure crisis based on existing conditions and should address any additional strains on this important network of infrastructure within the Downtown Plan area before making plans for growth in the area. Faith in Community requests that these significant issues be addressed within the DEIR.

- ***Water Quality***—Water quality in the Central Valley has become a grave environmental concern, with the area gaining the distinction of being named Parkinson's Alley by neurologists because of the reality "that Central Valley residents under age 60 who [live] near fields where the pesticides paraquat and maneb...had a Parkinson's rate nearly five times higher than other residents in the region." (Sierra Magazine quoting a 2011 study by researchers at UCLA). Another study by the Pacific Institute, Visalia's Community Water Center, the Clean Water Fund, and California Rural Legal Assistance Foundation found that over 1 million residents of the region drink tap water with an unsafe level of nitrates through leakage from septic tanks, manure, and fertilizers. Cities are facing the need to find adequate supply for growth from diminishing supplies of quality water while current regulation leaves some important aspects of the process unmonitored. Faith in Community requests that the city ensure that the source and quality of water needed for growth in the Downtown area be studied adequately so that current residents, predominately people of color, can maintain a supply of safe drinking water.

  What specific sources and loads of pollutants would be present through implementation of the plans and what would their effect be on aquatic resources, especially groundwater, Fresno's primary water source? A Health Impact Assessment (HIA) completed for the DNCP area by Raimi and Associates makes the following statement: "Many of the Downtown Neighborhoods are surrounded by heavy industrial agriculture and processing/manufacturing facilities that produce environmentally toxic pollutants in nearby air, ***water***, and soil. Studies show that residents who live near such land uses are at increased risk of exposure to acute and chronic health-damaging elements. At this point the community Plan currently does not address this issue. Environmental health risks from agriculture-related sources are likely to continue." (2011: 76, emphasis added) In other words, there are significant sources of possible water contamination that should be addressed within the framework of the DNCP. Then, either adequate mitigation measures or a viable alternative would need to be implemented to ensure that any possible negative health impacts will be contained and would not increase with added density.

- ***Natural Resources***—In a letter to the California High-Speed Rail Authority opposing the proposed project, the California Farm Bureau Foundation states: "One of the major principles of the State's environmental and agricultural policy is to sustain the long-term

productivity of the Sate's agriculture by conserving and protecting the soil, water, and air that are agriculture's basic resource." And "...CEQA also recognizes agricultural land and water resources as a part of the physical environment." The origin of the plan areas' water sources could affect agricultural land in terms of future sustainability because of scarce water resources and the cumulative affects on the already poor air quality in the area. The future of farmland and the agro-business it supports depends on adequate management of its primary inputs: soil, air and water. These input areas could be diversely affected by development of the plans in question. Faith in Community asks that these affects be studied adequately in the DEIR as part of the CEQA requirement that agricultural resources be considered during environmental review, including both direct and indirect effects along with the irretrievable and irreversible commitment of resources.

- *Air Quality*—Though the DNCP makes a case for lowering the air pollution through the potential lowering of VMT through policies related to land use and transportation, density and mixed-use development, these are not guaranteed. Regarding increased density the Health Impact Assessment states: "...[increased density] can also increase individual exposure to air pollutants if development and population increase occurs faster than transit and economic development (or improvements in air quality)." (Raimi, 2011: 58) Then a bit later in the document and concerning the location of population/housing due to increased density, "The Downtown Neighborhoods' location—in between two major highways and surrounded by industrial agricultural uses—create precarious conditions for regulating harmful air pollutants. Although the Plan emphasizes reduction of automobile dependence, the Plan does not have capacity to influence external stationary or mobile sources of emissions." (Raimi, 2011: 76) The addition of denser population centers within the plan area that are subject to both internal and external sources of pollutants as well as the added contamination related to increased concentration of population is cause for concern of Faith in Community leaders.

  Another important concern regarding air quality and specifically around displacement is the additional VMT that may occur through added travel time. The construction of or, as the plan states, "[introduction of] new housing" (1:3) with the goal of "providing a rich housing mix to accommodate and attract a wide-range of housing types...and income levels..." (1:3) may cause an increase in VMT traveled through added travel time for downtown workforce. The kind of housing that would be built to support residents with a higher socio economic level would not likely house the downtown workforce employed in shops, restaurants and other businesses. Through displacement the downtown workforce may need to travel larger distances to get to work increasing instead of decreasing the total VMT. The impact of several possible scenarios should be studied to determine mitigation measure in case the City's possibly optimistic estimates do not pan out.

- *Climate Change*—There has been much recent discussion of global climate change and local development practices that add to its intensity. We ask that attention be paid to the impact any added VMT have not only on local air quality but also on greenhouse gas emissions at a global level. The NASA Website states: "Most climate scientists agree the main cause of the current global warming trend is human expansion of the 'greenhouse

Faith In Community
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effect'—warming that results when the atmosphere traps heat radiating from Earth toward space." The gases associated with this warming include carbon dioxide, methane, nitrous oxide and chlorofluorocarbons. The addition of VMT either within the plan area or from those traveling to it from the outside will increase the amount of CO_2 emissions to the atmosphere. Faith in Community asks that these effects be studied both directly and cumulatively.

- ***Heat Island Effect***—Another concern we have at Faith in Community is the effect more development will have on temperatures in the downtown neighborhoods. Fresno has historically under-invested in park space across the city and especially in the downtown area. According to the General Plan Alternatives Analysis recently released by the City of Fresno the national average for acres of park space per thousand people is 15.8 for cities of Fresno's size. Within California Sacramento has 13 acres while Visalia has 5. Fresno has a dismal 3.1 acres per 1000 residents. While the plan area reaches 2.8 acres through the addition of Roeding Park, its most populous neighborhood in the Southeast has only 0.6, with Jefferson and Lowell reaching 0.2 acres and 0.3 acres respectively. With added density and new development Faith in Community is concerned that this historic lack of attention to green space will exacerbate the heat island effect in the future within neighborhoods further from the area's regional park. This possibility should be studied thoroughly especially in terms of mitigation through addition of added green space in areas that are presently severely underserved.

- ***Housing***—A very significant concern for Faith in Community is the danger that the existing population of the plan areas and future low-income residents be able to live within the downtown neighborhoods given the impact of future development on the area. We have already highlighted concerns regarding the location of added population through implementation of the DNCP and the changing housing opportunities that would ensue. An additional concern noted within the Health Impact Assessment is the need for additional affordable housing within the area: "One strategy for transforming Downtown is introducing new housing in the Downtown core in order to activate the area. Without a specified proportion of affordable housing units, however, the Plan may not address the needs of low and very low income residents." (Raimi, 2011: 72) Under 'The Strategy for the Downtown Neighborhoods' the Plan itself states: "Critical components of revitalizing the Downtown Neighborhoods…attracting a diverse range of residents, including middle income residents…Providing a rich housing mix to accommodate and attract a wide-range of household types…and income levels…" (p. 1:3) Lower income residents will be unable to afford new market rate housing and will face the possibility of displacement through the development of new housing projects. Added to these issues, Faith in Community would ask: Has there been enough attention to the growth inducing impact of the proposed plan related to the demand for employee housing? In an area with historically lower median rents compared to both the city and the county, these questions should be addressed within the DNCP in a way that ensures adequate housing opportunities for the most vulnerable sectors of the population.

- ***Economic and Social Conditions***—For Faith in Community the possible impact in terms of displacement for present residents is striking. This is an area that is home to a large

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percentage of low income residents, who, in many cases, have less resources to deal with the possible social and psychological impacts of moving. Again the HIA summary highlights the issue: "The Plan recommends introducing market-rate housing in the Downtown Neighborhoods in order to activate and diversify the area. Residents in the Downtown Neighborhoods experience housing burden, spending over 30% of their income on housing compared to 20% for the City overall. ***Market-rate housing will not be an affordable solution to downtown residents*** and may displace some residents, especially those close to the potential investment areas...Gentrification of the Downtown Neighborhoods will likely result in permanent or temporary displacement, due to demolition/construction and increased costs of the new housing. ***Displacement often negatively impacts health*** by increasing stress, depression, loss of social networks, homelessness, unemployment, and academic delay in children." (Raimi, 2011: 74 emphasis added) The gentrification of the downtown neighborhoods, an area that both reflects notable stability of residence (according to UCLA's Center for Health Policy Research 66% of residents have lived in the same residence for more than five years, compared to 43% and 50% for the City of Fresno and the County respectively) and a large proportion of renter-occupied housing units (from the HIA: 63% for the plan area compared to 49% for the City of Fresno), will have serious social and economic impacts on current residents of the plan area. These impacts will affect an already vulnerable but vibrant population making their home within the Southern neighborhoods; a population that has recently—notably in southeast Fresno—reduced its crime rate to the lowest level within the City of Fresno.

- ***Historic and Cultural Resources***—The plan area has many historic homes, buildings and trees. The DNCP states: "Downtown has one of the largest and best collections of urban buildings in the western United States, including many designated as historic. Unfortunately over the years, many significant or simply good urban buildings have been demolished and have been replaced with vacant land and parking lots." (Introduction p. 10) Faith in Community requests that a comprehensive assessment of all historic buildings and trees (or plants)—both those listed and not listed in historic register—be assessed in terms of historic or cultural impact from future development.

A second area of impact that concerns the leaders of our organization is the effect new development might have on the cultural resources present within the downtown area and expressed through the existing built environment. Residents of the area have built a structure of social and economic systems that has maintained a delicate balance for impoverished residents. The cultural resources that may be affected by the planned changes in socioeconomic level of residents should be studied in depth. The region's dependence on a low wage workforce has created a large segment of the population that is vulnerable to change in the physical environment because of the dependence cultural resources have on it. The types of shops and businesses present today make up the system of cultural support that residents depend on for their everyday wellbeing. Any possible effects of future development on this system integrally related to the built environment should be analyzed thoroughly.

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- ***Cumulative Environmental Vulnerability***—Another important point for leaders at Faith in Community are what Jonathan London with the UC Davis Center for Regional Change calls Cumulative Environmental Vulnerabilities. The UC Davis Center for Regional Change document "Land of Risk, Land of Opportunity" states: "Cumulative Environmental Vulnerability Action Zones (CEVAZ) are identified as the neighborhoods (census block groups) with the highest degrees of both Cumulative Environmental Hazards and Social Vulnerability. These areas have the fewest social resources to address the most extreme concentration of environmental hazards. They are...deserving of special attention for environmental and health protections, investments, capacity-building, and other resources." (p. 12) The Fresno plan area has several of these census blocks, notably in Southwest Fresno and many areas of the Southeast. The cumulative effects of poor representation and community voice in decision-making have led to the concentration of toxic industries and hazards, especially in West Fresno. While the plans touch these effects the code document does not include language that requires mitigation of these effects for current residents.

- ***Growth Assumptions***—The City of Fresno has recently analyzed its need for new housing units, with a total of 79,000 units projected as an adequate goal for growth till the year 2035. In the recently released General Plan Alternatives Report the city estimates that between 10,900 and 11,000 units will be built in the downtown area. By way of comparison, North Fresno will likely gain between 2,000 and 2,500 new units. Keeping in mind that this is the same area that boasts several 100 and 50 year-old-pipes, Faith in Community suggests that this added burden to existing resources and infrastructure within the context of very difficult fiscal realities might overburden public systems. We suggest that these growth assumptions be thoroughly studied and that alternatives focusing infill growth toward northern neighborhoods also be researched.

- ***Cumulative Effects***—Faith in Community requests that the DEIR consider the incremental effects of conditions within the plan area past, present and future. Areas of concern include:
    - Total impact on vehicle miles traveled (VMT)
    - Total gallons per acre foot of water current and added water demand
    - Total need for recreation (at present Southeast Fresno has a dismal 0.6 acres per 1000 residents of park space compared to the national average of 15.8 and city average of 3.1, Lowell and Jefferson have even less)
    - Total need for emergency services
    - Total impact on parking
    - Total impact on growth inducement
    - Cumulative effect on workforce housing
    - Cumulative effect on historical resources
    - Cumulative effect on land use

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Other Overarching Recommendations

It is our understanding that the legal purpose of environmental review—in order to provide a reasonable analysis of a project's impact on community wellbeing—is to enable jurisdictions to choose planning and development strategies that have the least detrimental environmental impact possible. In accomplishing this purpose, a set of alternatives must be considered and then be evaluated based on reasonable criteria. Faith in Community considers this purpose to be of ultimate importance at this time in Fresno's planning trajectory, specifically around the proposed downtown planning documents.

***Alternatives to the Project*:**
Under CEQA any possible significant effect on the environment would require measure for mitigation. According to the Public Resources Code, Section 21002.1, "The purpose of an environmental impact report is to identify the significant effects of a project on the environment, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." Have all feasible alternatives to the project, including no project, been considered at an equal level of detail to the project proposal?

***Mitigation Measures*:**
We request that adequate mitigation measures for areas of environmental impact be included in the DEIR. We ask that the document answer the question: Have all reasonable mitigation measures been considered for areas of impact?

Conclusion

Thank you for allowing us this opportunity to suggest areas for review within the DEIR for the Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan and the Downtown Development Code Amendment. As an organization we maintain significant concern over this review process because of the future effects these plans will have on current residents and their children. It is for them that we ask for your consideration regarding all of the points raised above.

Faith in Community urges the City of Fresno to consider meaningfully the suggestions above and to act accordingly, in other words, to use this window of opportunity to find the best alternative for Fresno residents and specifically those within the plan area.

Again, thank you for the opportunity to participate in the environmental scoping process for the recently proposed downtown planning documents.

Sincerely,

Rev. William Knezovich
President of the Board
Faith in Community-PICO

April 29, 2012

City of Fresno Development and Resource Management Department
Attention: Wilma Quan, Urban Planning Specialist
2600 Fresno Street, Room 2156
Fresno CA 9372

Thank you for this opportunity to input my views regarding the future of my city and most notably the future of the Fulton Mall. It is imperative that all options be thoroughly considered before the first stone is turned in any attempt to improve, revitalize, alter, modify or demolish the mall.

One such option that has never been considered would be to leave the mall intact, as it is, but with an assurance that the mall will never revert back to vehicle traffic. This will leave property owners and businesses free to plan their future without fear of governmental tinkering. For those who feel that the mall does not work for them, they will be free to move on, to sell, or relocate to one of the many fine streets that has vehicle traffic. This would be a variation of option 3, with the exception of spending the $8 -16 million on restoration and completion.

The alleys flanking the mall could be enhanced and open to one-way traffic, with parking where available. Businesses could then adorn the rears of their building with signs and displays, thus satisfying the alleged need for "intrusive visibility".

In the event that option 2 is chosen, it might be wise to first enhance one of the many equally blighted other downtown streets, add the vignettes and study the effects.

The shocking state of advanced deterioration as well as the shocking $8 – 16 million estimated cost of restoration and completion as outlined in option 3 raise some question of credibility and suspicion that these facts and figures might be enhanced in order to influence a decision. Certainly there is

considerable deferred maintenance, some requiring urgent attention and some that may be deferred further. The missing and broken Cristy box lids and the bare wires should certainly be dealt with before someone unsuspectingly breaks a leg or is electrocuted..

If any of the fountains do in fact leak, it was not mentioned at the time that all of the fountains were drained when the reason given was to conserve water. A visual inspection of the empty ponds failed to reveal any leaks. At any rate, more details are in order as to what repairs are to be proposed and which of these are necessary, and some more accurate cost estimates.

This NOP is somewhat confusing in that it describes conditions in the various neighborhoods in an apparently negative light, yet fails to reveal information regarding action to be taken to rectify those conditions except for the three proposed options to the Fulton Mall/Street/Corridor "problem". Will the "too large" buildings be reduced in size? Turned around to face the street? Moved to the front of the lots? How will we deal with reluctant owners? Eminent domain? Once the deed is done, and the Final Solution to the Fulton problem is executed, how will these lowly under-performers be dealt with who now occupy the stores? Will those eager investors and speculators drive up property values and raise rents to a point that these tenants can no longer afford? Or will the city once again use eminent domain to seize the property and hand it to developers of choice? And how will the customers be enticed to shop in these presumably upscale shops? Those of us who live in Woodward Park or Sunnyside are not apt to venture to the bowels of downtown to fight traffic and parking meters when we have ample accommodations near home. Finally, there are those of us who live and/or work in the area of the mall and are accustomed to shopping at Tres Hermanos and Falla's or simply come to the mall to hang out or enjoy the art. We may not spend the money the city would like, but our needs should nevertheless be considered. All of these factors must be addressed, lest we end up with another unsightly barren dirt lot as in the area of the ill-fated "Old Armenian Town" fiasco.

With or without a street through it, and barring any unexpected demographic shift, Fulton will continue to be what it is because of where it is. It is in an area of predominantly moderate and low income immigrants and minorities, and can hardly be expected to suddenly transform into a vibrant shopping and entertainment mecca for the rich and affluent, as apparently envisioned by our city leaders, nor can it relive the "glory days" of the 40s and 50s. However, with this colorful population blend and their diverse talents, it could possibly one day see a new era of glory days, on the order of a Olivera Street or a Beale Street.

The myth that the direction of Fulton will determine the direction of downtown, or that Fulton is the "Main Street", or the "heart" of downtown Fresno defies reality. The truth is that Fresno has no heart (geographically speaking, of course). We have a county building here, a convention center there, a city hall over by the tracks, a university five miles north, commerce and finance beyond that, and junk yards to the south. Given this pattern of total disorientation, there is no way that the fate of Fulton could possibly have any effect on the rest of downtown, or any other part of town.

Much has been said about other cities and their struggles with white flight and urban decay during the 60s. Many were said to have also closed portions if their downtown streets to traffic and created pedestrian malls which allegedly failed, were subsequently reopened to traffic and magically became an instant success. Never mentioned, however, are the numerous cities which thrive to this day with their pedestrian-only streets still intact. One such city is Riverside.

Like the Fulton Mall, Main Street in Riverside has neither a hospital nor a university (UCR is three miles east). During the early 60s, the city closed a portion of Main Street between Sixth and Tenth Streets (for different reasons, and without the thoughtfully planned architecture, landscaping, and art, as in the Fulton Mall). The Mission Inn was at the time in bankruptcy, closed and abandoned. There

was talk of converting it to low income housing and even tearing it down. A few years later a new city hall was built in the middle of Main Street (they do not call it a mall) between Ninth and Tenth. Subsequently, a convention center was built on Main Street between Fourth and Fifth Streets, forming protective barriers at both ends, thus stifling any further thoughts of reopening the street to traffic.

Today Main Street is shady, pleasant, and peaceful, much like our Fulton Mall, except lacking the beauty of the statues, fountains, and artwork, but cleaner and better maintained. The street is lined with boutiques, art studios, antique shops, restaurants, etc, mostly independent and locally owned, and apparently doing well. No decision should be finalized regarding the fate of the Mall until all of the deciders visit Main Street in Riverside.

The point is not that Riverside is a better city , nor that its leaders are smarter. It is a proud city that values its historic resources and its cultural heritage. Fresno has always been notoriously loose with its wrecking ball. We build a courthouse, we tear it down. We build an opera house, we tear it down. Now we are on the verge of desecrating one of our few remaining historic resources that is uniquely Fresno, because someone has decided that it is not generating sufficient revenue or profits.

The Fulton Mall belongs to neither property owners, nor developers, nor investors, nor speculators, nor politicians. It belongs to the people of Fresno, and should remain in their trust. There are other areas of Fresno more urgently in need of attention.

George Bursik 113 W. Minarets Pinedale, CA 93650 (559) 301-8829 gbursik@gmail.com

APR 23 2012

FRESNO METROPOLITAN FLOOD CONTROL DISTRICT

File 170.21
310. "FF", "II", "GG",
"OO", "RR", "UU"
550.30 "FF", "II", "GG",
"OO", "RR", "UU"

April 19, 2012

Ms. Wilma Quan
Urban Planning Specialist
City of Fresno
2600 Fresno Street, Room 2156
Fresno, CA 93721

Dear Ms. Quan,

Fresno Metropolitan Flood Control District Comments for
Notice of Preparation of a Draft Subsequent Environmental Impact
Downtown Neighborhoods Community Plan (DNCP)
and Fulton Corridor Specific Plan (FCSP)
Drainage Areas "FF", "II", "GG", "OO", "RR", "UU"

The Fresno Metropolitan Flood Control District (FMFCD) bears responsibility for storm water management within the Fresno-Clovis metropolitan area, including the area subject to the proposed Downtown Neighborhoods Community Plan (DNCP) and Fulton Corridor Specific Plan (FCSP). Within the metropolitan area, storm runoff produced by land development is to be controlled through a system of pipelines and storm drainage retention basins. The community has developed and adopted a Storm Drainage and Flood Control Master Plan. Each property contributes its pro-rata share to the cost of the public drainage system. All properties are required to participate in the community system for everyone. It is this form of participation in the cost and/or construction of the drainage system that will mitigate the impact of development.

All properties that develop or redevelop under the DNCP and FCSP (plan areas) shall pay drainage fees pursuant to the Drainage Fee Ordinance prior to approval of any final maps and/or issuance of building permits at the rates in effect at the time of such approval. Please contact FMFCD for a final fee obligation prior to issuance of any construction permits. Should land use densities of existing residential areas be increased, the property would be subject to a reassessment of drainage fees based on the proposed increased land uses and may include the requirement of additional drainage fees to be paid to offset the increased land use. Each proposed development will be reviewed and assessed upon submittal to FMFCD. Any drainage fees previously paid on a property would be given a credit against any new fee responsibility.

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There are existing storm drain facilities located throughout the plan areas. Any proposed relocation, construction of proposed or reconstruction of existing storm drainage facilities will need to be reviewed and approved by FMFCD prior to implementation. Any storm drainage facilities that are not located within the public street right-of way shall be within a dedicated pipeline easement to FMFCD. No encroachments into the easement shall be permitted including, but not limited to, foundations, roof overhangs, swimming pools, and trees.

Much of the FMFCD Master Plan storm drainage system for the plan areas is complete. This system was designed for land use densities designated on prior General Plans and have been reflected in the Master Plan. Any proposed densification of existing residential areas within the plan areas may exceed the capacity of the existing storm drainage system and will require FMFCD review and approval prior to implementation. Mitigation of site storm water discharge may be required in some circumstances. Such mitigation shall be in the form of on-site retention or FMFCD system modifications. All mitigation shall be reviewed and approved by FMFCD.

The grading of any proposed development within the plan areas and any reconfiguration of public streets shall be designed such that there are not adverse impacts to major storm conveyance, and to the passage of storm water to the adjacent roadways and existing storm drainage pipelines and inlets. Additionally, development shall provide the appropriate surface flowage easements or covenants for any portion of the development area that cannot convey storm water to the public right-of-way without crossing private property.

FMFCD will need to review and approve the final improvement plans for all development (i.e. grading, street improvement and storm drain facilities) within the boundaries of the proposed project to insure consistency with the approved Storm Drainage Master Plan.

If there are to be storm water discharges from private facilities to the FMFCD's storm drainage system, they shall consist only of storm water runoff and shall be free of solids and debris. Landscape and/or area drains are not allowed to connect directly to FMFCD's facilities.

In an effort to improve storm runoff quality, outdoor storage areas shall be constructed and maintained such that material that may generate contaminants will be prevented from contact with rainfall and runoff and thereby prevent the conveyance of contaminants in runoff into the storm drain system.

FMFCD encourages, but does not require that roof drains from non-residential development be constructed such that they are directed onto and through a landscaped grassy swale area to filter out pollutants from roof runoff.

Runoff from areas where industrial activities, product, or merchandise come into contact with and may contaminate storm water must be directed through landscaped areas or otherwise treated before discharging it off-site or into a storm drain. Roofs covering such areas are recommended. Cleaning of such areas by sweeping instead of washing is to be required unless such wash water can be directed to the sanitary sewer system. Storm drains receiving untreated runoff from such areas that directly connect to FMFCD's system will not be permitted. Loading docks, depressed areas, and areas servicing or fueling vehicles are specifically subject to these requirements. FMFCD's policy governing said industrial site NPDES program requirements are available. Contract FMFCD's Environmental Department for further information regarding these policies related to industrial site requirements.

Thank you for the opportunity to comment. Please keep our office informed on the development of these plans. If you should have any questions or comments, please contact FMFCD at (559) 456-3292.

Very truly yours,

Mark Will
Engineer III, R.C.E.

MW/lrl

FIRM, Inc.

Fresno Interdenominational Refugee Ministries

1940 N. Fresno Street, Fresno, CA 93703 Website: www.firminc.org.
Telephone (559) 487-1500 FAX (559) 487-1550 Email: soulhikr@aol.com
"Sharing Christ's Love to Build Communities of Hope With New Americans"

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Slavic Family Support
Healthy Homes
Family Advocacy
Elder Programs
Citizenship Services
Community Gardens
Theological Education

April 17, 2012

Re: Scoping for the Downtown Neighborhoods Community Plan DEIR

Dear Wilma:

We appreciate this opportunity to comment on the scope of the DEIR for the Downtown Neighborhoods Community Plan, the Fulton Corridor Specific Plan and the Downtown Development Code. These planning documents will affect the future of the City of Fresno for many years to come. Fresno Interdenominational Refugee Ministries (FIRM, Inc.) supports the efforts the City has made in recent years to focus development around the principles of increasing density and smart growth. At the same time we believe that there is significant room for manipulation within this process—using a pro-environment message to accomplish goals that are almost purely economic and which can be of ultimate harm to environmental realities both physical and social.

The area covered by the two plans and the accompanying code amendment has some of the most dismal health indicators, including air quality and concentration of poverty, of any area in the Valley. Attention should be paid to environmental indicators. Along these lines FIRM would like to make the following suggestions regarding the DEIR:

- ✓ *Employee housing*: We wish to stress that housing that is affordable to all sectors of the community needs to remain a vital part of the Downtown area. We know that according to recent studies the housing market is changing nationwide- and that these changes are also starting to affect Fresno.

  According to a 2010 study by the Urban Land Institute, 75 percent of retiring Baby Boomers, the nation's largest demographic group, said that they want to live in mixed age and mixed-use communities—that is, in urban settings. For Generation X, now in their late 30s to mid-40s, many are facing lower household income than the previous generation of the same age. The children of the Baby Boomers, the "millenials", have similar preferences as other generations. A 2010 study by the Brookings Institution found that 77% of them want to live in America's urban cores. These changes may be positive for some aspects of downtown revitalization, but they also increase pressure on existing neighborhoods and residents that can lead to displacement. The Health Impact Assessment, prepared by Raimi and Associates relative to the Downtown Plan, suggests this as a danger,

  "individuals experiencing increased rent costs without increased incomes may no longer be able to afford higher rents and may be displaced. ...Displacement disrupts social networks ...Potential indirect health impacts of displacement include depression, academic delay in children, emotional and behavioral problems, unemployment, loss of health protective social networks, and reduced self-rated health. Those most likely to be displaced in the future are the households living in close proximity of the districts where development is likely to occur". (p. 72)

Given these realities, FIRM requests that, consistent with its obligations under CEQA, the City prepare a formal mitigation plan as part of the DEIR, to assure that those effects do not occur. Further, we request that all alternatives to the project be considered at an equal level of detail in the DEIR as the proposed Downtown Plan project itself.

Thank you for allowing us this opportunity to suggest areas for review within the DEIR for the Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan and the Downtown Development Code Amendment. As an organization we maintain significant concern over this review process because of the future effects these plans will have on current residents and their children. It is for them that we ask for your consideration regarding all of the points raised above.

FIRM urges the City of Fresno to consider meaningfully the suggestions above and to act accordingly, in other words, to use this window of opportunity to find the best alternative for Fresno residents and specifically those within the plan area.

Again, thank you for the opportunity to participate in the environmental scoping process for the recently proposed downtown planning documents.

Sincerely,

Rev. Dr. Sharon Stanley

Rev. Dr. Sharon Stanley
FIRM Inc. Executive Director

1.5 - Comments from DNCP/FCSP/Fulton Mall Scoping Meeting, April 17, 2012

City of
FRESNO

Notice of Preparation and Scoping Meeting
MEETING MINUTES

Tuesday, April 17, 2012, 5:30 - 6:30 p.m.

1. CALL TO ORDER

The Notice of Preparation and Scoping Meeting was called to order at 5:30 p.m. by Wilma Quan, Urban Planning Specialist for the City of Fresno. Ms. Quan gave opening comments on the meeting's purpose and an overview of how it would proceed. She stated that those wishing to speak were asked to fill out orange speaker cards with their name, address and agency information; speakers were limited to three minutes, with more time allowed at the meeting's end if time remained; there was a comment sheet at the back of the room for written comment; and the close of the NOP comment period is May 2, 2012.

2. OVERVIEW OF PROJECT'S SCOPE BY STEFANOS POLYZOIDES

Stefanos Polyzoides stated this project includes the Downtown Neighborhoods Community Plan (DNCP) of about 7,000 acres, and the Fulton Corridor Specific Plan (FCSP) of about 700 acres. Both Plans are regulated by code. The FCSP has a section regulated by costs of implementation of infrastructure and/or projects. Each subarea is assigned a zoning intensity that will be executed through a code. The zoning documents indicate densities, horizontally and vertically, and the intended purpose, characteristic, streetscape, and land use range within each zone.

Table 2, *Development Potential by Land Use*, gives the area's potential growth in square feet, broken down by residential, office, retail and industrial land use. It is also separated into different categories for DNCP (excluding FCSP), FCSP only, and DNCP and FCSP together. Table 3, *Residential Population Potential,* anticipates a residential population in the downtown area (DNCP+FCSP) of 97,446 by the year 2035. Table 5, *Job* Potential, shows that a total office, industrial and retail jobs for the area is anticipated to be just over 30,000 for the entire area (DNCP+FCSP).

Mr. Polyzoides stated the next important issue is that three alternatives for the Fulton Mall have been vetted by the public process and will be analyzed by the EIR. They are:

(1) Reconnected Grid and Traditional Streets;
(2) Reconnect Grid with Vignettes, much art in place; and
(3) Restoration and Completion of the Mall in its present form.

3. OVERVIEW OF CEQA PROCESS BY ALI MIR OF IMPACT SCIENCES

This NOP meeting is triggered by the California Environmental Quality Act (CEQA), which this proposed project is subject to. Impact Sciences will be preparing the CEQA compliance

for the proposed project. The proposed project to be assessed is made up of the DNCP, the FCSP and the Downtown Development Code (DDC). The City of Fresno, as lead agency, determines what CEQA document is necessary and which environmental topics should be included in the document to assess the potential impacts of the project. For this project, City of Fresno determined that a Program EIR was the appropriate CEQA document to assess this project's potential impacts.

A NOP has now been prepared and released for public review. The comment period for the NOP is not to be less than 30 days. We are now in the NOP public comment period, which defines the project program, the discretionary approvals associated with the adoption of the project and the range of environmental projects to be assessed. Relevant comments concern what environmental impacts should be assessed by the program document. Comments and suggestions about the scope of the draft project will be incorporated into the Draft EIR, if appropriate. Once the NOP comment period is finalized, the City will determine the final scope of the document. Then technical studies, such as historic resource evaluations and traffic impact studies, will be prepared for inclusion in the Draft EIR.

The Draft Program EIR is a publicly distributed document similar to the NOP. It has its own public comment period of 45 days. Each comment will be responded to individually, in writing, and will be included in the Final EIR. If necessary, supplemental analyses and modifications to the Draft Program EIR in response to comments received will be prepared. Once the Final Program EIR is completed, the City of Fresno Planning Commission will review its conclusions and make a recommendation to the City Council, and the City Council will decide whether to certify the project. The EIR must be certified by City Council in order for the proposed project to move forward.

As assessed by the City of Fresno, the environmental topics under CEQA to be included in the Program EIR include Aesthetics, Agricultural Resources, Air Quality and Greenhouse Gas Emissions, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water quality, Land Use and Planning, Noise, Population and Housing, Public Services, Transportation and Traffic, and Utilities and Service Systems. Also included, as mandated by CEQA, are alternatives to the proposed project to lessen the environmental impact of the project, these alternatives not yet defined.

4. PUBLIC COMMENT

A. Rebecca Van Stokkum
4685 N. Thorne
Fresno, CA
Agency: Faith in Community (FIC)

Ms. Van Stokkum noted FIC has already submitted lengthy written comments about the Downtown Plans. She adds that the areas covered by the Plans have some of the most dismal health indicators, such as air quality and concentration of poverty, of any area in the San Joaquin Valley, and urges the EIR to pay attention to environmental indicators in the area that have been historically poor. The DNCP has the potential to greatly impact the environment. FIC has concerns about the depth of analyses done so far and whether the Plan will enhance, rather than diminish, the downtown area. It understands

the legal purpose of the EIR is to study a project's impact on an area's wellbeing and ensure that jurisdictions choose projects having the least detrimental impact possible.

A purpose of EIR is also to identify how detrimental effects can be mitigated or avoided. FIC urges that the EIR answer the question whether all reasonable mitigation effects have been considered and will be included in the EIR.

B. Pastor Juan M. Saavedra
3362 Balch
Fresno, CA
Agency: Grace and Sierra Vista United Methodist Church -and-
Faith in Community

Pr. Saavedra has three areas of concern, the current water supply, the quality of water, and the impact on natural resources.

First, FIC is concerned whether the current and potential water supply is adequate to meet this project's demands. The infrastructure of the downtown area is ancient, much of it less than 50, some over 100 years old. The earlier slide show indicated a population roughly equal to the city of Delano moving into the area, bringing with it daily stresses on that infrastructure. While it is wonderful to have jobs, planning for that infrastructure is essential. Pr. Saavedra pointed out the City of Fresno is facing bankruptcy, so it would be a huge burden on the City to meet the infrastructural needs.

Secondly, FIC is concerned about water quality, citing for one thing the rise in cases of MERSA. Fresno needs clean water for its residents, and being the pantry of the U.S., it needs to have clean water for its agriculture, to maintain its ability to feed the country.

C. Rev. Sophia DeWitt
4910 N. Sequoia Avenue
Fresno, CA 93705
Agency: Fresno Interdenominational Refugee Ministries (FIRM) - and –
Faith in Community

Rev. DeWitt stresses the need for affordable housing for all portions of the community that remain downtown. She cited recent studies showing nationwide changes in housing needs, with a move towards mixed-use communities, and commented these changes are beginning to affect Fresno, with many attracted to the multi-use urban settings. She warned that increased rents in those areas caused by revitalization could cause displacement of persons whose incomes were not increasing. She expressed concern that such displacement can lead to many physical and psychological problems. FIRM requests that, consistent with CEQA obligations, the City prepare a formal mitigation plan as part of the Draft EIR. FIRM also requests that each and every alternative of the project be considered with the same level of detail as the Downtown project.

D. Ray McKnight
14607 N. Seashell
Fresno, CA
Agency: Downtown Fresno Coalition

Mr. McKnight stated the EIR should honestly address Fresno's history of public policy-making by public officials that allowed Fresno's decentralization that led to decay of the downtown area, stating that it was not adequate to state it was because shopping centers were created.

Secondly, he stated the Fulton Mall was discussed at length on pages 11 and 12 of the NOP, suggesting that either all of the districts mentioned in those pages should be given a full discussion or that the discussion of the Fulton Mall be deleted.

Thirdly, he asked about the effect of the DNCP on the Eaton Plaza Master Plan. He pointed out the draft of the FCSP shows buildings on Eaton Plaza, in violation on the Eaton Plaza Master Plan, but that subject is not dealt with in the NOP.

E. Paula Mickalian
1701 East Stuart Avenue
Fresno, CA

Ms. Mickalian is concerned regarding air quality and greenhouse gas emissions and how the three Fulton Mall alternatives address those. She asked that the EIR thoroughly investigate the three Fulton Mall alternatives and how each will affect air quality due to loss of trees and other mall plantings, the increase of pavement, creating a heat island, if Fulton is opened up to traffic, and the increase in vehicular traffic.

F. Joyce Aiken
3774 W. Buena Vista
Fresno, CA

Ms. Aiken is concerned about the cultural resources of the Fulton Mall listed in the Potential Environmental Effects on page 2 of the NOP, feeling it necessary that the EIR study the totality of the Fulton Mall -- the pavement, art, landscaping, water features – its total configuration, in order to get a full understanding of its environmental impact.

G. Sue McCline
1516 W. Escalon Avenue
Fresno, CA
Agency: Downtown Fresno Coalition

Ms. McCline's concern is the transportation and traffic in the anticipated environmental effects, page 2 of the NOP. She urges the EIR to consider modes of transportation for Fulton that do not require opening the Fulton Mall up to vehicular traffic. She urges a return to the free vehicles that once traveled on the mall in the past, stating there is not enough room on the narrow street of Fulton for auto traffic and cars are noisy.

H. Kathy Omachi
759 "F" Street
Reedley, CA
Agency: Chinatown Revitalization, Inc., of Fresno (Co-Chair)

Ms. Omachi first wanted to clarify the boundary definition in the document, as "H" Street was only included within Chinatown in the expansion to the "V" of 49 [sic] and 99 most recently when the regional plan for Chinatown had been expanded.

Ms. Omachi next commented regarding the expansion of the area. One thing that might not be a true environmental concern, but is definitely a cultural one and one of a community definition, is the expansion does not include the issue of self-identification of those communities that this plan is being expanded to. A key issue is the identification individuals have for the communities they live in, that they are deeply concerned about.

Another issue is environmental concern of infrastructural failure in Chinatown. Part of the piping system in Chinatown is made of wood. It has not been replaced and there are no plans to do so.

Another issue that has not been addressed is the preservation of the cultural aspects of Chinatown, which has been identified as one of the most historic areas within this project. A great alternative plan would be something that included a cultural mapping of above- and below-ground parts of Chinatown, something totally unique in the region.

I. Hal Tokmakian
2721 E. Garland Avenue
Fresno, CA
Agency: Downtown Fresno Coalition

Mr. Tokmakian noted a specific plan must be comprehensive and address all of the target area. Instead, he noted the FCSP was fragmented and questioned if it is because the City wishes to split important segments apart so as to address them separately. He pointed out much time and discussion has been spent on Fulton Mall, but nothing has been done about Chinatown or other downtown areas.

Secondly, Mr. Tokmakian asked what the General Plan policy was for the Specific Plan. The Specific Plan was part of the larger community, so public policy should address the community as a whole. The General Plan provides a guiding framework for the entire area. He wants to see that introduced into the environmental document.

Lastly, Mr. Tokmakian stated there were three alternatives for the Mall, but asked the City address that there were no alternatives for the balance of the Specific Plan. He urged the City to address that.

With no further new speakers, the floor was opened by Elliott Balch of the City of Fresno to people who wanted to expand on their prior comments, or to any other person.

Ray McKnight commented the Draft FCSP refers to implementation by the Redevelopment Agency, but now that the Redevelopment Agency has been abolished,

Mr. McKnight suggested the EIR needed to clarify its implementation and what agency was responsible.

Rebecca Van Stokkum made the following additional comments:

On natural resources, in a letter to the California High Speed Rail Authority, the Farm Bureau Foundation stated a major principles of the State's environmental and agricultural policy is to sustain the long-term productivity of agriculture by conserving the soil, water and air that agriculture requires. CEQA also recognizes agricultural land and water resources as part of the physical environment. The origin of the planned areas of water sources could affect future sustainability because of scarce water resources and cumulative effects on the area's already poor air quality. Future farmland and the agribusiness it supports depends on adequate management of these resources. These input areas will be affected by the development of the plans in question. FIC asks that these effects be studied adequately in the EIR as part of the CEQA requirement that agricultural resources be considered during environmental review.

On air quality, though the DNCP makes a case for lowering air pollution through potentially lowering vehicle miles traveled through policies related to land use and transportation, density and mixed-use development, these are not guaranteed. Increased density can also increase individual exposure to air pollutants if development and population increase and occurs faster than transit and economic development or pollutants and air quality. Downtown is between two major highways, surrounded by industrial agricultural uses create precarious conditions for regulated harmful air pollutants. The plan emphasizes reduction of automobile dependence, but does not have the capacity to implement stationary or low levels of greenhouse emissions. Denser population centers in that area are a cause for concern.

On growth consumption, the City of Fresno has recently analyzed its need for increasing housing units to a total of 79,000 units by 2035. In the recently released General Plan alternative report, the City estimates between 10,900 and 11,000 units will be built in the downtown area. This is the same area with several 150-year-old pipe systems. FIC suggests the fiscal reality that this could overburden the existing infrastructure and that this possibility be further studied.

FIC urges the City of Fresno to consider meaningfully the above suggestions and act accordingly, using this window of opportunity to find the best alternative for its residents within the Plan area.

5. CLOSING COMMENTS

Ali Mir stated the City would review all verbal and written comments received through the end of the scoping period. He clarified that no environmental topic not identified by the City of Fresno to be assessed was raised at the scoping meeting. He thanked the audience for coming, and for keeping their comments focused and on topic, stating that all comments will be incorporated into the appendix of the Draft EIR. He urged the audience that even though they had orally stated their comments, to also submit them in writing.

6. ADJOURNMENT OF MEETING AT 6:30 p.m.

Appendix 2: Historical Resources

2.1 - Historical Resources Technical Report

City of Fresno DNCP and FCSP
Historical Resources Technical Report
September, 2013

HISTORIC RESOURCES GROUP

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City of Fresno DNCP and FCSP Historical Resources Technical Report

September, 2013

HISTORIC RESOURCES GROUP

PREPARED FOR

City of Fresno
2600 Fresno Street
Fresno, CA 93721

City of Fresno DNCP and FCSP Historical Resources Technical Report

September, 2013

HISTORIC RESOURCES GROUP

INTRODUCTION

The City of Fresno has prepared the Downtown Neighborhoods Community Plan (DNCP) and the Fulton Corridor Specific Plan (FCSP) to guide future development in and around Downtown Fresno.

The purpose of this technical report is to identify historical resources as defined by the California Environmental Quality Act (CEQA) that are located within the plan areas, and analyze any potential impacts to historical resources by the proposed plans.

To the extent this Technical Report will be incorporated by reference and included as part of the Final Environmental Impact Report (EIR) assessing the project, which may then be certified by the Fresno City Council by way of resolution, this Technical Report is not intended to establish a separate Local Register of Historical Resources, as defined by Public Resources Code, section 5020.1(k) unless the Fresno City Council expressly designates it as such in the Ordinance Bill adopting the Fulton Corridor Specific Plan or in the Resolutions Certifying the Final EIR for the project or adopting the Downtown Neighborhoods Community Plan.

Under CEQA the potential impacts of a project on historical resources, as defined by CEQA, must be considered. The purpose of CEQA is to evaluate whether a proposed project may have a significant adverse effect on the environment and, if so, if that effect can be reduced or eliminated by pursuing an alternative course of action or through mitigation measures.

The impacts of a project on a historical resource may be considered an environmental impact. CEQA states that:

A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.[1]

Thus, an evaluation of project impacts under CEQA requires a two-part inquiry: (1) a determination of whether the project site contains or is adjacent to a historical resource or resources, and if so, (2) a determination of whether the proposed project will result in a "substantial adverse change" in the significance of the historical resource or resources. This report investigates the proposed Project Site to determine if historic resources exist either within or

[1] California PRC, Section 21084.1.

DRAFT

adjacent to its boundaries and analyzes potential project impacts for any potentially adverse change in the significance of such resources.

This report contains:

- A description of the project as provided by the applicant.
- A brief review of the development history of Downtown Fresno and its surrounding neighborhoods.
- A review of the required consideration of historical resources under the California Environmental Quality Act (CEQA).
- Analysis of potential adverse effects of the proposed Project to historic resources and suggested mitigation measures.

This report was prepared using primary and secondary sources related to the history of Fresno and the development of its built environment. Sources of research included historic photographs, newspapers, Sanborn Fire Insurance maps, publications, previous historic studies and City documents.[2] The City's map of historic resources, the City's historic resource database, and the State Historic Resources Inventory (HRI) were consulted to locate previously identified historic properties.

Previous surveys and historic context statements were invaluable in establishing the general historic context for Fresno. Providing an important foundation for investigation and informed observations in the field, these contexts focused on early residential neighborhoods; the settlement patterns of various ethnic communities; automobile-oriented development; post-World War II comprehensive planning; and architecture from the mid-20th century.

Research, field inspection, and analysis were performed by Christy Johnson McAvoy, Founding Principal; Paul Travis, Senior Preservation Planner; and Christine Lazzaretto, Senior Architectural Historian. All of whom are qualified professionals who meet or exceed the Secretary of the Interior's

[2] A bibliography of sources that contributed to this investigation is included in this report.

Professional Qualification Standards.[3] Additional assistance was provided by Robbie Arangun, Planning Associate.

[3] Federal Register, Vol. 48, No. 190, pp. 44738-44739, September 29, 1983.

1.0 PROPOSED PROJECT DESCRIPTION[4]

Project Location

The proposed project is located in the City of Fresno and encompasses 7,290 acres. It is generally bounded to the east by Chestnut Avenue, to the south by Church Avenue, to the west by Thorne, West, and Marks Avenues, and to the north by State Route 180. Along the western side of the Plan Area, the boundaries extend as far north as Clinton Avenue. The project area is divided by State Routes 99, 41, and 180, as well as the Union Pacific and BNSF railroad right-of-ways.

Proposed Project

The project includes three separate planning documents. The first is the Downtown Neighborhoods Community Plan (DNCP) and encompasses the entire 7,290-acre project area. The second is the Fulton Corridor Specific Plan (FCSP) that encompasses 655 acres within the middle of the project area. The third is the Downtown Development Code (DDC) that also encompasses the entire project area.

[4] The contents of this section were provided by the City of Fresno.

The DNCP is the community's tool for guiding the successful regeneration of Downtown Fresno and its surrounding neighborhoods. The Plan provides long-term goals for the Plan Area and detailed policies concerning a wide range of topics, including land use and development, transportation, the public realm of streets and parks, infrastructure, historic resources, and health and wellness. Development proposed within the DNCP, and excluding the area of the FCSP, includes 3,697 residential units, 2,000,000 square feet (sf) of office, 350,000 sf of retail, 2,900,000 sf of industrial, and 33 acres of open conservation. Infrastructure improvements are also part of the DNCP to support the proposed development.

The FCSP is the community's tool for guiding the future development of Downtown Fresno. The Plan provides long-term goals for the FCSP area and detailed policies concerning a wide range of topics, including land use and development, historic resources, the public realm, transportation, and infrastructure. The FCSP, which encompasses 655 acres, is located near the center of the DNCP,. Development proposed within the FCSP includes 6,293 residential units, 3,900,000 sf of office, 1,600,000 sf of retail, 150,000 sf of industrial and 31 acres of opens conservation. Infrastructure

improvements are also part of the FCSP to support the proposed development. In addition, the FCSP includes the reconstruction of Fulton Mall. The reconstruction includes two options that introduce streets that accommodate vehicular traffic and a pedestrian-only option.

The DDC implements the DNCP and FCSP by building upon central Fresno's strengths and particular characteristics through a tailored and articulate set of zoning standards. These zoning standards are based on three key pieces of information: (A) Historical Basis, (B) Public Planning Process, and (C) Vision-Based Standards. The DDC is a form based code that contains most of the standards and requirements for development and land use activity within the DNCP area. Form based codes are regulations, not guidelines, and they provide an alternative to conventional zoning. The form based codes address the relationship between building facades and the public realm, the form and mass of buildings in relation to one another, and the scale and type of streets and blocks.

The development proposed within the DNCP and FCSP is anticipated to be built out by the year 2035, and the residential population is anticipated to increase by 27,225 people to a total of 97,446 residents within the project area. This increase in residential population is similar to the residential population that is currently proposed under buildout conditions for the project area under the current 2025 General Plan (i.e., 99,393 residents). The proposed development within the DNCP and FCSP would also result in an increase of approximately 30,180 jobs.

Overview

In order to understand the significance of the historic and architectural resources in Downtown Fresno, it is necessary to examine those resources within a series of contexts. By placing built resources in the appropriate historic, social, and architectural context, the relationship between an area's physical environment and its broader history can be established. For this reason, historic properties must be considered in relation to important historic events and periods of development in the City of Fresno as a whole.

A historic context statement analyzes the historical development of a community according to guidelines written by the National Park Service and specified in National Register Bulletin 16A. The Bulletin describes an historic context as follows:

Historic context is information about historic trends and properties grouped by an important theme in pre-history or history of a community, state, or the nation during a particular period of time. Because historic contexts are organized by theme, place, and time, they link historic properties to important historic trends. In this way, they provide a framework for determining the significance of a property.

An historic context statement is linked with tangible built resources through the concept of "property type," a grouping of individual properties based on shared physical or associative characteristics. It should identify the various historical factors that shaped the development of the area. It may include, but need not be limited to:

- Historical activities or events
- Historic personages
- Building types, architectural styles, and materials
- Patterns of physical development

An historic context statement is not a comprehensive history of an area. Rather, it is intended to highlight trends and patterns critical to the understanding of the built environment. It provides a framework for the continuing process of identifying historic, architectural, and cultural resources. It may also serve as a guide to enable citizens, planners, and decision-makers to evaluate the relative significance and integrity of individual properties. Specific examples referred to in this context statement are included solely to illustrate physical and associative characteristics of each resource type. Exclusion from this context statement does not diminish the significance of any individual resource.

Numerous sources were used to compile the historic context statement for Fresno's Downtown. These include local newspapers; historic photographs; Sanborn fire insurance maps; and published histories.

In addition, material included here has been developed in part by previous survey efforts. These surveys are reviewed in Section 4.0 of this report. Elements of these documents and other studies have been incorporated here to provide continuity of scholarship and approach.

Pre-European History

Humans have lived in the dry, arid regions of central California for thousands of years. The area's earliest known human inhabitants are generally referred to as the "Yokuts" a native term meaning "people" that refers to over sixty tribes linked through language, culture, and kinship. These tribes populated a large swath of central California, ranging from the Sacramento River Delta in the n
Bakersfield to the so
Sierra Nevada foothills to the east.
Evidence suggests the Yokut tribes developed a robust trading culture with other native California peoples including California coastal tribes.[5]

European Exploration and Settlement 1805-1848

Europeans did not arrive in central California until the 19th Century. Spanish missionaries first explored the region in 1805 and 1806, followed by the Ashley Expedition which arrived from St. Louis in 1823 to hunt and trap along the Merced, Stanislaus, and Tuolumne rivers.[6] While the Spanish expeditions would name the valley "San Joaquin", the dry, desert-like region was not considered suitable for permanent settlement. Scattered settlements were eventually established after Mexican Independence in 1834. It was during the Spanish and Mexican eras that the name "Fresno," (a Spanish word meaning "ash tree") was first applied in the region to identify the Fresno River,

[5] Picayune Rancheria of the Chukchansi Indians website. accessed March 26, 2011. http://www.chukchansi.net/history.html

[6] Page & Turnbull, Inc. *Historic Properties Survey Report South Stadium Project Area,* August 2008.

a tributary of the larger San Joaquin River.[7]

In 1848, Mexico's northern territories, including California, were ceded to the United States following the Mexican-American War. The discovery of gold at Sutter's Mill north of Sacramento that same year attracted thousands of people to California in the Gold Rush. Miners were drawn to the southern Sierra Nevada in search of riches, and soon cattle ranchers occupied the San Joaquin's arid lands. The new arrivals quickly organized their own settlements, including the mining town of Rootville in 1851. Located on the San Joaquin River, Rootville was renamed Millerton in 1854 and in 1856 became the county seat of the newly created Fresno County, a new county carved out from portions of existing Mariposa, Merced, and Tulare counties. Millerton remained the county seat until 1874, when the recently established town of Fresno, located fifteen miles to the south, assumed the title. By that time, the majority of Millerton's population had largely decamped to Fresno as well[8].

Town Establishment 1872-1900

The town of Fresno's establishment and its subsequent growth into the San Joaquin Valley's most important urban center was made possible by three roughly concurrent developments: (1) the development of regional irrigation systems that unleashed the valley's fertile soils and abundant sunshine for agricultural use; (2)the construction of the Central Pacific Railroad through central California which provided a vital connection to the country's urban centers to the east; and (3) the formation of agricultural colonies which brought thousands of farmer-settlers to the region and maximized the valley's agricultural potential. These three factors would place Fresno at the center of what would become the most

[7] Hattersley-Drayton, Karana. *Historic Architecture Survey Report for Renaissance at Santa Clara Residential Development Project,* City of Fresno, February 2011. (16)

[8] Page & Turnbull, Inc. *Historic Properties Survey Report South Stadium Project Area,* August 2008. (5)

The Millerton town site is today the site of Lake Millerton, an artificial lake created by the 1942 construction of the Friant Dam.

productive agricultural regions in the United States.[9]

Water, Agriculture and the Railroad

Irrigation of farmland in Fresno County begins with the storied partnership of ranch owners Anthony Y. Easterby and Moses J. Church. Believing that the land in Fresno County held significant agricultural possibilities, Easterby purchased a large tract of land north and east of present-day Downtown Fresno in 1867. He hired Church, another believer in the county's agricultural potential, to design and build a canal and irrigation system that would divert water from the Sierra Nevada and provide a reliable water source. The resulting system provided Easterby with enough water to successfully cultivate a substantial wheat crop by 1871.[10] Church would then form the Fresno Canal and Irrigation Company and go on to build hundreds of miles of canals -- referred to colloquially as "Church Ditches" -- throughout the region.[11]

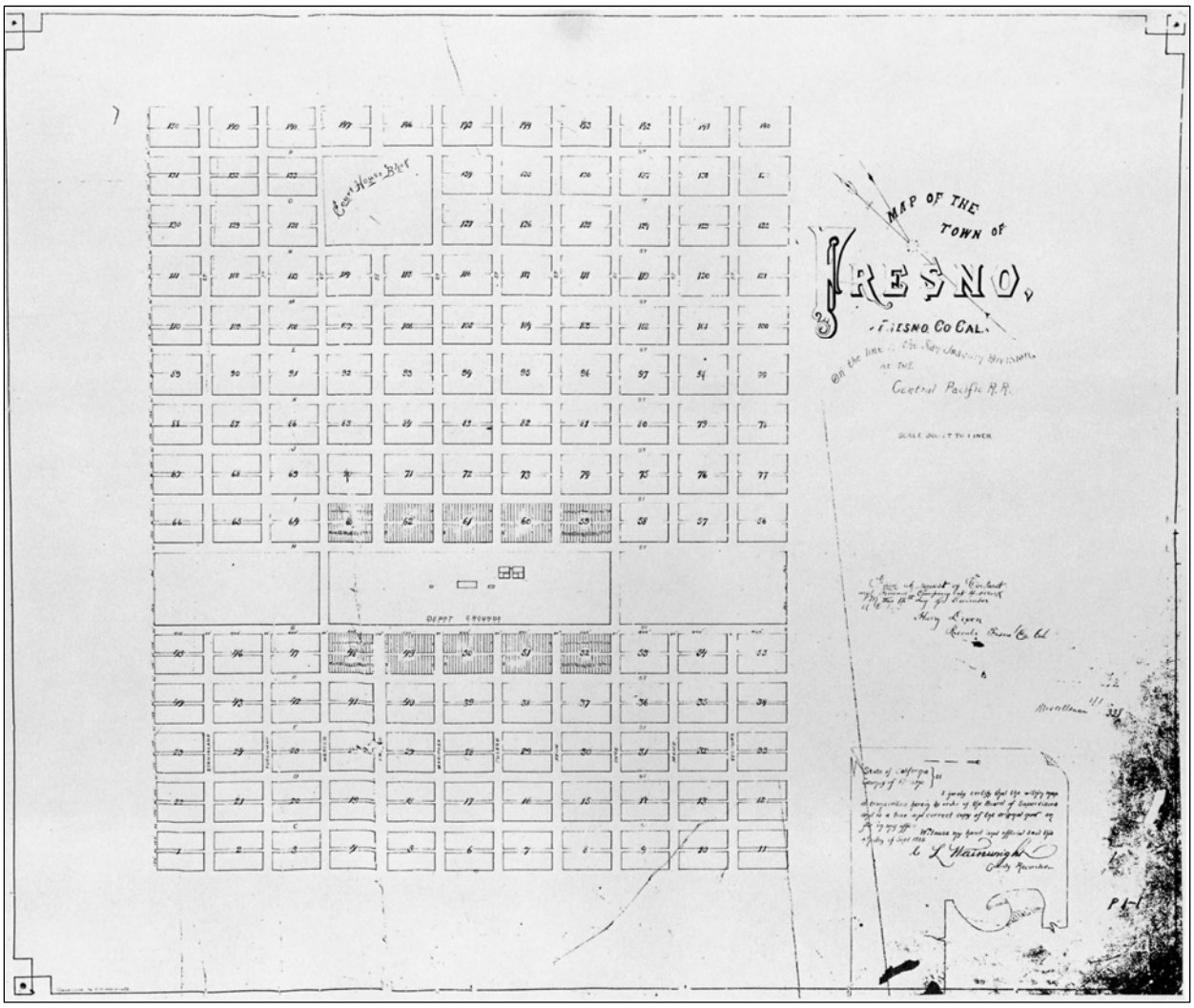
Easterby's lush wheat fields were noticed by officials from the Central Pacific Railroad as they passed through Fresno County looking for a location for a train station to service newly laid tracks running north-south through the San Joaquin Valley. They purchased over 4000 acres of land located to the west of Easterby's ranch and established the Fresno Station site.

The new town of Fresno Station was surveyed by Edward H. Mix in a gridiron plan that paralleled the railroad tracks. The standardized pattern of streets, blocks, lots and alleys varied only to set aside land for a county courthouse and a broad corridor through the center of town for rail yards, and track right-of-way. The Central Pacific train depot was located at Tulare and "H" streets.

[9] Hattersley-Drayton, Karana. *Historic Architecture Survey Report for Plan Amendment A-08-007 and Rezone A-08-034,* City of Fresno, July 2009 (5)

[10] Page & Turnbull, Inc. (6)

[11] Panter, John "Central California Colony: Marvel of the Desert", *Fresno Past & Present, the Journal of the Fresno City and County Historical Society,* Vol. 35 No. 2, Summer 1994.



City of Fresno Map 1873

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Fresno County Courthouse (demolished)
Image courtesy of the Fresno Historical Society Archives.

By 1874, the County Courthouse was constructed, and a cluster of commercial establishments had formed along "H" Street that included stores, hotels, restaurants, and saloons. One year later, 600 people were resident in Fresno including approximately 200 Chinese living on the west side of the railroad tracks.[12] By 1880 the population was over 1000.

Widespread prosperity would ultimately come to Fresno County with the introduction of agricultural colonies. These colonies secured water rights for large tracts of land. The land was subdivided into smaller land plots, and the individual plots sold as family farms with the individual farmers sharing water rights on a cooperative basis. The first of these to be successful was the Central California Colony established in 1875 just three miles south of the town of Fresno. [13] It would serve as a model for the region and by 1903 Fresno County boasted 48 separate colonies on over 70,000 acres.[14] Through the colony system, the large tracts of land surrounding Fresno were cultivated by thousands of settlers who relocated to the region.

Fresno County's most famous and lucrative cash crop was the raisin. Local legend has it that California's first raisin crop was the result of a massive heat wave in 1873 which dried grapes on the vine before farmers could pick them. Whether apocryphal or not, the intensive sun of the San Joaquin proved perfect for drying raisins and raisin grapes became a primary crop in Fresno County. Cotton and figs also became important crops. As agricultural production grew and diversified, Fresno

[12] Clough, Charles W. and Secrest, William B., Jr. *Fresno County: The Pioneer Years from the Beginnings to 1900.* Fresno, CA: Panorama West Books, 1984. (122)

[13] Panter 1994 (2)
[14] Ibid. (9)

became the primary market town for the San Joaquin Valley.[15]

City Incorporation and Development

In 1885, with a population of over 3000, Fresno was incorporated as a city. The January 1885 Sanborn map shows a typical American frontier town with scattered development across a roughly six-block area radiating north-east from the Central Pacific depot. The town includes a densely constructed commercial corridor running three blocks up Mariposa Avenue between H Street and the courthouse at Mariposa and K Streets (present-day Van Ness Avenue) replete with commercial shops, lodging houses, banks, offices, restaurants and saloons. Residential dwellings are less densely distributed north and northwest of Mariposa Avenue along Fresno and Merced Streets, and H, I, J, and K streets.

By 1887 all of the originally platted railroad lots had been sold and expansion subdivisions outside the original town site were underway. The May 1888 Sanborn Map shows residential development expanding north and west of Merced Street along Tuolumne, Stanislaus, Calaveras, H, I, J and K streets, and east of Mariposa Avenue along Tulare, Kern, Inyo, Mono, and Ventura Streets, and H, I J, K, L, M, and N streets.

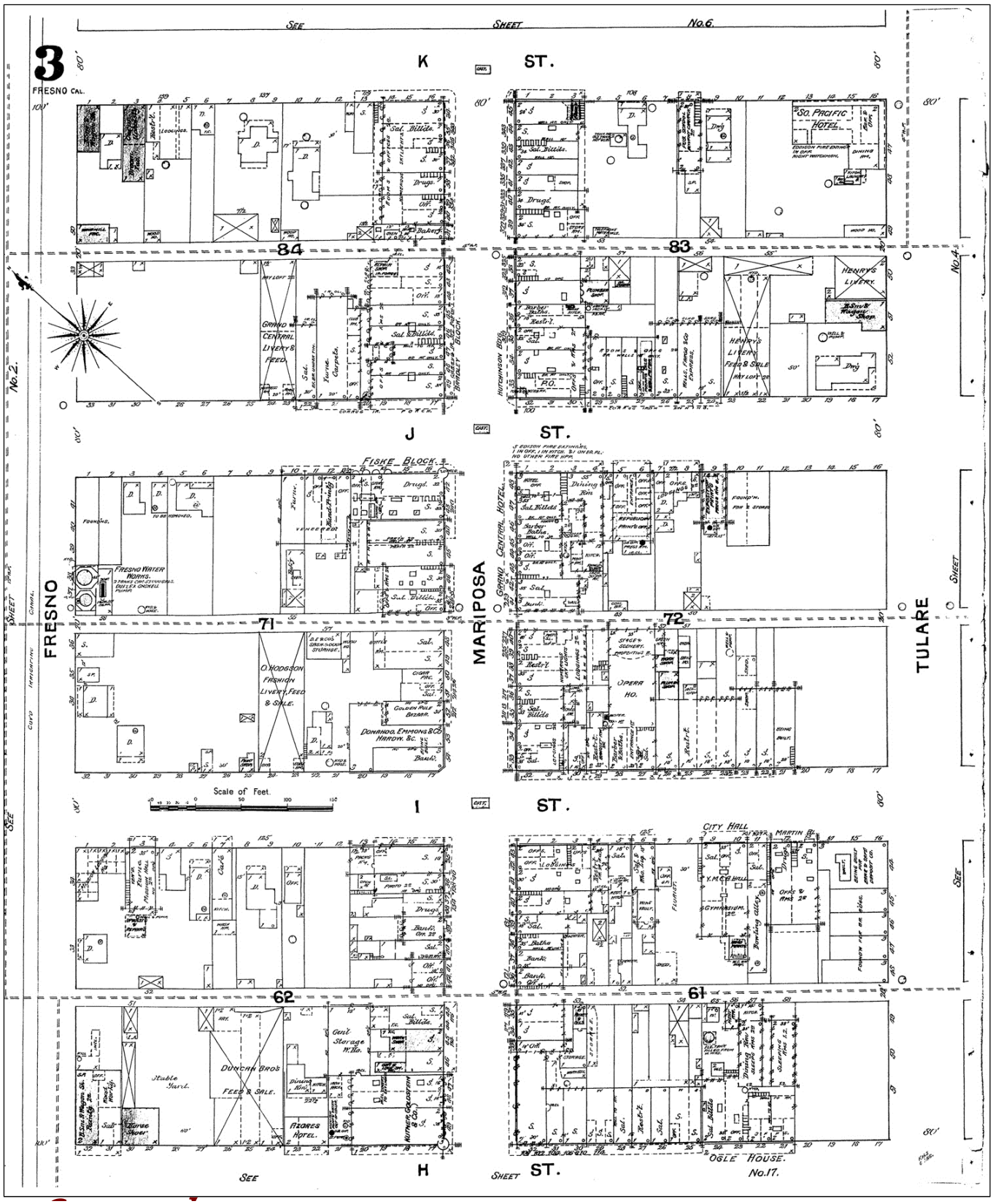
In 1889 the City's streets were paved and a new Central Pacific Depot was constructed at H and Tulare streets, replacing the earlier depot at the same site. By 1890 Fresno's population had reached over 10,000 people. In 1896, the San Francisco and San Joaquin Valley Railroad (later the Santa Fe Railroad) came to Fresno, located northeast of and parallel to the Central Pacific. The Mission Revival style depot at Tulare and "O" streets was completed in 1899.

Fresno developed a robust industrial sector needed to support its growing status as a transport and distribution center for an important agricultural region. Industrial activity developed largely in support of agricultural activities, with facilities tending to cluster near the railroad. By 1898 large fruit packing houses could be found on H and G streets, forming an industrial corridor between Fresno Street to the north and Santa Clara Street to south.

[15] *Hattersley-Drayton, Plan Amendment 2009 (7)*

Other industrial properties along the same corridor include grain warehouses, produce warehouses, and lumber yards.[16]

[16] Fresno Sanborn Fire Insurance Maps 1898



Mariposa Street in 1888

May 1888 Sanborn Insurance Map

Immigration and Ethnic Settlement

Fresno's late 19th Century population was an ethnic mix of people with origins from many points around the globe. The earliest settlers were former miners drawn to California by the Gold Rush and Scandinavian farmers who were some of the first to take advantage of the cooperative opportunities of the agricultural colonies.

Wing Chee Family circa 1900
Image courtesy of the Fresno Historical Society Archives.

Ethnic groups whose settlement patterns were important to the development of Downtown Fresno include the Chinese, present in Fresno from the very beginning. Restricted from other areas, the Chinese settled south of the railroad between G Street, Mariposa Avenue, F Street and Kern Street, and area which immediately became known as "Chinatown."[17]

The racial restrictions produced a density and intensity of land use in Chinatown found nowhere else in Fresno. The 1898 Sanborn Map reveals lodging houses, saloons, gambling parlors, "female boarding" houses[18], and a Chinese theater all packed into a couple of blocks. Towards the end of the 19th Century, Japanese immigrants also began arriving in Fresno. Facing similar anti-Asian racial prejudice, many would settle in the Chinatown area.

The first Armenian settlers, the Seropian Brothers, arrived in Fresno in 1881. Successive waves of Armenian immigration would create one of the strongest and most successful ethnic communities in Fresno. Many of the first Armenian immigrants were farmers whose expertise with vineyards and grape cultivation would become instrumental in the development of the raisin industry. Armenians would eventually colonize an area located between the Santa Fe and Southern

[17] *Hattersley-Drayton, Plan Amendment 2009 (5-6)*
[18] Understood to be a euphemism for brothels.

Pacific tracks known locally as "Armenian Town" [19] which was roughly bounded by Kern Street, Los Angeles Street, Broadway and O Street. Fresno's Armenian population would reach its peak in the aftermath of the1915 Armenian Genocide by the Ottoman Empire which forced emigration of many Armenians.[20]

Ethnic Germans from Russia or "Volga Germans" first arrived in Fresno in 1887.[21] Their numbers continued to grow and the community coalesced in "German Town" located directly south of Downtown in an area of land bounded by Church Street, Mono Street, G Street, and Fruit Street.[22]

A smaller community of African-Americans was also present very early, evidenced by the 1892 establishment of an African Methodist Church in 1882. The African-American community largely settled south and west of Downtown Fresno.[23]

[19] *Hattersley-Drayton, Plan Amendment 2009 (6)*
[20] Armenian National Institute website http://www.armenian-genocide.org
[21] Architectural Resources Group. *Germantown, Fresno Historical Context*, April 2006. (8)
[22] Ibid. (12)
[23] Clough, 1984. (137)

Mariposa Street 1889

Urban Form and Pattern

By the turn of the century Fresno had a population of over 12,000 people and the city had established its fundamental urban form. Key characteristics of this form include the two parallel rail lines bordering the central city to the southwest and northeast; the original street grid oriented northwest-southeast in concert with the rail lines; mid-block alleys as part of the street grid; the centrally located County Courthouse within a large grassy square; a growing central business and commercial district radiating from the intersection of Mariposa Street and J Street just south of the Courthouse; industrial uses clustered along both rail lines (H and G streets to southwest, R and Q streets to the northeast); and surrounding residential neighborhoods with the more prosperous citizens locating to the north and east, and citizens of more modest means located to the south and west. The expansion of the city outside the original town site was also well-established with street alignments shifting from the original northwest-

southeast direction within the original town site to an alignment with the cardinal directions within the expansion areas.[24] This general pattern would carry forward into the mid-20th Century.

The Valley's Metropolis (1901-1930)

The first three decades of the 20th Century were a period of steady growth and increasing prosperity for Fresno during which the city established itself as the primary city of the San Joaquin Valley.

Growth and Prosperity

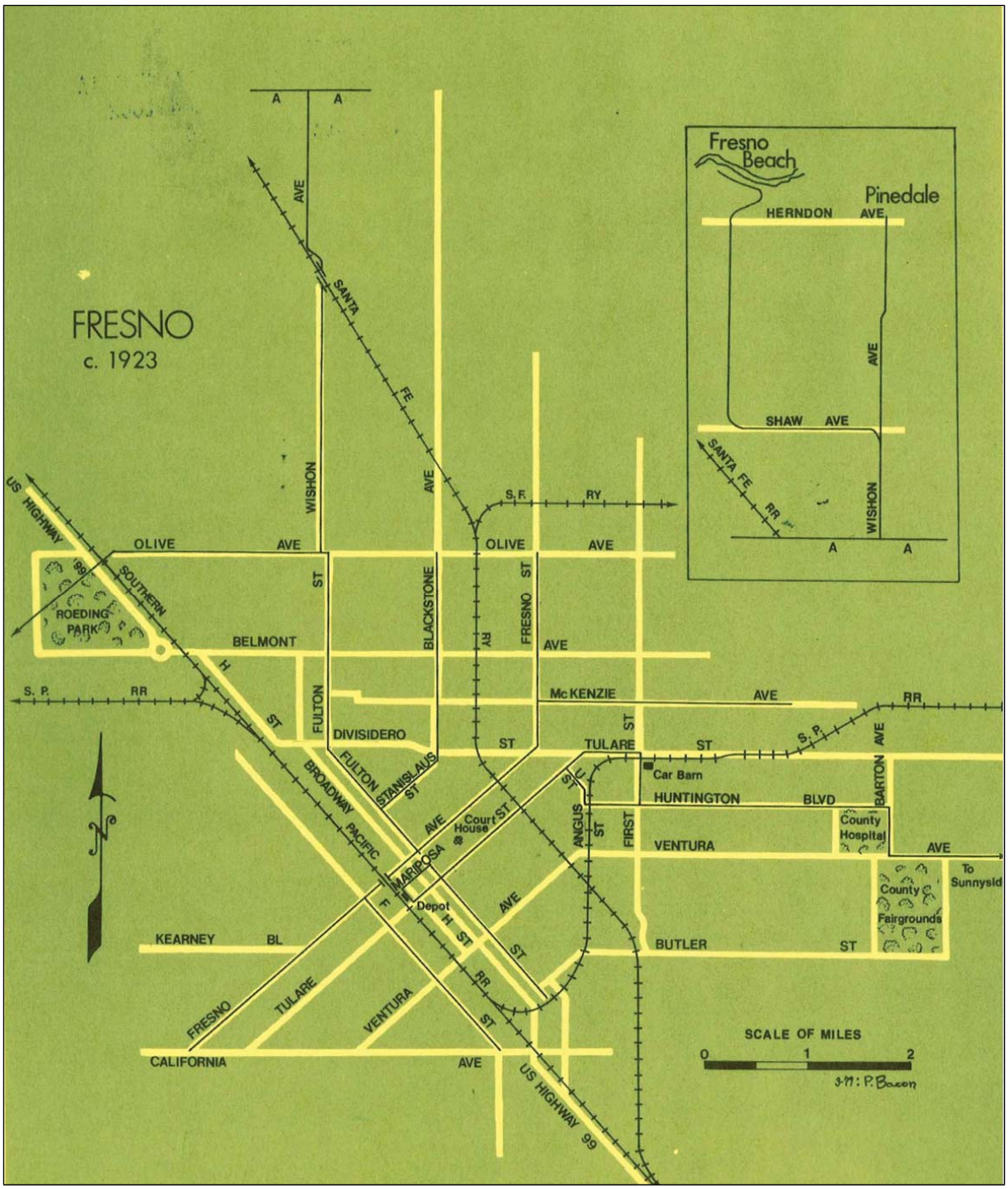
The City's first electric streetcar was in use in 1902. By 1909 the first double-track streetcar line was installed along J Street. By the early 1920s, streetcar lines would radiate out from the central business district to the north, east, south, and west where farmland was being subdivided for suburban development. The expanding transit infrastructure, along with exponentially increasing private automobile ownership, made living further from the city center possible. Land within the central city increasingly became used for commercial and civic purposes.

Concurrently, Fresno's central business district experienced a building boom during the early part of the 20th century. The 1906 Sanborn Maps show the central commercial corridor expanded along I and J streets both north and south of Mariposa between Tulare and Fresno streets. By 1919, the concentration of buildings on both streets reaches north to Tuolumne and south to Inyo with stores, restaurants, offices, banks, hotels, and theaters all represented.[25] That same year, I Street was renamed Broadway and K Street was renamed Van Ness Avenue. In commemoration of Fresno business man Fulton G. Berry, J Street was renamed Fulton Street in 1923.[26] The newly named Fulton Street had been Fresno's established "Main Street" for years, the preferred location for the Valley's major consumer retailers.

[24] Page & Turnbull, Inc. (8)

[25] Fresno Sanborn Fire Insurance Map 1919.

[26] Urbana Preservation and Planning. *City of Fresno Arts-Culture District Historic Property Survey*, July 2006. (17)



Fresno Transit Map 1923
Taken from Trolleys of the San Joaquin-When Fresno Rode the Rails by Edward Hamm Jr. 1979

City of Fresno DNCP and FCSP
Historical Resources Technical Report
September, 2013

HISTORIC RESOURCES GROUP

Downtown's skyline was transformed in 1913 when the ten-story Griffith-MacKenzie building was constructed on J and Mariposa streets, beginning a series of high-rise and significant building construction that would last until 1929.

Major commercial buildings constructed in the central business district during this period include the Hotel Fresno (1912); Gottschalk's Department Store(1914); the Bank of Italy Building (1918); the Hotel Virginia (1920); the Mattei Building (1921); the T.W. Patterson building (1922); the San Joaquin Light & Power Company building and Hotel Californian (both 1923); the Radin-Kamp Department Store (1924); the Wilson Theater (1926); and the Pantages Theater (1928).

Fruit Packing and Industrial Growth

Led by the fruit packing industry, the City's industrial areas continued to expand in the 20th century. Large parcels south of the Central Pacific tracks were developed with packing houses, storage warehouses, and drying sheds. Many of the industrial businesses identified on the early Sanborn Maps indicate branch operations of statewide, national and international companies.

An important organization whose name appears on early 20th Century Sanborn maps is the California Associated Raisin Company (CARC) whose success

Downtown Fresno c. 1920

would bring the San Joaquin Valley and Fresno international recognition. CARC was a cooperative organization formed in 1912 by a group of San Joaquin Valley raisin growers to gain greater market share and combat fluctuating prices and demand. Growers sold their raisins to CARC for a guaranteed price and then shared in any net profit, less a fee to run the organization and pay a dividend to shareholders. CARC would be responsible for packaging the raisins and promoting their use throughout the country.[27]

[27] Sun-Maid Corporate website. Accessed April 24, 2011. http://www.sun-maid.com/en/about/our_history.html

1916 Sun Maid logo
Image courtesy of Sun Maid Corporation.

In 1915, CARC began marketing their raisins under the "Sun-Maid" brand name. A painted image of a young girl wearing a red sun bonnet and holding a tray of freshly picked grapes became the company's trademark, reproduced on raisin boxes and all manner of promotional materials. The model for the image was a local Fresno girl named Lorraine Collett Peterson who worked part time for a packing company. Along with a group of other "Sun Maids" employed by the firm, Miss Peterson made personal appearances to promote the raisins, while magazine and newspaper ads emphasized the benefits of raisins dried naturally by the sun versus mechanical or chemical drying. Recipe booklets and other materials helped increase Americans' consumption of raisins significantly. CARC also employed a national team of agents to sell raisins directly to grocers, reducing the need for an outside distribution network. This sophisticated integration of advertising, public relations and sales efforts was enormously successful.[28]

In 1918, CARC opened a huge processing and packing plant at the corner of Hamilton and Pearl streets just south of the Fulton Corridor. CARC's name was officially changed to Sun-Maid Raisin Growers of California in 1922, reflecting the success of its national branding efforts. Sun Maid would continue operating the Fresno plant until 1964.[29]

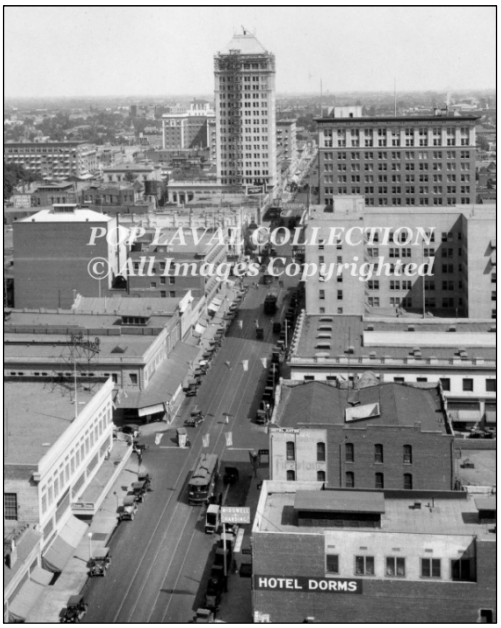
Fresno Sun Maid Packing Plant

[28] Ibid.
[29] Ibid.

In addition to fruit packing, other industrial activities during this period included grain storage, general merchandise warehousing, lumber yards, beer and soda bottling, soap manufacturing, and a machine foundry. The Danish Creamery Association began operating a dairy products processing facility at the corner of E Street and Inyo sometime before 1918.[30] Dairy products are still processed today at the site by California Dairies, Inc. including butter under the Danish Creamery brand name.[31]

The area north of the railroad tracks and northwest of the central business district also began to change dramatically during the second decade of the 20th Century where commercial and light industrial uses, including a large number of automobile service businesses, began to replace the residential properties originally constructed there.

By end of the 1920s, Fresno had transformed into a thriving city at the center of the United States' most productive agricultural region. The downtown was fully established as the San Joaquin Valley's primary marketplace offering office, retail, lodging, dining, and entertainment facilities. Adjacent industrial activity enabled agricultural goods to be processed and shipped to distant consumers. The central city's residential areas had largely been developed. Residential properties were increasingly redeveloped for commercial uses as the City's wide-ranging streetcar system and increased private automobile ownership allowed more of Fresno's citizens to live outside of the city center. Fresno, along with the nation, appeared increasingly prosperous.



Fulton Street 1924
Image courtesy of Pop Laval Collection.

[30] Fresno Sanborn Fire Insurance Map 1918.
[31] http://www.californiadairies.com/products

Then on November 24, 1929, the New York Stock Exchange crashed and millions of dollars in stock value vanished. The stock market crash exposed structural weaknesses in the banking and finance systems, key industries, and the economy as a whole, ushering in the Great Depression.

The Great Depression and World War II (1930-1945)

The Great Depression had a profound effect on the San Joaquin Valley. Farmers were forced to cut costs in the face of reduced demand for their products; many were forced into foreclosure. Along with the rest of the country, unemployment skyrocketed. The Valley's problems were exacerbated by the influx of migrant refugees or "Dust Bowl" migrants. It is believed that 2.5 million people migrated from the Midwestern Plains states between 1930 and 1940, with over 300,000 relocating to California between1930 and 1934.[32]

Thousands more would continue to arrive throughout the 1930s and many ended up in the Central Valley as migrant farm workers earning very low wages.

Fresno's downtown development boom came to an end. While the economy did reach a tenuous equilibrium by the mid-1930s and Downtown Fresno's streets continued to bustle with commercial activity, no new major downtown construction project was initiated by private enterprise until after World War II. Instead, major projects were the result of government spending.

[32] Starr, Kevin, Endangered Dreams, The Great Depression in California, Oxford University Press 1996. (224)

"New Deal" Civic Improvements

The domestic policies of the administration of U.S. President Franklin Delano Roosevelt in the 1930s – popularly called the "New Deal" -- marshaled direct government investment to alleviate the problems of poverty, unemployment and the disintegration of the American economy associated with the Great Depression.[33] The Public Works Administration (PWA), which began in 1933 and the Works Progress (later Work Projects) Administration (WPA), which began in 1935, funneled significant financial resources to communities across the United States for the construction of roads, bridges, parks, and civic and institutional buildings.[34]

In 1933 the City of Fresno implemented a street improvement program along Broadway between Divisadero and Tulare streets. The width of Broadway was increased by

Fresno Memorial Auditorium

ten feet and buildings affected by the street widening were given façade remodels in a Spanish Revival style. Two extant properties Downtown that reflect the 1933 Spanish architectural controls are the warehouse at 1416 Broadway and the Parker Nash building at 1462 Broadway.[35]

A group of local architects including W. D. Coates, Charles H. Franklin, H. Rafael Lake, Ernest J. Kump, Sr., Fred Swartz, and Edward W. Peterson formed a partnership in order to compete with larger firms for commissions funded by New Deal programs. This group – Allied Architects of Fresno -- would go on to design the majority of New Deal

[33] "New Deal", Encyclopaedia Britannica online, accessed April 7, 2011. http://www.britannica.com/EBchecked/topic/411331/New-Deal

[34] Ibid. "Works Progress Administration", http://www.britannica.com/EBchecked/topic/648178/Works-Progress-Administration-WPA?anchor=ref17478

[35] Urbana Preservation and Planning., *Arts-Culture* 2006. (17)

funded buildings constructed in Fresno.[36]

The New Deal would transform the City's Civic Center with the construction of five new civic buildings constructed between 1936 and 1941 near the County Courthouse. These projects include the Fresno Memorial Auditorium, the U.S. Post Office, the Fresno County Hall of Records, the Fresno Unified School District Administration Building, and the Fresno City Hall. In addition to monumental civic projects the New Deal benefited Fresno through park improvements, street improvements, and fire stations.

Fresno Hall of Records

World War II

On December 7th, 1941 the Japanese attacked Pearl Harbor and the United States officially entered World War II. The United States entrance into the War effectively ended the Depression in California as all aspects of the national economy mobilized to serve the war effort. California received almost 12% of the government war contracts and produced 17% of all war supplies.[37] California also acquired more military installations than any other state by a wide margin, and military bases were opened throughout the state. Aircraft, shipbuilding, and numerous other industries were booming due to the war effort, and unemployment was virtually eliminated.

Approximately 60,000 servicemen were stationed in and around Fresno during the War. Military activity was concentrated at two locations. One, the Hammer Field bomber base, was constructed in 1941 just beyond what was then the eastern boundary of the City. Today it is the site of Fresno Yosemite International Airport. The

[36] Planning Resource Associates, Inc. *Mid-Century Modernism Historic Context,* September 2008. (22)

[37] California Military History Online, website (http://www.militarymuseum.org/HistoryWWII.html). Accessed June 2011.

second, Camp Pinedale, was located six miles north of Downtown Fresno in the (then) unincorporated community of Pinedale on the site of the defunct Sugar Pine Lumber Company.[38] The Army had acquired the site in March of 1942 for use as an Army Signal Training School.[39]

Fresno County was also the site of two of the temporary detention camps (also known as 'assembly centers') that facilitated the first phase of the mass incarceration of Californians of Japanese ancestry. One detention camp operated at Camp Pinedale between May and July of 1942. The second was at the Big Fresno Fairgrounds located east of Downtown at the intersection of Kings Canyon Road and Maple Avenue.[40]

Renewal and Revitalization (1946-1979)

In the years following World War II California experienced a period of unprecedented population growth and economic expansion. California's population increased by sixty-seven percent between 1950 and 1960. By 1970, California would have almost 20 million residents.[41]

The population explosion coupled with ever increasing automobile ownership spurred the development of the automobile-oriented suburb. As the California's cities expanded outward to accommodate new residential subdivisions, business and industry followed. The traditional role of Downtowns as the primary location for economic and cultural activity was eroded.[42]

[38] Planning Resource Associates, Inc. *Mid-Century Modern* (27)
[39] Planning Resource Associates, Inc. *Pinedale Historic Resource Survey,* October 2007. (8)

[40] Planning Resource Associates, Inc. *Mid-Century Modern* (28)

[41] Starr, Kevin, Golden Dreams, California in an Age of Abundance 1950-1960, Oxford University Press 2009.(x-xi)
[42] Fogelson, Robert F. Downtown: Its Rise and Fall, 1880-1950, Yale University Press, 2003.

Fulton Street circa 1955

Downtown Decline

The post-war era marked the decline of downtowns throughout the United States due to suburban development, the demise of urban mass transportation and disinvestment in City centers.[43] The City of Fresno was no exception although these changes were not immediate. In 1948, Gottschalk's flagship store on Fulton Street was expanded and its façade was renovated in a late-Moderne style. This investment appeared to signal the retailer's belief in the continued viability of Downtown Fresno as an important retail center. Other smaller retailers also revamped their street-facing fa
construction of Hig

Downtown promised greater accessibility from outlying areas.

By the mid-1950s, however, the results of rapid suburbanization were becoming evident in Downtown Fresno as major retailers such as Sears & Roebuck relocated to newly developed suburban shopping centers such as Manchester Center (1955) and Fig Garden Village (1956).[44] The downtown core was continually being bypassed as a place to locate new businesses. With Downtown unable to compete with burgeoning suburban development, construction of new buildings in Downtown Fresno came to a virtual halt.

The Gruen Plan and Urban Renewal

Official planning for the renewal and revitalization of Downtown Fresno began under the leadership of Mayor Arthur Selland (1958-1963). In 1958, the Fresno Redevelopment Agency and the Downtown Association[45] hired

[43] Ibid.

[44] PBID Partners of Downtown Fresno website, *The Fulton Mall: A Brief History* , accessed March 9, 2011 http://www.downtownfresno.org/fulton-mall.html

[45] The Downtown Association of Fresno is a private, nonprofit membership organization founded in 1955 to support the revitalization of Fresno's Central Business District.

Victor Gruen Associates to create a plan for the redevelopment of the downtown area. The revitalization of Fulton Street, development of a government and public service civic center, and the construction of a regional conference center were all considered essential for restoring Downtown Fresno as an important urban center.[46]

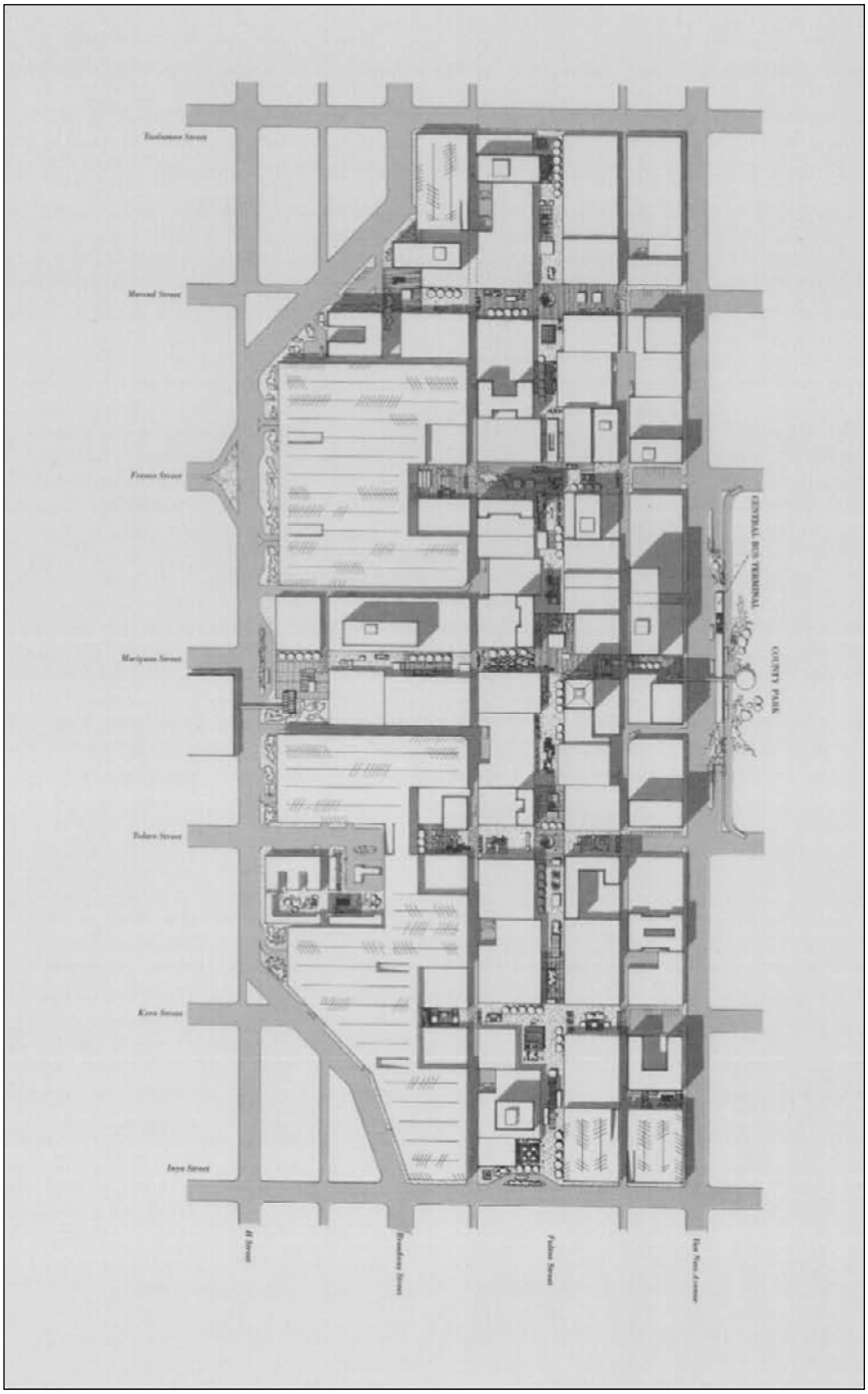
Victor Gruen was considered one of the most innovative and influential figures in the design of commercial and retail architecture. His 1954 design of the Northland Center shopping mall in suburban Detroit, is considered America's first outdoor suburban shopping mall, and brought Gruen national attention. In 1956 he designed the nation's first indoor shopping mall -- Southdale Center-- in Edina, Minnesota, southwest of Minneapolis.[47]

Gruen believed that the lessons learned with his shopping mall designs would have a transformative effect when applied to urban settings. In 1955, Gruen Associates designed a conceptual plan for the revitalization of downtown Fort Worth. The Fort Worth plan surrounded the downtown's central business district with a ring road that fed automobile traffic from freeways and major boulevards into large parking structures. Inside the traffic ring was a landscaped pedestrian zone defined by the former street grid, forming a massive "superblock" unmolested by automobile traffic.[48]

Although the Fort Worth plan was never built, it generated a considerable amount of attention, particularly among the architects, planners and engineers engaged in combating urban decay in the United States. Gruen and Associates soon developed a similar plan for Kalamazoo, Michigan where the nation's first downtown pedestrian mall was constructed in 1959.

[46] PBID Partners of Downtown Fresno website
[47] Loomis, Allen A. *Locating Victor Gruen*, 2000. Accessed on Delirious LA website April 22, 2011. http://www.deliriousla.net/essays/2000-gruen.htm

[48] Ibid.



Original Comprehensive Plan for Core Superblock
Victor Gruen Associates, 1960

Similar to his plans for Fort Worth and Kalamazoo, Gruen's plan for Fresno – titled "Comprehensive Central Area Plan" -- envisioned new downtown freeways, high-rise office and residential developments and a new downtown traffic pattern looping around a traffic-free commercial core. A six-block pedestrian mall along Fulton Street would be the centerpiece of the commercial core.[49]

Commercial Revitalization and the Fulton Mall

The focused attention on Downtown immediately spurred new commercial development in fulfillment of the plan's vision. In 1961, Guarantee Savings and Loan moved in to the 1921 Mattei Building after remodeling the first three floors. The iconic revolving "G" at the top of the building signaled resurgence in Downtown business activity.[50] That same year, Berkeley's, a women's clothing retailer,[51] and Walter Smith a men's and boy's clothing retailer, opened new stores on opposite corners of Fulton and Kern streets.[52]

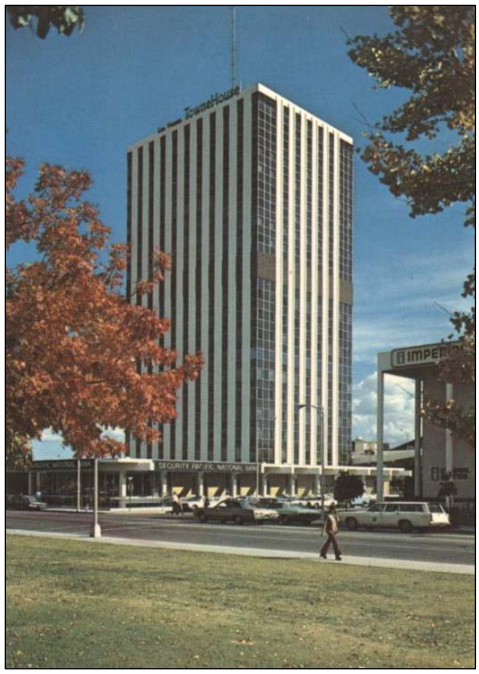
Present-Day View of the Former Fink & Skopp Store

In 1962, the Fink & Skopp furniture store moved into a new building at 933 Van Ness Avenue. Constructed on the site of the 1920s era Sequoia Hotel, the new building, designed by local architect Robert W. Stevens, featured a dramatic arched façade.

Even more impressive was the development of the Del Webb Center at M Street and Tulare which opened to

[49] Ibid.
[50] "Savings Firm Will Open New Quarters", *Fresno Bee*, July 2, 1961
[51] "Berkley's Will Open In New Quarters", *Fresno Bee*, April 9, 1961
[52] "Walter Smith Moves To Fulton-Kern Area", *Fresno Bee*, November 5, 1961

the public in 1964.[53] The Center was developed by Delbert Eugene "Del" Webb, (1899-1974), a Fresno native who had made a fortune in real estate development. A larger-than-life personality, Del Webb was friend and confidant to many prominent politicians and entertainers.[54] Perhaps best known for founding and developing the model retirement community of Sun City, Arizona in 1960, the Del Webb Company developed numerous residential subdivisions, shopping centers, hotels and retirement communities throughout the nation.[55]



Del Webb Center circa 1965

The full city block Del Webb Center included a high-rise office and hotel tower, street level shops and a parking garage. Designed in a Corporate Modern style, the Del Webb tower was the first high-rise building to be constructed in Downtown Fresno since the 1920s.

The centerpiece of the Gruen Plan was the development of a six-block outdoor pedestrian mall along Fulton Street, intended to revitalize the City's historic "Main Street" as a retail destination and spur further development of Downtown's commercial core.[56]

Fulton Mall was created by excluding vehicular traffic from six blocks of Fulton Street between Inyo and Tuolumne streets. Mariposa, Kern, and

[53] Grimes, Ward W., "Del Webb Center Will Be Dedicated Tomorrow", *Fresno Bee*, March 6, 1964
[54] Sisson, H.L., "Webb Opening Points To Big Fresno Future", *Fresno Bee*, March 7, 1964
[55] Del Webb was also a part owner of the New York Yankees baseball team from 1945 to 1964.
[56] Victor Gruen Associates, *Central Area Fresno, California, vol. 1, Research and Basic Planning*, March 16, 1959

Merced streets were also vacated one block in each direction from the point of where they transect Fulton Street.

Fulton Mall circa 1965

The Mall was designed by the celebrated landscape architect Garrett Eckbo, a pioneer in modernist landscape design. Eckbo's design was inspired by the natural environment and agricultural roots of the San Joaquin Valley. The Mall right-of ways were paved in stained concrete inlaid with sweeping curvilinear ribbons of concrete aggregate. The Mall features planted areas with shade trees and shrubs, numerous fountains and water features, shade pavilions, and seating areas. The mall also contains a diverse and celebrated collection of sculpture and tile work by local, national, and international artists.[57]

The Fulton Mall was opened to the public on September, 1 1964. Thousands attended the opening ceremonies, officiated by local dignitaries and California Governor Edmund G. Brown. It was initially viewed as a great success, celebrated as a bold innovation in urban renewal and revitalization.[58] Drawing world-wide attention, the mall received several national design awards, including honors for "Excellence in Community Architecture" from the American Institute of Architects in 1965, and the "National Design Excellence" award from the US Department of Housing and Urban Development in1968. Representatives from cities around the country traveled to Fresno to tour the mall and apply similar ideas to their communities, and downtown pedestrian malls became an urban design trend throughout the 1960s and 70s.

[57] McKnight, H. Ray and Harold Tokmakian, *At Risk: Fulton Mall, Fresno CA,* August 6, 2008, Cultural Landscape Foundation website, Accessed May 18, 2011. http://tclf.org/content/fulton-mall-fresno-ca

[58] "Fresno: A City Reborn" . Short film produced by Victor Gruen & Associates, 1968.

Locally, merchants on the Fulton Mall reaped the benefits of increased foot traffic and improved sales.[59] The Mall would remain popular with shoppers through the end of the 1960s.

Contemporary View of the Spiral Garage

Critical to Gruen's plan was the strategic placement of structured parking facilities to accommodate downtown shoppers. While a handful of parking structures were built, the cost of structured parking proved to be prohibitively expensive. As an interim solution, the majority of buildings on the Broadway Avenue business district were leveled to make room for surface lots.

The Gruen plan identified the parcels fronting Van Ness Avenue between Fresno and Tulare as an important development site. Conceptual drawings showed mid- and high-rise buildings set back on a two-story podium. The entire block was envisioned as a unified complex.[60] Actual construction on this block was initiated in conjunction with the construction of an underground parking garage at the site. Completed in phases between 1968 and 1979, the project as built included a bank building, Hilton Hotel and commercial offices.

The Fresno Convention Center

The development of a modern convention and cultural arts facility was considered a key component of Downtown's revitalization. As early as 1961 plans for the development of a convention and cultural center were underway. An $8 million bond proposal failed to receive approval by the necessary two-thirds of voters in April 1963 elections.

[59] Planning Resources Associates Inc. 2008 (37)

[60] Victor Gruen Associates, *Central Area*

Undaunted, Fresno's City Council and Fresno County formed the City and County Convention Center Authority under the state Joint Exercise of Powers Act.[61] This act gave the new authority the ability to issue $8.5 million in revenue bonds to finance the project.

Located between Inyo, Ventura, M and O streets, construction of the Fresno Convention Center began in 1965 and was completed in 1966 for a total cost of $10 million. Designed by Robert Stevens and Associates in a late-Modern style, the complex contains a 2356 seat theater, a 32,000 square foot exhibit hall, and a 7000 seat arena connected by an interior landscaped courtyard. The asymmetrical buildings are accented with steeply pitched roofs of oxidized Alloy steel.[62]

Civic Revitalization

Fresno's Downtown revitalization efforts extended beyond the central business district and the Fulton Mall to include public sector buildings and the creation of a bona fide civic center. Government buildings had been clustered near the County Courthouse since the 1930s,

Artist Rendering of the Fresno Convention Center

but they were generally constructed as stand-alone buildings without much relationship with each other.

After World War II, the City of Fresno passed a bond issue to reserve the entire block occupied by the historic Fresno Water Tower – two blocks north of Courthouse Square -- for a future public plaza. $375,000 was acquired to clear the property and construct the plaza.[63] But by the early 1960s, the now cleared block was being used for parking. In 1950, a new building for the Fresno County Office of Education was constructed at the corner of M and Mariposa streets just east of Courthouse Plaza. A new Fresno County Library was constructed in 1959 just across

[61] Planning Resources Associates Inc. 2008 (51)
[62] Ibid.

[63] Planning Resources Associates Inc. 2008

Mariposa from the Water Tower block. In 1960, a new Police Headquarters was constructed in one block south on Mariposa, sharing the block with the 1941 City Hall building.

A Master Development Plan for Fresno's Civic Center adopted in1966[64] envisioned a centralized civic and governmental district with adjacent cultural and convention facilities. To integrate the existing buildings, recently built buildings, and proposed future construction, the plan proposed several street closures to favor pedestrian circulation, landscaped public areas and underground parking facilities.

Older buildings would be unified with newer, modern buildings to create a contemporary civic campus with Mariposa Street as its central axis. The plan also included language preventing commercial development on the Water Tower Block.

Containing the County Courthouse, Hall of Records, and the County Jail, Court House Square anchored the civic center's western end. In the early 1960s, the City announced that plans to demolish the 1874 County Courthouse and construct a modern, eight story office and courthouse building in its place. The announcement galvanized community opposition and an effort was made to save the old courthouse which was finally torn down in 1966.[65] The new Fresno County Courthouse, designed by Walter Wagner and Associates, opened in 1966. The eight-story steel and glass slab on pilotis with ornamental metal grillwork was a stark contrast to its 19th predecessor, an imposing symbol of Downtown's modernist reawakening.

Artist Rendering of the New County Courthouse

[64] Ibid. The Civic Center study was the work of James Oakes, AIA, Gay McCline, AIA, landscape architect Burr Garman, ASLA, and planning consultant, Robert E. Dyer.

[65] Clough and Secrest (29)

Industrial Consolidation and Relocation

Fruit drying and packing uses would continue to dominate Fresno's industrial corridors after World War II. Other uses included lumber yards, farming implement and supply warehouses, and grain storage. Paper products and home furnishings were also warehoused along the railroad.

In 1964, the Sun Maid Company vacated their giant Fresno packing plant and moved to a new facility in neighboring Kingsburg. [66] Consolidation and technological innovations within the packing industry conspired to relocate the majority of packing activities away from Downtown as continued suburban expansion made Downtown locations less convenient.

While fruit packing facilities continued to operate along H and G streets through the 1960s, the 1963 and 1970 Sanborn Maps show that large blocks previously built with warehouses and processing plants in earlier decades had been cleared of any development.

Vacant Sun Maid Packing Plant circa 1985
Image courtesy of Lance & Cromwell.

By the end of the 20th Century, most of central Fresno's large-scale industrial buildings constructed prior to World War II were no longer extant. Many were demolished to make room for freeway expansion and other redevelopment projects. Other buildings – deemed seismically unstable due to their unreinforced masonry construction – were demolished for safety concerns. Smaller industrial buildings located in the blocks east of the railroad were more likely to be reused, often for automotive service uses. The adaptive reuse of early industrial buildings often radically altered their original form.

[66] Sun Maid website. http://www.sun-maid.com/en/about/our_history

Central Business District Decline

Although retailers along the Fulton Mall enjoyed increased revenues in the first few years after the Mall opened, projections for future growth proved to be overly optimistic. Initial plans for the construction of a new department store at Mariposa failed to happen. Meanwhile, a development deal put together by the City's Redevelopment Agency in 1969 proposed ambitious plans for a high-rise, mixed-use development at the Mall's northern end. After purchasing and clearing a two block site, the deal fell through. With the exception of a new Longs Drugs store much of the site would remain vacant through the 1980s. [67]

In 1970 a new 58-acre regional indoor shopping mall – Fashion Fair -- opened in north Fresno. Located close to Fresno's rapidly growing northern suburbs, the arrival of Fashion Fair resulted in an immediate decline in downtown retail business. Led by Montgomery Ward in 1970, the Mall's major retailers began relocating to more profitable locations in the suburbs and the Mall became increasingly unpopular with middle-class shoppers.

In 1973, Del Webb's Townehouse Hotel, the anchor of the high-rise Del Webb Center, closed just six years after its grand opening. That same year a headline in the Fresno Bee asked "Is the Gruen Plan Dead?" Evidently it was. By 1974, the City had adopted a new General Plan that embraced a decentralized, suburban model for growth.[68]

Late 20th and Early 21st Century Civic and Institutional Development (1980-Present)

By the early 1980's most of the original Mall specialty retailers had relocated. JC Penney's closed in 1986. Two years later Gottschalks, after operating their flagship store in the same location since 1914, finally called it quits as well.

As private sector business continued to locate elsewhere, Downtown Fresno became the preferred location for public sector institutions. Whole city blocks were cleared as Federal, State, County and City agencies expanded their downtown facilities beyond the

[67] Downtown Association of Fresno website.

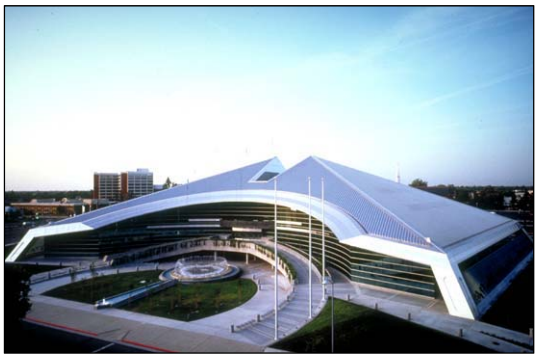
[68] Ibid.

civic center clustered around Mariposa Street.

The County constructed new jail facilities in 1989 and 1993, occupying a full city block at the corner of Fresno and M streets. Connected via underground tunnels to the 1947 jail facility adjacent to the County Courthouse, the jail expansion provided capacity for over 2000 inmates.[69]

Other major public sector projects include the new Fresno City Hall which was dedicated in 1991. The five-story, 210,000 square foot building was designed by Canadian architect Arthur Erikson.[70] It features a pyramidal metal-clad roof and dramatic circular entry. Located on two full blocks between Tulare, Fresno, P and Q streets, City Hall provides a northeastern terminus on the Mariposa Mall axis.

The Robert E. Coyle Federal Courthouse at 2500 Tulare Street was constructed in 2005. The nine-story building was designed by Moore Ruble



Fresno City Hall
Image courtesy of Allen Lew & William Patnaud Architects, Inc.

Yudell Architects with Gruen Associates.[71]

The turn of the 21st century also brought a significant expansion of Downtown medical facilities with the expansion of Fresno Community Hospital. The hospital began at its current location when the then Burnett Sanitarium constructed a new facility at the corner of Fresno and S streets in 1905. Named Fresno Community Hospital in 1945, the hospital would see steady growth through mergers with other institutions. In 1995, the City approved the development of a regional

[69] Fresno County Jail factsheet.
[70] Archhop website, accessed May 13, 2011. http://archop.org/2009/05/arthur-erickson/

[71] Emporis.com , accessed June 23, 2011 http://www.emporis.com/building/fresnounitedstatescourthouse-fresno-ca-usa

medical center at the downtown hospital site. Re-named the Community Regional Medical Center in 2003, the 58-acre campus is a state-of-the-art medical facility that includes a 626-bed hospital and University of California research and training center.[72]

While the government agencies and the medical center bring thousands of workers, this has so far not led to a larger reinvigoration of Downtown Fresno. Many of the new buildings have been designed as stand-alone facilities with self-contained amenities and expanses of parking which have done little to activate neighboring streets.

Plans for a Downtown baseball stadium -- part of the 1992 Ratkovitch Plan for Downtown revitalization – gained traction toward the end of the 1990s. Occupying almost four city blocks, Grizzlies Stadium (now Chukchansi Park) opened to great fanfare in April of 2002.[73] Located just south of the Fulton Mall between Inyo, H, and Tulare streets, the stadium proved to be a popular entertainment and recreation destination. That popularity, however, has so far not been a successful catalyst for larger revitalization.

Recent efforts to bring new residents to Downtown Fresno have been more successful with the development of live-work lofts in the Arts and Culture District. Revitalization efforts continue as the City contemplates a new Specific Plan for the area.

[72] Community Medical Centers Healthcare website http://www.communitymedical.org/about-us/our-vital-numbers

[73] PBID Partners of Downtown Fresno website

Historical Resources under CEQA

CEQA requires that environmental protection be given significant consideration in the decision making process. Historical resources are included under environmental protection. Thus, any project or action which constitutes a substantial adverse change on a historical resource also has a significant effect on the environment.

When the California Register of Historical Resources (California Register) was established in 1992, the Legislature amended CEQA to clarify which cultural resources are significant, as well as which project impacts are considered to be significantly adverse. A "substantial adverse change" means "demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired."[74]

CEQA defines a historical resource as a resource listed in, or determined eligible for listing, in the California Register. All properties on the California Register are to be considered under CEQA.

However, because a property does not appear on the California Register does not mean it is not significant and therefore exempt from CEQA consideration. All resources determined eligible for the California Register are also to be considered under CEQA.

The courts have interpreted CEQA to create three categories of historical resources: [75]

- *Mandatory historical resources* are resources "listed in, or determined to be eligible by the State Historical Resources Commission, for listing in, the California Register of Historical Resources."
- *Presumptive historical resources* are resources "included in a local register of historical resources, as defined in subdivision (k) of Section 5020.1 of the Public Resources Code, or identified as significant in an historical resource survey meeting the requirements of section 5024.1(g)" of the Public Resources Code, unless the preponderance of the evidence demonstrates that the

[74] *California Public Resources Code,* Section 21084.1 and *CEQA Guidelines*, Section 15064.5(b)

[75] *Valley Advocates vs. City of Fresno* 160 Cal. App.4th 1039, 1057 (2008)

resource is not historically or culturally significant.

- *Discretionary historical resources* include those resources that are not listed but determined to be eligible under the criteria for the California Register of Historical Resources.[76]

The fact that a resource is not listed in, or determined eligible for listing in, the California Register, not included in a local register of historic resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, does not preclude a lead agency from determining that the resource may be an "historic resource" for purposes of CEQA..

Historic Designations

A property may be designated as historic by National, State, and local authorities. In order for a building to qualify for listing in the National Register or the California Register, it must meet one or more identified criteria of significance. The property must also retain sufficient architectural integrity to continue to evoke the sense of place and time with which it is historically associated.

National Register of Historic Places

The National Register is "an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment."[77] The National Park Service administers the National Register program.

Listing in the National Register assists in preservation of historic properties in several ways:

- recognition that a property is of significance to the nation, the state, or the community;
- consideration in the planning for federal or federally assisted projects;
- eligibility for federal tax benefits; and

[76] *League for the Protection of Oakland's Architectural and Historic Resources vs. City of Oakland*, 52 Cal. App. 4th 896, 906-7 (1997)

[77] 36 Code of Federal Regulations, Part 60.2.

- qualification for Federal assistance for historic preservation, when funds are available.

Designation Criteria

The criteria for listing in the National Register follow established guidelines for determining the significance of properties. The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects:

a) That are associated with events that have made a significant contribution to the broad patterns of our history; or

b) That are associated with the lives of persons significant in our past; or

c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d) That have yielded, or may be likely to yield, information important in prehistory or history. [78]

Integrity

Historic integrity is the ability of a property to convey its significance and is defined as the "authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic period."[79] The National Park Service defines seven aspects of integrity: *location*, *design*, *setting*, *materials*, *workmanship*, *feeling*, and *association*. These qualities are defined as follows:

- *Design* is the combination of elements that create the form, plan, space, structure, and style of a property.
- *Location* is the place where the historic property was constructed or the place where the historic event occurred.
- *Setting* is the physical environment of a historic property.

[78] 36 Code of Federal Regulations, Part 60.4.
[79] Ibid, (3).

- *Materials* are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- *Workmanship* is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- *Feeling* is a property's expression of the aesthetic or historic sense of a particular period of time.
- *Association* is the direct link between an important historic event or person and a historic property.[80]

Age Threshold

The fifty-year age threshold has become standard in historic preservation as a way to delineate potential historic resources. The National Park Service, which provides guidance for the practice of historic preservation, has established that a resource fifty years of age or older may be considered for listing on the National Register.[81]

Period of Significance

The National Park Service defines the period of significance as "the length of time when a property was associated with important events, activities or persons, or attained the characteristics which qualify it for… listing" in National, State or local registers. A period of significance can be "as brief as a single year… [or] span many years." It is based on "specific events directly related to the significance of the property," for example the date of construction, years of ownership, or length of operation as a particular entity.[82]

Historic Districts

Standard preservation practice evaluates collections of buildings from similar time periods and historic contexts as

[80] *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation.* Washington D.C.: National Park Service, U.S. Department of Interior, 1995.

[81] Ibid. The Park Service does make exceptions for properties that have achieved significance within the past 50 years that are of "exceptional importance".

[82] *National Register Bulletin 16A.* How to Complete the National Register Registration Form. Washington D.C.: National Park Service, U. S. Department of the Interior, 1997. (42)

historic *districts*. The National Park Service defines a historic district as "a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development."[83] A historic district derives its significance as a single unified entity.

Resources that have been found to contribute to the historic identity of a district are referred to as *district contributors*. Properties located within the district boundaries that do not contribute to its significance are identified as *non-contributors*.

California Register of Historical Resources

The California Register is an authoritative guide used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change.[84]

Designation Criteria

The criteria for eligibility for listing in the California Register are based upon National Register criteria. These criteria are:

1) Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.

2) Associated with the lives of persons important to local, California or national history.

3) Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.

4) Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

[83] *National Register Bulletin 15*. How to Apply the National Register Criteria for Evaluation. Washington D.C.: National Park Service, U. S. Department of the Interior, 1997. (5)

[84] *California Public Resources Code*, Section 5024.1(a).

The California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register includes the following:

- California properties formally determined eligible for, or listed in, the National Register.
- State Historical Landmarks No. 770 and all consecutively numbered state historical landmarks following No. 770. For State Historical Landmarks preceding No. 770, the Office of Historic Preservation (OHP) shall review their eligibility for the California Register in accordance with procedures to be adopted by the State Historical Resources Commission (Commission).
- Points of Historical Interest which have been reviewed by the OHP and recommended for listing by the Commission for inclusion in the California Register in accordance with criteria adopted by the Commission.[85]

Other resources which may be nominated for listing in the California Register include:

- Individual historical resources.
- Historical resources contributing to the significance of an historic district under criteria adopted by the Commission.
- Historical resources identified as significant in historical resources surveys, if the survey meets the criteria listed in subdivision (g).
- Historical resources and historic districts designated or listed as city or county landmarks or historic properties or districts pursuant to any city or county ordinance, if the criteria for designation or listing under the ordinance have been determined by the office to be consistent with California Register criteria.
- Local landmarks or historic properties designated under any municipal or county ordinance.[86]

[85] *California Public Resources Code*, Section 5024.1(d).

[86] *California Public Resources Code*, Section 5024.1(e).

A specific age threshold is not included as a criteria consideration for listing in the California Register. Technical assistance provided by the State Office of Historic Preservation, however does state that "a resource less than fifty years old may be considered for listing in the California Register if it can be demonstrated that sufficient time has passed to understand its historical importance."[87]

City of Fresno Historic Resources Programs

The City of Fresno Historic Preservation Ordinance was adopted in 1979 and significantly revised in 1999. It provides for the designation, preservation, promotion, and improvement of historic resources and districts for the educational, cultural, economic, and general welfare of the public and the City of Fresno.[88]

The Historic Preservation Ordinance establishes a Historic Preservation Commission to oversee the City's historic preservation program, assigns city staff to assist the Commission including a historic preservation specialist, establishes a local register of historic resources, and criteria for historic designation and the listing of properties on a Local Register of Historic Resources.

Historic Resource Designation[89]

The Historic Preservation Ordinance states that the sole authority to declare Historic Resources or Historic Districts and to endorse Local Historic Districts to the National Register shall be vested in the City Council and shall be exercised only after completion of the Historic Preservation Commission's responsibilities under the designation process. The City Council may designate any building, structure, object, or site as a Historic Resource if it is found to meet the following criteria:

[87] California Office of Historic Preservation, *Technical Assistance Series #7: How to Nominate a Resource to the California Register of Historical Resources*, September 4, 2001.

[88] *Fresno Municipal Code* 12-16.

[89] The Historic Preservation Ordinance defines a "Heritage Property" designation which is defined as " a resource which is worthy of preservation because of its historical, architectural or aesthetic merit but which is not proposed for and is not designated as an Historic Resource…" Because Heritage Properties do not fall within the definition of Historic Resource set forth in the Historic Preservation Ordinance, they are not included on the Local Register of Historic Resources and therefore do not fall within the Presumptive definition of Historical Resources set forth in the CEQA Guidelines.

It has been in existence for more than fifty years and possesses integrity of location, design, setting, materials, workmanship, feeling, and association, and:

i. It is associated with events that have made a significant contribution to the broad patterns of our history; or

ii. It is associated with the lives of persons significant in our past; or

iii. It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values; or

iv. It has yielded or may be likely to yield, information important in prehistory or history.[90]

Additionally, a property may be eligible for designation as a Historic Resource if it is less than fifty years old and meets the above-listed criteria, and is found to have exceptional importance within the appropriate historical context at the local, state, or national level.[91]

The Historic Preservation Ordinance establishes a permit review process for properties that have been designated as historic resources by the City. Section 12-1617(f)(g) of the Fresno Municipal Code requires that all applications undergo environmental review. Section 12-16017(h) states that no application or proposal shall be approved or approved with modifications unless the Historic Resources Commission makes the following findings:

a. The proposed work is found to be consistent with the purposes of this article and the Secretary of the Interior's Standards, not detrimental to the special historical, architectural or aesthetic interest or value of the Historic Resource; or

b. The action proposed is necessary to correct an unsafe or dangerous condition on the property; or

c. Denial of the application will result in unreasonable hardship to the owner. In order to approve the application, the Commission must find facts and circumstances, not of the applicant's own making, which establish that there are no feasible measures that can be taken that will enable the property owner to make a reasonable economic beneficial

[90] *Fresno Municipal Code,* Section 12-1607(a)(1)
[91] *Fresno Municipal Code* , Section12-1607(a)(2)

use of the property or derive a reasonable economic return from the property in its current form; or

d. The site is required for a public use which will directly benefit the public health, safety and welfare and will be of more benefit to the public than the Historic Resource.

e. For application of relocation of an Historic Resource, the Commission shall find that one or more of the above conditions exist, that relocation will not destroy the historical, architectural or aesthetic value of the Resource and that the relocation is part of a definitive series of actions which will assure the preservation of the Resource.

Local Historic District

A Local Historic District is defined as "any finite group of resources related to one another in a clearly distinguishable way or any geographically definable area which possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development."[92] In addition, a proposed Local Historic District must meet one or more of the following criteria:

1) It exemplifies or reflects special elements of the city's cultural, social, economic, political, aesthetic, engineering, or architectural heritage; or

2) It is identified with a person or group that contributed significantly to the culture or development of the city; or

3) It embodies the distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship; or

4) Structures within the area exemplify a particular architectural style or way of life to the city; or

5) The area is related to a designated historic resource or district in such a way that its preservation is essential

[92] *Fresno Municipal Code* Section 12-1603(s)

to the integrity of the designated resource or LHD; or

6) The area has the potential for yielding information of archaeological interest.[93]

City of Fresno Review Procedures for Historic Resources

The City of Fresno intends to consider adoption of a "Historic Environmental Review Procedures Ordinance" (the Ordinance) either when it considers adoption of a new Development Code or the Downtown Development Code.[94] The procedures defined in the Ordinance were created "to provide… clear procedures for the review of historically significant and potential historically significant resources" under CEQA when a development project is under review.

The Ordinance defines terms that describe those resources subject to its procedures. These terms are as follows:

Historic Resource *has the same meaning as set forth in Fresno Municipal Code (FMC) Section 12-1603(o).*

Significant District *is a type of Significant Resource that is a finite group of resources related to one another in a clearly distinguishable way or any geographically definable area which possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development.*

Significant Resource *means a resource that is one of the following:*

1) *Listed in the California Register of Historical Resources;*

2) *Listed on the National Register of Historic Places;*

3) *Determined to be eligible for listing in the California Register of Historical Resources by the State Historical Resources Commission;*

4) *A Historic Resource as defined in FMC Section 12-1603(o), or a local historic district as defined in FMC Section 12-1603(s), or a contributor to a local historic district, unless the resource has been found not to be historically or culturally significant by a preponderance*

[93] *Fresno Municipal Code* Section 12-1607(b)
[94] Citation forthcoming upon adoption

of the evidence; pursuant to Section 10(b)(2)(iv);

5) *Identified as significant in an historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the resource has been found not to be historically or culturally significant by a preponderance of the evidence pursuant to Section 10(b)(2)(iv); or,*

6) *A Potential Historically Significant Resource that, after further analysis and review, the City has determined should be treated as a Historically Significant Resource pursuant to Section 9(b)(3).*

Potential Significant District *is a type of Potentially Significant Resource that if found to be a Significant Resource would be a Significant District.*

Potential Significant Resource *means a resource that does*
definition of Signific
meets any or all of the following
requirements:

1) *it was identified as eligible or potentially eligible for listing in a national, state or local register of historical resources or it was identified as a potential contributor to a potential significant district in a survey that the City formerly commissioned or was officially accepted or officially adopted by the Council or the HPC, but the survey does not meet one or more of the requirements of subsection (g) of Section 5024.1 of the Public Resources Code.*

2) *it is at least 45 years old; or*

3) *as determined by the Manager, it meets the criteria for listing to the California Register of Historical Resources under subsection (i) of Section 5020.1 or Section 5024.1 of the Public Resources Code.*

Notwithstanding the above, a resource shall not be a Potential Significant Resource if within five years prior to submittal of the application for the project under review: (i) the city in an adopted CEQA finding, determined that the resource was not historically significant for purposes of CEQA or (ii) the Council or the HPC accepted or

to a national, state or local register.

The Ordinance defines a three-step process for review of historic resources. The three steps are generally described as follows:

1) Determine if a historically significant resource or a potential historically significant

resource exists in the project area.

2) Determine whether it is possible to apply Historic Development Standards[95] (with applicant approval) to the project to avoid potential impacts.

3) If a finding cannot be made that there will not be a potential significant impact to a historically significant resource in Step 2, determine if the project will cause a significant impact to a historically significant resource, including if necessary, determining if an identified potential historically significant resource is a historically significant resource.

In general, the Ordinance would offer the option to incorporate Historic Development Standards so that impacts to historically significant resources will be avoided, and would ensure that development projects that involve historically significant resources and potential historically significant resources are subject to the appropriate review under CEQA.

[95] A project that incorporates Historic Development Standards will avoid causing significant impacts to historically significant resources for the purposes of CEQA analysis.

Overview

There are many properties located within the Plan areas that are known to have some evidence of historic significance. The general historic character, types of historic resources, previous historic surveys, and previous historic resource studies which have identified historically significant resources, are discussed for each sub-area of the DNCP in this section.[96]

DNCP Historic Resources

Jane Addams Neighborhoods

The Jane Addams area is largely characterized by modest single-family residences, open spaces, empty lots and mid-to-late 20th Century commercial located along State Route 99. The area's major asset is Roeding Park, a 159-acre public park containing groves of trees, green lawns, flower gardens, recreational facilities and picnic areas. Roeding Park also houses the Fresno Chaffee Zoo, and the Rotary Playland and Rotary Storyland amusement parks.

Dating from the first decade of the 20th Century, Roeding Park has been identified as eligible for listing as a historic district in the National Register, the California Register, and the City of Fresno Local Register. In 2012, Roeding Park was found eligible for listing in the National Register with concurrence from the SHPO as part of Section 106 review for the California High-Speed Train project.

The potential Roeding Regional Park Historic District is significant for its association with the development of municipal parks in California in the early twentieth century, and as a distinctive example of an early twentieth century municipal park in California. The period of significance for the potential historic district begins in 1903, the year that construction of the park began, and ends in 1953, when focus began to shift from development of the park as a whole towards development of the Roeding Park Zoo and other amusement areas within the park.

Contributing features of the potential Roeding Regional Park Historic District include: four ponds, seven picnic groves, a Pergola, a Street Car Shelter, historic concrete benches, tennis courts, the Zookeeper's House, the Lisenby Bandstand, four monuments, the Fresno Chaffee Zoo Administration Office, Lake Washington, two folk dance platforms, and the overall spatial organization and site plan of the park,

[96] The DNCP plan area includes the FCSP plan area.

historic roads and paths, lawns, and associated landscape features.[97]

With the exception of the Park, the Jane Addams neighborhood contains very few previously identified historic properties.

Southwest Neighborhoods

The Southwest area is a largely working-class residential area that has been home to several waves of immigrant and ethnic communities. While some homes remain from the 19th century, the majority of the homes date from the early 20th century through the 1960s. Historic integrity throughout the area is poor due to alterations to individual buildings and large redeveloped areas of more recent infill.

After World War II, this neighborhood became increasingly associated with Fresno's African-American and Hispanic communities. Many of the built resources originally associated with the development of these communities have been demolished to develop affordable and low-income housing, schools, and recreational facilities.

The Southwest area contains designated and previously identified potential historically significant properties including:

- *Chandler Field/Fresno Municipal Airport*
  One of three officially designated historic districts in Fresno, the Chandler Field/Fresno Municipal Airport Historic District is located approximately two miles west of Downtown Fresno, along the north side of historic Kearney Boulevard. The district includes the four WPA-era buildings clustered in a campus setting that includes landscaping, several Beaux Arts-style lampposts and surface parking. One non-contributing building is also included.[98]
- *Kearney Boulevard*
  This tree-lined boulevard runs from Fresno Street to S. Marks Avenue. An Art Deco gateway, designed by architect Charles Franklin, marks the eastern entrance at Fresno

[97] *Fresno Regional Park and Fresno Chaffee Zoo Facility Master Plans Final Environmental Impact Report*, June 2011

[98] http://historicfresno.org/districts/chandler/intro.htm

Street. The gateway structure has been designated HP#234 by the City. The landscaped boulevard has been determined eligible for the National Register.[99] The boulevard was originally developed as part of founder M. Theo Kearney's "Chateau Fresno" estate property, which was never completed.

Lowell Neighborhoods

Located just north of the Downtown Central Business District, the Lowell neighborhood is one of the oldest residential neighborhoods in Fresno, and the most intact and cohesive historic neighborhood within the Community Plan Area.

The neighborhood contains significant concentrations of late-19th and early 20th Century homes and over forty of the City's designated historic properties. Many other properties (both individual properties and historic districts) have been previously identified through survey or environmental review.

Portions of the Low
were first surveyed i
for the California Department of Transportation as part of the "180 Gap" freeway project. In 1994, the Lowell neighborhood was the subject of a reconnaissance-level survey for the "Ratkovich Plan" and the entire area was proposed as the North Park Historic District. In 2008, a portion of the Lowell area west of N. Park Avenue was evaluated by Galvin Planning Associates (GPA) for the City to determine whether or not the proposed North Park Historic District constituted a historic district as defined by the National, State, and local register criteria. GPA determined that there was not enough integrity to constitute a single historic district, but that three smaller areas did appear to qualify as potential historically significant districts. This survey also identified buildings potentially eligible as individual historic resources.

Potential historically significant districts identified by the 2008 GPA survey are as follows:

neighborhood contains excellent examples of turn-of-the-century worker's cottages constructed between 1898 and 1915. This potentially eligible local historic district is located on the 100 block of N. Yosemite Avenue and includes fourteen (14) contributing

[99] City of Fresno Historic Resources Map

properties on the west and east side of the block, just south of Nevada Avenue.

- *Lower Van Ness Potentially Eligible Historic District*
  Lower Van Ness contains a collection of residential properties constructed between 1898 and 1919 in the Neoclassical cottage, Queen Anne, and Craftsman styles. This potentially eligible local historic district is located on the 100 block of N. Van Ness Avenue and includes twenty-one (21) contributing properties and two (2) non-contributing properties. The district boundaries include the east and west sides of the 100 block of N. Van Ness Avenue between Nevada Avenue to the north and Voorman Avenue to the south.

- *North Park Potentially Eligible Historic District*
  This large collection of early 20th-Century and Craftsman homes constructed between 1902 and 1919 was evaluated as eligible for the National Register as an historic district in the 2008 GPA survey. The proposed district is bounded by the 180 Freeway to the north, the west facing side of Yosemite Avenue to the west, the east facing side of N. Van Ness Avenue to the east, and Nevada Avenue to the south. The district boundaries include approximately sixty-six (66) parcels, with forty-nine (49) contributing buildings, nine (9) non-contributing buildings and eight (8) vacant lots.

Jefferson Neighborhoods

Located just east of Lowell, the Jefferson neighborhood shares Lowell's development history and many of its characteristics. Jefferson contains late-19th and early 20th Century homes of similar vintage and architectural style. Jefferson is less intact and cohesive than Lowell due to demolition and infill development. Thirteen properties in Jefferson have been designated by the City.

In addition to designated properties, Jefferson contains over twenty previously identified properties and two potential historic districts. In 1994 the Ratkovich Plan survey identified two (2) potential historic districts:

- *Bellevue Potentially Eligible Bungalow District*
  This proposed district consists of fifteen Craftsman style residences on Howard Avenue and Thesta Street south of Belmont Avenue, dating from 1920-1922. Because the district was identified in 1994, the evaluation can no longer be considered current. Conditions have most likely changed and survey methodology and evaluation criteria

have also evolved considerably over the past seventeen years.

- *East Madison Potentially Eligible District*
  Located on Madison between Fresno and Angus streets, the proposed East Madison Historic District contains Craftsman style homes developed between 1910 and the early 1920s. Like the Bellevue Bungalow District, East Madison was identified in 1994 and the evaluation can no longer be considered current.

Southeast Neighborhoods

The Southeast area is very large, encompassing several distinct neighborhoods and eras of development. The Southeast contains several major commercial thoroughfares. The majority of the plan area, however, is residential. Most homes were constructed in the early- and mid-20th Century.

Twenty-six properties located in the Southeast have been designated by the City as historic resources. In addition, one potential historic district has been identified:

Huntington Boulevard Potentially Eligible Historic District
The proposed Huntington Boulevard Historic District consists of large early 20th Century single-family residences located on Huntington Boulevard from First Street on the west to Cedar Avenue on the east. An application for designation as a Local Historic District was approved by the City's Historic Preservation Commission in December, 2008. Documentation of the District is currently being developed by City staff in preparation for a formal nomination submission.

South Van Ness Industrial

Located near the railroad, the South Van Ness Industrial district contains a notable collection of early industrial buildings. Several of these properties represent Fresno's early industrial history and have been designated as historic properties by the City. Several streets feature early 20th century street lights and signage that contribute to the district's identity.

Downtown

The Downtown sub-area of the DNCP is also the FCSP planning area, encompassing what is generally considered Downtown Fresno. It is the oldest portion of the City, containing the area originally platted in 1872.

Previous Historic Surveys and Evaluations

Various portions of the Downtown/FCSP area have been subject to historic surveys, studies, and historic-cultural environmental reviews. The area contains over one-hundred and ten (110) of the City's designated

historic resources, representing a wide range of property types and periods of development.

Three potential historic districts are identified within the FCSP area on the City's Historic Resources map:

- *L Street Potential Historic District*
  This collection of residential properties is located in the northern portion of the Fulton Corridor plan area, overlapping the Cultural Arts District. It is bordered by Divisadero, N, M, Stanislaus, and Amador streets. Various surveys have proposed different boundaries for this potential district due to building demolitions.
- *Santa Fe Warehouse Potential Historic District*
  Identified in 1994, this small collection of brick warehouses is located near the Santa Fe Rail depot bounded by R, Tulare, P and Mono streets. Included within the boundaries of this proposed district is "Warehouse Row," located at 702-764 P Street which is not only listed on the Local Register of Historic Resources but is also a National Register Historic District due to the multiple properties.
- *St. John's Cathedral Potential Historic District*
  Identified in 1994, this potential historic district is located in the northeast corner of downtown Fresno, and is composed of approximately seven city blocks, bounded on the northwest by Fresno Street, on the north by Divisadero Street, on the northeast by U Street, on the southeast by Tulare Street and on the southwest by the Santa Fe Railroad tracks. The potential district contains a collection of impressive late-19th and early 20th century homes in addition to St. John's Cathedral.

Historic evaluation work within Downtown dates back to1977 when a survey was completed as a result of the adoption of the Fresno-Clovis Metropolitan Area General Plan (1977 Survey). This effort was followed by the Supplementary Historic Building Survey of the Ratkovich Plan Area (Ratkovich Study), completed in 1994. Between 2004 and 2010, survey projects[100] include:

[100] The surveys listed here contain information useful in the preparation of this Technical Report. None of these surveys, however, meet all of the requirements for Historic Resource Surveys set forth in PCR, Section 5024.1(g). Determinations of eligibility for listing in historic registers contained in these surveys do not create a presumption that the identified resources are "historical resources" as defined by CEQA.

- *Broadway Row Historic Resource Survey* (2004)
  Survey of a two-block area bounded by Stanislaus, Fulton, Tuolumne, and H streets. Sixteen (16) properties were documented and a potential Automotive Warehouse District was identified.[101]

- *Historic Architecture Survey Report for the Bungalow Court Project* (2004)
  Survey and identification of one hundred twenty-eight (128) examples of "bungalow" courts within Fresno city limits.

- *Chinatown Historic Resource Survey (2006)*
  Survey of buildings within the six-block heart of Fresno's historic Chinatown. This survey identified ten properties as individually eligible for national, state, or local designation. It also identified a small historic district along F Street.

- *City of Fresno Arts-Culture District Historic Property Survey (2006)*
  Survey of a sixteen-block area bounded by Tuolumne, "H", Amador and "L" streets, and known as the Uptown Arts-Culture District. This survey identified nine properties as individually eligible for national, state, or local designation. It also identified a seven-property potential historic district along Fulton Street[102], a fourteen-property potential district of historic warehouses, a potential thematic district of six automotive service buildings, and proposed eight additional properties for consideration as part of the previously identified "L" Street residential historic district.

- *City of Fresno Upper Triangle Areas Historic Property Survey (2007)*
  This survey expanded the previous survey area of the Arts-Culture District to include the "Upper Triangle" area bounded by "H", Divisadero and Tuolumne streets. Thirty-two properties were identified as eligible for national, state, or local designation.

[101] The boundaries of the potential district extended outside the Broadway Row survey area.

[102] The Historic Preservation Commission reviewed this portion of the survey and did not concur with the evaluation of this collection of buildings as a historic district.

- *Historic Properties Survey South Stadium Project Area (2008)* Survey of an eighteen-block area bounded by Tulare, Van Ness, Highway 41, and the Southern Pacific Railroad tracks including intensive-level survey of a six-block area between Inyo, Van Ness, Ventura, and H streets. Eighty-three (83) properties were documented including several properties associated with an automotive business context.

- *California High-Speed Train Historic Architectural Survey and Historic Property Survey (2011-2012)* Historic architectural surveys and historic property surveys were conducted as part of the Merced to Fresno and Fresno to Bakersfield sections of the California High-Speed Train Project (HST project) in compliance with Section 106 of the National Historic Preservation Act. Portions of the two Areas of Potential Effect (APE) defined for each section overlap the DNCP and FCSP areas. The surveys identified thirty-five (35) properties located in Fresno that are considered historical resources for the purposes of CEQA.[103]

- *Downtown/Fulton Corridor Historic Resources Survey (2011)* Those portions of the Downtown/FCSP area not previously surveyed were surveyed by Historic Resources Group in 2011. The 2011 survey identified, surveyed and evaluated over 300 individual properties within Downtown Fresno. In addition to evaluation for potential local designation, properties have been evaluated for eligibility under the criteria for the National Register and the California Register.

  The survey identified sixty-three (63) properties that appear to meet the criteria for designation as

[103] *California High-Speed Train, Fresno to Bakersfield Section, Historic Property Survey Report Information*, California High-Speed Rail Authority, September 2011(6-1:6-19)

California High-Speed Train, Merced to Fresno Section, Draft Final Historic Property Survey Report, California High-Speed Rail Authority, February 2012 (7-1:7-3)

Includes properties located in Fresno that are listed in, were determined eligible for listing in, or appear to meet the criteria for listing in the National Register, California Register and/or are considered historical resources for the purposes of CEQA.

individual historic landmarks eligible for listing on the City of Fresno Local Register of Historic Resources. Seven (7) of these properties had previously been designated by the City as individual historic resources.[104]

Of the fifty-six (56) properties that have not been previously designated by the City, fourteen (14) appear to be eligible for listing in the National Register. Fifty (50) properties appear to be eligible for listing in the California Register. This number includes the fourteen properties found eligible for the National Register.

In addition to properties potentially individually eligible for historic designation, HRG identified a potential "Civic Center Historic District" that includes Depression Era government buildings, and mid-Century government buildings associated with the New Deal Era and mid-20th Century expansions of the Civic Center, and their associated landscapes and landscape features.

The potential district is generally bounded by Van Ness Avenue, Tulare Street, Fresno Street, P Street and Merced Street. The potential district contains fourteen contributing buildings and one non-contributor. Seven of the contributors have been designated individually as historic resources by the City. This survey identified five contributing buildings from the mid-20th Century that also appear eligible for listing individually.

The six blocks of Fulton Street between Tuolumne and Inyo streets have been an important regional commercial corridor for much of the late 19th and 20th centuries. Redeveloped as a pedestrian mall in 1964, these blocks, and the adjoining portions of Merced, Mariposa and Kern streets where they intersect with Fulton Street, contain an important modernist landscape design by master landscape architect Garrett Eckbo that includes a notable collection of public artworks.

The Fulton Mall, known as a "cultural landscape" was formally determined eligible for listing in the National Register in 2010. The Fulton Mall was found eligible for listing under National Register

[104] These seven were surveyed in the context of all properties located on the Fulton Mall.

Criteria A and C, in the areas of Landscape Architecture, Community Planning and Development and Social History. The National Park Service announcement takes note of the Mall's importance as a work of "master landscape architect, Garrett Eckbo, whose career as both teacher and practitioner helped transform the field of post-war landscape architecture."

As a result of being determined eligible for the National Register, the Fulton Mall is listed in the California Register of Historical Resources and is therefore considered a historic resource under CEQA.

Summary of Significant Properties

Properties located within the DNCP and FCSP areas that fall into the mandatory, presumptive or discretionary categories of historical resources, as defined by CEQA, are summarized on the following pages. Individual properties designated by the City as historic resources are listed in Table 7. Properties that were found eligible for listing as historic resources during the 2011 Downtown -- Fulton Corridor Historic Resources Survey are listed in Table 8. Properties that have been evaluated as eligible for listing as a historic resource through previous historic surveys, environmental reviews or other historic-cultural studies are listed in Table 9. As stated previously, Table 9 is intended merely as an inventory of properties that potentially qualify as Historical Resources for purposes of CEQA. However, because in many situations the information and analysis supporting the determinations in previous surveys is outdated and has not been independently verified or updated by HRG or the City, additional research and analysis may be necessary to make a final determination as to whether the properties fall within any of the categories of Historical Resources pursuant to CEQA.

As noted above, much of the DNCP plan area has not been subject to historic survey and it is expected that historically significant properties exist that have yet to be identified. It can be expected, moreover, that future research and contextual information will yield additional areas of significance and associated property types. As such, the resources listed here cannot be considered comprehensive.

Table 7: List of City-Designated Historic Resources Located Within the DNCP and FCSP Areas

CITY-DESIGNATED HISTORIC RESOURCES						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	DESIGNATION	NOTES	LOCATION
46609301T	2444 Fresno St	1894	Old Fresno Water Tower	HP# 1	National Register Listed	Downtown
46606612T	1007 R Street	1889	Thomas R. Meux Home	HP# 2	National Register Listed	Downtown
46816603	702 P Street	1903-1910	Warehouse Row	HP# 3	Contributor to a Historic District; National Register Listed	Downtown
46816602	744 P Street	1903-1910	Warehouse Row	HP# 3	Contributor to a Historic District; National Register Listed	Downtown
46816601	764 P Street	1903-1910	Warehouse Row	HP# 3	Contributor to a Historic District; National Register Listed	Downtown
46605618	2607 Fresno St.	1926	Physician's Building	HP# 4	National Register Listed	Downtown
46825202	2130 Kern St.	1919	Fresno Republican Building	HP# 5	National Register Listed	Downtown
46614616	1400 Fulton St.	1929	Pantages Theater; Warnor's Theater	HP# 7	National Register Listed	Downtown
46610106	1600 M St.	1913	Louis Einstein Home	HP# 8	National Register Listed	Downtown
46610106	1660 M St.	1921	YWCA Residential Hall	HP# 9	National Register Listed	Downtown
46835030U	2650 Tulare St.	1896	Santa Fe Depot	HP# 10	National Register Listed	Downtown
46703032U	1713 Tulare St.	1889	Southern Pacific Depot	HP# 11	National Register Listed	Downtown
45929202	183 Broadway	1917	Bethel Lutheran Church	HP# 13		Lowell
45905515	395 N. San Pablo Ave.	1899	Spencer Home	HP# 14		Lowell
45923406	267 N. San Pablo Ave.	1907	Woolfolk Home	HP# 15		Lowell
46614301	1455 L St.	1937	Scottish Rite Temple	HP# 16		Downtown

CITY-DESIGNATED HISTORIC RESOURCES						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	DESIGNATION	NOTES	LOCATION
46616001T	2281 Tulare St.	1935	Fresno County Hall of Records	HP# 17	National Register Listed	Downtown
46822519	2226 Ventura St.	1914	Holy Trinity Armenian Apostolic Church	HP# 19	National Register Listed	Downtown
46608309	1322 N St.	1903	McVey Home	HP# 20		Downtown
46608310	1326 N St.	1903	McVey Home	HP# 21		Downtown
46818519	2422 Kern St.	1921	Old Post Office Sub-Station	HP# 22		Downtown
46710301	1061 Kern St.	1924	First Mexican Baptist Church	HP# 23		Downtown
46711701	1340 E Street	1920	Fresno Buddhist Temple	HP# 24		Downtown
46803047	100 M Street	1899	Fresno Brewing Co.	HP#26	National Register Listed	South Van Ness
45914417	330 Park Ave.	1903	Cowdrey Home	HP# 33		Lowell
45915106	357 Glenn Ave.	1895	Cardwell Home	HP# 34		Lowell
45924219	274 Glenn Ave.	1892	Thompson Home	HP# 35		Lowell
45915307	333 Blackstone	1886	Hines Home	HP# 36		Lowell
45915308	319 Blackstone	1913	Griffen Home	HP# 37		Lowell
45915309	313 Blackstone	1910	Brix Home	HP# 38		Lowell
45933302	175 N. Diana	1891	Hewitt Home	HP# 39		Jefferson
45916409	329 Clark St.	1911	Anderson Home	HP# 40		Jefferson
46606116	1107 R St.	1905	Collins Home and Carriage House	HP# 41		Downtown
45916412	305 Clark St.	1905	Shipp Home	HP# 42		Jefferson
	230 Clark St.	1888	Rutherford Home	HP# 43		Jefferson
45925412	201 Clark St.	1899	Mc Kay Home	HP# 44		Jefferson
45935109	121 U Street	1905	Gerlitz Home	HP# 45		Jefferson
46612101T	2326 Fresno St.	1939 or 1941	Fresno City Hall (Annex)	HP# 49		Downtown
46612202T	2309 Tulare St.	1939	U.S. Post Office (Main)	HP# 50		Downtown
46608401T	1235 O St.	1935	Fresno Memorial Auditorium	HP# 52	National Register Listed	Downtown

CITY-DESIGNATED HISTORIC RESOURCES						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	DESIGNATION	NOTES	LOCATION
46612201T	2348 Mariposa Mall	1936	Old Fresno Unified School District Office	HP# 53		Downtown
46821114	2344 Tulare St.	1911	Maubridge Apartment Building	HP# 54	National Register Listed	Downtown
46819617	460 N Street	1908	The Schmidt Home	HP# 55		Downtown
46820212	344 N Street	1907	Mink Home	HP# 56		Southeast
46608204	2527 Fresno St.	1930	Twinning Laboratories	HP# 58	National Register Listed	Downtown
46817302	616 P Street	1917	Berven Rug Mills, Inc.	HP# 59		Downtown
46820104	2534 San Benito	1920	Central Packaging Supply Co.	HP# 60		South Van Ness
46619502	1725 Broadway	1918	Rainbow Ballroom (Natatorium)	HP# 61		Downtown
46713509	305 E St.	1900	Legler Home	HP# 62		Downtown
46713309	208 E St.	1914	Fresno Temple Church of God	HP# 63		Downtown
46707401	951 F Street	1926	Bank of America Building	HP# 64		Downtown
46707115	931 China Alley	1920	Bow On Association Building	HP# 65		Downtown
46707113	921 China Alley	1900	Bing Kong Tong Association Building	HP# 66		Downtown
46709234	362 F Street	1891	Vartanian Home	HP# 67		Downtown
46830709	1820 Monterey	1917	Fresno Planing Mill	HP# 69		South Van Ness
46827425	301 Van Ness Ave	1921	Bekins Van and Storage	HP# 70		South Van Ness
46707201	1528 Ke					
46020417	3811 E. Illinois Ave.	1907	Johnson Home	HP# 74		Southeast
46119407	3753 E. Balch Ave.	1917	Mundorf Home	HP# 75		Southeast
47003120	3121 E. El Monte Way	1918	Weems Home	HP# 76		Southeast
47004213	743 E. Fourth St.	1917	Hughes Home	HP# 77		Southeast
47013101	1003 Orange Ave.	1900	Robinson Home	HP# 78		Southeast
46116523	320 S. Chestnut Ave.	1924	Shuttera Home	HP# 79		Southeast

CITY-DESIGNATED HISTORIC RESOURCES						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	DESIGNATION	NOTES	LOCATION
-	2208 S. Van Ness Ave. (vicinity)	1929	South Van Ness Entrance Gate	HP# 82		South Van Ness
46803004	3000 E. Butler Ave.	1898	California Products Co.	HP# 83		South Van Ness
46827715	104 Fulton St.	1913	San Joaquin Wholesale Grocer's Warehouse	HP# 84		South Van Ness
46715306	1127 Tulare St.	1938	St. Genevieve's Catholic Church	HP# 85		Southwest
46604102	2814 Mariposa St.	1902	St. John's Cathedral	HP# 86		Downtown
46604102	2814 Mariposa St.	1928	St. John's Rectory	HP# 87		Downtown
46603508	2811 Mariposa St.	1926	St. John's School	HP# 88		Downtown
46603501	2844 Fresno St.	1911	H.H. Brix Mansion	HP# 89	National Register Listed	Downtown
46604201	1050 S St.	1909	Rehorn Home	HP# 90	National Register Listed	Downtown
unknown	2945 Fresno St.	1917	City Fire Alarm Station	HP# 91		Downtown
46603235	1125 T St.	1903	Van Valkenburgh Home	HP# 92		Downtown
46816402	935 Santa Fe Ave.	1926	Santa Fe Hotel	HP# 94	National Register Listed	Downtown
46823406	309 M Street	1912	Neverman Home	HP# 97		South Van Ness
46803047	100 M Street	1900	Old Barn	HP# 98		South Van Ness
46830306	1731 S. Cherry Ave.	c. 1912/c. 1925	Fresno Trolley Cars (Diner)	HP# 99		South Van Ness
46702013	1916 S. Cherry Ave.	1915	Holt Lumber Co.	HP# 101		South Van Ness
46524301	307 W. Kearney Blvd.	1913	St. Alphonsus Catholic Church	HP# 110		Downtown
46613216	1727 L St.	1907	Long (Black) Home	HP# 113		Downtown
46613206	1705 L St.	1904	Bean Home	HP# 114		Downtown
46614101	1651 L St.	1901	Kutner Home	HP# 115		Downtown
46610409	1642 L St.	1897	Montgomery Thomas Home	HP# 116		Downtown

CITY-DESIGNATED HISTORIC RESOURCES						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	DESIGNATION	NOTES	LOCATION
46613217	1717 L St.	c. 1902	Towne Apartments	HP# 118		Downtown
46614501T	1555 Van Ness Ave.	1922/1952	Fresno Bee Building	HP# 119	National Register Listed	Downtown
46620205	1401 Fulton St.	1923	San Joaquin Light & Power Building	HP# 120	National Register Listed	South Van Ness
46617212	1060 Fulton Mall	1923	Pacific Southwest Building	HP# 121	Included in 2011 Intensive Survey	South Van Ness
46627002	1044 Fulton Mall	1918	Mason Building	HP# 122	Included in 2011 Intensive Survey	South Van Ness
46621307	1001 Fulton Mall	1917	Bank of Italy	HP# 123	National Register Listed. Included in 2011 Intensive Survey	South Van Ness
46828101	959 Fulton Mall	1924	Radin-Kamp Department Store	HP# 124	Included in 2011 Intensive Survey	South Van Ness
46825410	2014 Tulare St.	1922	T.W. Patterson Building	HP# 125	Included in 2011 Intensive Survey	Downtown
46603502	1133 S St.	1914	Aten Home	HP# 126		Downtown
46603221	1145 T St.	1910	Gilbert Home	HP# 127		Downtown
46604206	2983 Tulare St.	1906	The F.K. Prescott Home	HP# 129		Downtown
46602105	1120 T St.	1913	The Anderson Home	HP# 130		Downtown
46604301	1060 T St.	1906	The Goodman Home	HP# 131		Downtown
46604308	1020 T St.	1919	The Gundlefinger Home	HP# 132		Downtown
46604310	1002 T St.	1912	The Martin Home	HP# 133		Downtown
45922123	271 N. Yosemite	1913	Cobb Home	HP# 135		Lowell
45913333	340 N. Fulton St.	1904	A.G. Wishon Home	HP# 138		Lowell
45922234	245 N. Fulton St.	1907	Farr Residence	HP# 139		Lowell
45922231	235 N. Fulton St.	1908	Alexander Home	HP# 140		Lowell
45913330	310 N. Fulton St.	1913	Ivan McIndoo Home	HP# 142		Lowell
45930304	171 Van Ness Ave.	1900	McAlpine Home	HP# 143		Lowell
46613344	916 E. Divisadero Street	1905	Graff Home	HP# 144		Downtown
46613406	1717 Van Ness	1926	Sadler Office Supply	HP# 146		Downtown

CITY-DESIGNATED HISTORIC RESOURCES						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	DESIGNATION	NOTES	LOCATION
	Ave.		Company			
46613407	2055 San Joaquin St.	1905 c.	Romain Home	HP# 147	National Register Listed	Downtown
46610407	2201 Calaveras St.	1912	Gundelfinger Home (The Mansion)	HP# 149		Downtown
46614108	1605 L St.	1905	Harvey Swift Home	HP# 150		Downtown
46614204	1527 L St.	1897	Otto Nestel Home	HP# 152		Downtown
46610326	11 N. San Pablo St.	1911	First Congregational Church	HP# 153		Downtown
46610102	1615 N St.	1916	First Church of Christ Scientist	HP# 154		Downtown
46610213	2336 Calaveras St.	1923	Temple Beth Israel	HP# 155		Downtown
46825309	700 Van Ness Ave.	1914	James Phelan Building	HP# 159		Downtown
46825608	736 Fulton Street	1920	Sun Stereo Warehouse	HP# 160		Downtown
46828304	701 Fulton St.	1919	Rustigian Building	HP# 161		Downtown
46828311	748 Broadway	1916	Carmel Saddlery or C.B. Melikian Harness and Saddlery	HP# 162		Downtown
46614507T	1544 Fulton St.	1926	P.G.&E. Building	HP# 164		Downtown
46620201	1445 Fulton St.	1926	Wilson Theater Building	HP# 165		Downtown
46621401	1257 Broadway	1912	Hotel Fresno	HP# 166	Determined to be National Register Eligible with concurrence	Downtown
46621201	1177 Fulton Mall	1921	Mattei Building/Guarantee Savings and Loan	HP# 167	Included in 2011 Intensive Survey	Downtown
46621204	1101 Fulton Mall	1914	Helm Building	HP# 168	Included in 2011 Intensive Survey	Downtown
46704024S	903 H Street	1903	Hobbs Parsons Produce Company	HP# 169		Downtown
46825110	2100 Tulare St.	1912	Rowell Building	HP# 170		Downtown
46825109	944 Van Ness Ave.	1917	Liberty Theater	HP# 171		Downtown

CITY-DESIGNATED HISTORIC RESOURCES						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	DESIGNATION	NOTES	LOCATION
46825105	906 Van Ness Ave.	1912	Kern Kay Hotel	HP# 172		Downtown
46825104	2125 Kern St.	1920	Hotel Virginia	HP# 173	Determined to be National Register eligible with concurrence.	Downtown
46825514	851 Van Ness Ave.	1923	Hotel Californian	HP# 174	National Register Listed	Downtown
45918112	2631 E. Washington Ave.	1902	Owen Home	HP# 175		Jefferson
45931313	1225 E. Divisadero St.	1920	Ohannesian Home	HP# 178		Lowell
46111302	3615 E. Kerckhoff Ave.	1914	Clovis M. Cole Home	HP# 179		Southeast
47003501	3204 El Monte Way	1914	William Saroyan Residence	HP# 185		Southeast
46525312	505 E. Kearney Blvd.	1932	Thomas Arrioto Residence	HP# 189		Southeast
45915208	319 N. Calaveras St.	1905	Eugene Mathewson Residence	HP# 191		Lowell
45930306	153 Van Ness Ave.	1911	Hiram Barkalew Home	HP# 192		Lowell
46110315	3263 E. Huntington Blvd.	1914	Dr. Oliver Howard Home	HP# 193		Southeast
45930107	153 N. Yosemite Ave.	1906	Thomas Cowan Residence	HP# 194		Lowell
45918124	2540 E. Grant Ave.	1906	John H. Fearon Residence	HP# 196		Jefferson
46119504	3870 E. Huntington Blvd.	1927	Blum Residence	HP# 198		Southeast
45934517T	125-131 Fresno St.	1917	Eaton Flats	HP#201		Jefferson
45923201	258 N. College Ave.	1895	Moore-Koop Residence	HP# 202		Lowell
46822301	461 N Street	1900	Hoonanian Residence	HP# 203	In process of being relocated.	Downtown
45922331	226 N. Fulton St.	1905	Ira Brooks Home	HP# 204		Lowell
45913331	320 N. Fulton St.	1909	Porter-Barnard Home	HP# 205		Lowell
45930327	174 N. Fulton St.	1910	Kutner Residence	HP# 206		Lowell
45913217	311 N. Fulton St.	1913	Sample Sanitarium	HP# 208		Lowell

CITY-DESIGNATED HISTORIC RESOURCES						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	DESIGNATION	NOTES	LOCATION
45924306	251 N. Blackstone Ave.	1896	Ella Hoxie Home	HP# 210		Lowell
46618240	1948 Broadway	1929	Velvet Ice Cream Company Building	HP# 211		Downtown
46706208	1102 F Street	1922	Basque Hotel	HP# 212		Downtown
46706508T	1406 Fresno St.	1939	Fresno Fire Station No. 3	HP# 213		Downtown
45924111	227 N. Glenn Ave.	1928	Henry Offutt Home	HP# 214		Lowell
45908415	458 N. Howard St.	1921	Prior Home	HP# 215		Jefferson
45918317	2535 E. McKenzie Ave.	1904	Edward Waterman Home	HP# 216		Jefferson
45918311	2635 E. McKenzie Ave.	1889	C.C.S. Tufts Home	HP# 217		Jefferson
45931213	103 N. Park Ave.	1891	Donahoo Home	HP# 218		Lowell
45905514	401-403 N. San Pablo Ave.	1828	W.H. Spencer Duplex	HP# 219		Lowell
46602103	1115 U Street	1929	Emmanuel Lutheran Church	HP# 220		Downtown
45927129	245 N. U Street	1910	Frank L. Smith Home	HP# 221		Jefferson
45922109	229 N. Yosemite Ave.	1905	John Humiston Home	HP# 222		Lowell
45922213	232 N. Yosemite Ave.	1919	Christian Samuelson Home	HP# 223		Lowell
45922215	250 N. Yosemite Ave.	1907	T.E. Mellon Property	HP# 224		Lowell
46620220	1462 Broadway	1913/1934	Parker Nash Building	HP# 226		Downtown
46102001T	4250 N. Tulare St.	1928-1953	Roosevelt High School	HP# 230		Southeast
46610123	1458 E. Divisadero St.	1909	Hopkins Residence	HP# 231		Downtown
45931117	136 N. Van Ness Ave.	1890	Adam Baird Home	HP# 233		Lowell
45932505	35 N. Calaveras St.	1918	Joseph J. Bolitho Home	HP# 235		Lowell
45932207	115 N. Calaveras St.	1898	McGee-Macias Home	HP# 236		Lowell
46822519	519 M Street	1921	Valley Lahvosh Baking Company	HP# 237		Downtown
45924210	245 N. Calaveras	1938	E.J. Huntzicker Hall	HP# 238		Lowell

CITY-DESIGNATED HISTORIC RESOURCES						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	DESIGNATION	NOTES	LOCATION
	St.					
45932309	128 N. Calaveras St.	c. 1905	John C. Fox Home	HP# 240		Lowell
46816306	747 R Street	1918	State Center Warehouse & Cold Storage Co.	HP# 242		Downtown
45909115	2543 E. Madison Ave.	1910	Thomas Thorn Home	HP# 243		Jefferson
46830205	205 Fulton St.	1938	Shams Rio Grande Service Station	HP# 246		South Van Ness
46620511	1420 H Street	1912-1937	Dale Bros. Coffee Co. Sign	HP# 247	Sign only	Downtown
46620511	1420 H Street	1912-1937	Benham Ice Cream Co. / Dale Bros. Coffee Co.	HP# 248		Downtown
46830301	175 Fulton St.	1924	J.M. Menend/Murray Ice Cream Co. Building	HP# 249		South Van Ness
45923115	248 N. Van Ness Ave.	c. 1905	John Fairweather Home	HP# 250		Lowell
45923102	243 N. College	1903	John B. Frinchaboy Home	HP# 251		Lowell
45914202	264 N. Van Ness Ave.	c. 1905	W.D. Coates Home	HP# 253		Lowell
45913332	330 N. Fulton St.	1907	Amazon S. Hayes Home	HP# 254		Lowell
46610119	1440 E. Divisadero St.	1904	Mary Matson Home and Carriage House	HP# 255		Downtown
45925309	209 N. Diana St.	c. 1900	Former Santa Fe Land Improvement Co. Boarding House	HP# 257		Jefferson
46825609	748 Fulton St.	1946	Alastair Simpson Offices	HP# 261		Downtown
46828611	1830 Inyo Street	1928	Liberty Laundry	HP# 262		Downtown
46828604	726 Broadway	1956	Baskin's Auto Supply Sign	HP# 263		Downtown
47006119	4130 E. Ventura Ave.	1935-1941	Frank Chance Field Site	HP# 264		Southeast
45929225T	164 N. Echo Ave.	1884, 1908	The John B. Marshall Homes	HP# 267		Lowell
45933206	153 Effie St.	1903	George and Adelphia Rowell Home	HP# 268		Jefferson
46816205	801 R Street	1931	United Grocers Inc. Warehouse and Distribution Center	HP#269		Downtown
46621212	1160 Broadway	1949	Crest Theater	HP# 270		Downtown

CITY-DESIGNATED HISTORIC RESOURCES						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	DESIGNATION	NOTES	LOCATION
46703032U	1713 Tulare St.	1917	Pullman Shed	HP# 272		Downtown
46608312	1338 N St.	c. 1886	George H. Walley Home	HP# 273		Downtown
46825205	802 Van Ness Ave.	1922	Droge Building Site	HP# 274		Downtown
46825208T	830 Van Ness Ave.	1961	Pilibos Building	HP# 277		Downtown
45923213	228 College Ave.	1898	Henry Banta and Emily Banta Home	HP# 280		Lowell
46613327	950-960 Divisadero St.	1922	Flora Montague Bungalow Court	HP# 281		Downtown
46119105	3729 Huntington Blvd.	1926	Bekins-McClatchy Home	HP# 282		Southeast
464-220-43T	510 W. Kearney Blvd.	1936-1937	Chandler Field / Municipal Airport District	HD# 002	Determined to be National Register eligible.	Southwest

Table 8: List of Potential Historically Significant Resources Identified in the 2011 Downtown Fulton Corridor Historic Resources Survey

RESOURCES IDENTIFIED IN 2011 HRG SURVEY[105]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	EVALUATION (STATUS CODE)	SIGNIFICANCE	LOCATION
46829608	401 Broadway	1952	Sheppard Rug Company Sign	5S3; 3CS	Rare intact example of mid-Century commercial signage.	Downtown
46708112	646 F Street	1910	(vernacular cottage)	5S3; 3CS	Rare intact example of early 20th Century residential development in Downtown Fresno.	Downtown
46706501	1157 F Street	1923	Hotel D'Italia C. Malanca Building	5S3; 3CS	Rare intact example of mixed-use commercial development from the early 20th Century. Possible association with old Italian neighborhood.	Downtown
46615203	2135 Fresno St.	1950	Crocker Anglo Bank Building	5S3; 3CS	Good example of Mid-Century Modern commercial building in Downtown Fresno.	Downtown
46616001T	2200 Fresno St.	1969	Fresno Sheriff Office	5D3; 3CD; 3D	Contributor to potential Civic Center Historic District	Downtown

[105] The information upon which this table is based does not yet qualify as valid Historic Survey pursuant to Public Resources Code, section 5024.1(g) as the Survey Forms have not been formally adopted by the City Council, pursuant to Fresno Municipal Code, section 12-1606(b)(7) and 12-1613(a) which is a prerequisite for official inclusion in the State Historic Resources Inventory As such, these Survey Forms cannot be relied upon to determine that a property, building or structure falls within the presumptive category of Historical Resources, set forth in CEQA Guidelines, section 15064.5(a)(2). (See Valley Advocates v. City of Fresno (2008) 160 Cal.App.4th 1039, 1057. However the information may constitute substantial evidence to support the City Council decision to treat some or all of these resources as Historical Resources under the discretionary category set forth in CEQA Guidelines, section 15064.5(a)(3) & (4). Furthermore, should the City Council officially adopt this Survey and forward it for inclusion in the State Historic Resources Inventory, then this Survey may qualify to support determinations that the resources identified qualify as Historical Resources under the presumptive category set forth in CEQA Guidelines, section 15064.5(a)(2).

RESOURCES IDENTIFIED IN 2011 HRG SURVEY[105]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	EVALUATION (STATUS CODE)	SIGNIFICANCE	LOCATION
46825507	802 Fulton Mall	1913/1948/ 1968	Gottschalks Department Store	5S3; 3CS; 3S	Excellent example of Late Moderne architecture. Flagship location of important regional retailer Gottschalks.	Downtown
46828221T	887 Fulton Mall	1961	Berkeley's Department Store	5S3	Rare intact example of a mid-20th Century department store building in Downtown Fresno. Following community input solicited at the City's Historic Preservation Commission meeting held May 20, 2013, 1127-1139 Fulton Mall appears to be individually eligible to Fresno's Local Register of Historic Resources.	Downtown
46828105	901 Fulton Mall	1961	Walter Smith Store	5S3; 3CS; 3S	Rare intact example of a mid-20th Century department store building in Downtown Fresno.	Downtown
46617112	1118 Fulton Mall	1921	Kress Building	5S3	Good example of an early 20th Century commercial development in Downtown Fresno. Following community input solicited at the City's Historic Preservation Commission meeting held May 20, 2013, 1127-1139 Fulton Mall appears to be individually eligible to Fresno's Local Register of Historic Resources.	Downtown

RESOURCES IDENTIFIED IN 2011 HRG SURVEY[105]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	EVALUATION (STATUS CODE)	SIGNIFICANCE	LOCATION
46621203	1127-1139 Fulton Mall	c. 1905	Commercial Building	5S3	Reflective of early 20th Century commercial development as well as mid-20th century redevelopment. Association with noted local architect R.F. Fechlin. Following community input solicited at the City's Historic Preservation Commission meeting held May 20, 2013, 1127-1139 Fulton Mall appears to be individually eligible for listing in Fresno's Local Register of Historic Resources.	Downtown
46621103T	1221 Fulton Mall	1928	Brix Building	5S3	Good example of an early 20th Century commercial development in Downtown Fresno. Representative example of the work of noted local architects Swartz & Ryland.	Downtown
46708201	539 G Street	c. 1940	Kerr Rug Sign	5S3; 3CS	Rare intact example of pre-World War II commercial sign.	Downtown
46708201	539 G Street	c. 1940	Kerr Rug Building	5S3; 3CS	Rare example of Moderne industrial building in Fresno. Long-time rug business at this location.	Downtown
46704004	704 G Street	1936/1945	Feed & Seed Warehouse	5S3; 3CS	Rare intact example of pre-WWII industrial development in Fresno.	Downtown
46704021 U	744 G Street	c. 1915	San Joaquin Materials Co.	5S3; 3CS	Rare intact example of early-20th Century industrial development in Fresno.	Downtown

RESOURCES IDENTIFIED IN 2011 HRG SURVEY[105]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	EVALUATION (STATUS CODE)	SIGNIFICANCE	LOCATION
46704006	840 G Street	c. 1905	Madary's Brick Warehouse General Storage	5S3; 3CS; 3S	Rare example of turn-of-the-century industrial development in Fresno.	Downtown
46703004	1068 G Street	c. 1915 / c. 1940	Jensen & Pilegard	5S3; 3CS	Rare example of an early-20th Century industrial development in Fresno.	Downtown
46706211	1159 G Street	1920 c.	G Street Zone Substation	5S3; 3CS; 3S	Rare example of an early-20th Century public infrastructure building in Fresno.	Downtown
46706113	1235 G Street	1968	Ridge Electric Motor Company	5S3	Association with celebrated local artist Stan Bitter.	Downtown
46704023ST	735 H Street	c. 1910	(railroad warehouse)	5S3; 3CS; 3S	Rare intact example of an early 20th Century railroad warehouse in Fresno.	Downtown
46503021U	1603 H Street	c. 1930	(warehouse)	5S3; 3CS	Rare intact example of pre-WWII industrial development in Fresno.	Downtown
46707615	1410 Inyo Street	c. 1930	California Dairies Inc.	5S3; 3CS	Continuously operating industrial facility portions of which date from the early 20th Century.	Downtown
46825318	701 L Street	1936	Travel By Stace	5S3; 3CS; 3S	Rare example of pre-WWII industrial development in Fresno.	Downtown
46840001T	700 M Street	1966	Fresno Convention Center	5S3; 3CS	Good example of late Modern architecture. Representative example of the work of important local architect Robert W. Stevens.	Downtown
46821410T	901 M Street	1963	Del Webb Parking Structure (as part of Del Webb Center complex)	5S3; 3CS	Good example of a Mid-20th Century mixed-use complex.	Downtown
46611307	1260 M Street	c. 1960	(two-story commercial office building)	5S3; 3CS	Good example of mid-20th Century commercial development in Downtown Fresno.	Downtown

RESOURCES IDENTIFIED IN 2011 HRG SURVEY[105]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	EVALUATION (STATUS CODE)	SIGNIFICANCE	LOCATION
46611513T	1301 M Street	c. 1965	(commercial office building)	5S3; 3CS	Good example of a mid-century commercial development in Downtown Fresno.	Downtown
46611502	1345 M Street	1910	(single-story hipped-roof cottage)	5S3; 3CS	Excellent example of early 20th Century cottage in Downtown Fresno.	Downtown
46611215T	1350 M St.	1953	First Methodist Church of Fresno	5S3;	Good example of a mid-20th century religious institutional building.	Downtown
46612203	2314 Mariposa Mall	1950	Fresno County Office of Education	5S3; 5D3; 3CB; 3B	Good example of a mid-20th Century office building. Representative work of local architect David Horn. Contributor to a potential Civic Center historic district.	Downtown
46612101T	2323 Mariposa Mall	1960	Fresno Police Headquarters	5S3; 5D3; 3CB; 3B	Good example of a mid-20th Century office building. Representative work of local architect David Horn. Contributor to a potential Civic Center historic district.	Downtown
46609401T	2420 Mariposa St.	1959	Fresno County Free Library	5S3; 5D3; 3CB; 3B	Good example of a mid-20th Century office building. Representative work of local architect Edwin Darden. Contributor to a potential Civic Center historic district. Includes enamel mural by San Diego artists Ellamarie and Jackson Wolley.	Downtown
46609201T	2550 Mariposa Mall	1959	Hugh M. Burns State Building	5D3; 3CD; 3D	Contributor to potential Civic Center historic district.	Downtown
46608311	1334 N Street	1910	(vernacular duplex)	5S3; 3CS	Rare intact example of early-20th century residential development in Downtown Fresno.	Downtown

RESOURCES IDENTIFIED IN 2011 HRG SURVEY[105]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	EVALUATION (STATUS CODE)	SIGNIFICANCE	LOCATION
46608312	1338 N St.	c. 1886	George H. Walley Home	5S3; 3CS; 3S	Rare intact example of late 19th Century residential development in Downtown Fresno. (Designated by the City of Fresno as HP# 273 post survey.)	Downtown
unknown	1130 O Street	1966	B.F. Sisk Federal Building	5S3; 5D3; 3CB; 3B	Good example of Mid-Century Modern architecture in Fresno. Redevelopment. Representative work of noted local architect Walter Wagner. Contributor to potential Civic Center district.	Downtown
46608119	1350 O Street	1966	Equitable Life Assurance	5S3; 3CS	Good example of a Mid-Century Modern commercial building in Fresno. Representative example of the work of noted local architect Robert W. Stevens.	Downtown
46605511	1320 P Street	1913	(Neo-Classical cottage)	5S3; 3CS	Rare intact example of early 20th Century residential development in Downtown Fresno.	Downtown
46605519	1319 Q Street	1910	(Dutch Colonial house)	5S3; 3CS	Rare, intact example of an early-20th century residential development	Downtown
46829505	1801 Santa Clara St.		Supply		from the first half of the 20th Century.	
46611124	2320 Stanislaus St.	1946	AC Delco Automobile Service	5S3; 3CS	Rare example of Streamline Moderne commercial architecture in Downtown Fresno.	Downtown
46704012S	1626 Tulare St.	c. 1915-1946	Premier Valley Foods	5S3; 3CS; 3S	Rare intact example of a fruit packing facility portions of which date to the early 20th Century.	Downtown

RESOURCES IDENTIFIED IN 2011 HRG SURVEY[105]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	EVALUATION (STATUS CODE)	SIGNIFICANCE	LOCATION
46703032 U	1713 Tulare St.	1917	Pullman Shed	5S1; 3CS; 3S	Very rare, intact example of a Pullman Car shed. May be the only remaining example in the United States. (Designated by the City of Fresno as HP# 272 post survey)	Downtown
46825111	2150 Tulare St.	1965	Midland Savings and Loan	5S3; 3CS; 3S	Good example of a Mid-Century Modern commercial building.	Downtown
46821410T	2200 Tulare St.	1963	Del Webb Center	5S3; 3CS	Good example of mixed-use commercial development from the mid-20th Century.	Downtown
46605404	2615 Tuolumne St.	1965	Downtown Car Wash	5S3; 3CS	Rare example of Googie commercial architecture in Downtown Fresno.	Downtown
46826506	517 Van Ness Ave.	1895 c.	Joseph Giardina House	5S3; 3CS; 3S	Rare intact example of late 19th Century residential development. Rare brick construction Queen Anne house in Fresno.	Downtown
46826505	521 Van Ness Ave.	1895 c.	Giardina Property	5S3; 3CS; 3S	Rare intact example of late 19th Century residential development. Rare brick construction Queen Anne house in Fresno.	Downtown
46826112	636 Van Ness Ave.	1915	(Neo-classical duplex)	5S3; 3CS	Rare example of early 20th century multi-family residential development in Downtown Fresno.	Downtown
46825511T	801 Van Ness Ave.	1968	Spiral Parking Garage	5S3; 3CS	Unique parking structure featuring spiral ramps. Representative work of noted local architects Walter Wagner & Assoc. 801 Van Ness Ave. received concurrence from the Historic Resources Commission on May 20, 2013.	Downtown

RESOURCES IDENTIFIED IN 2011 HRG SURVEY[105]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	EVALUATION (STATUS CODE)	SIGNIFICANCE	LOCATION
46825208T	830 Van Ness Ave.	1961	Pilibos Building	5S3; 3CS; 3S	Good example of a Mid-Century Modern commercial building. Representative work of noted local architect Robert W. Stevens. (Designated by the City of Fresno as HP# 277 post survey)	Downtown
46825210	862 Van Ness Ave.	1931	L.C. Wesley Super Garage	5S3; 3CS; 3S	Good example of Art Deco architecture in Downtown Fresno. Rare intact early-20th century automobile service and parking building.	Downtown
46825405	915 Van Ness Ave.	c. 1935	(commercial storefront)	5S3; 3CS	Good example of a pre-WWII commercial retail building in Downtown Fresno.	Downtown
46825403	933 Van Ness Ave.	1962	Fink & Skopp Home Furnishings	5S3; 3CS	Good example of Mid-Century Modern commercial retail architecture. Representative example of the work of noted local architect Robert W. Stevens.	Downtown
46625004T	1100 Van Ness Ave.	1965	Fresno County Courthouse	5S3; 5D3; 3CB; 3B	Good example of Mid-Century Modern civic architecture. Representative work of noted local architect Walter Wagner. Contributor to a potential Civic Center Historic District.	Downtown
46615210	1206 Van Ness Ave.	1966	Wells Fargo	5S3; 3CS	Good example of a Mid-Century Modern commercial office building. Representative work of noted local architect William Hastrup.	Downtown

RESOURCES IDENTIFIED IN 2011 HRG SURVEY[105]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	EVALUATION (STATUS CODE)	SIGNIFICANCE	LOCATION
46615421	1221 Van Ness Ave.	1966	Bank of the West	5S3; 3CS	Good example of a Mid-Century Modern commercial office building. Work of the office of noted Los Angeles architect Welton Beckett.	Downtown
46822520	2222 Ventura St.	1958	Herron's sign	5S3; 3CS	Good example of a mid-20th century commercial sign.	Downtown

Table 9: List of Identified Potential Historic Resources Located Within the DNCP and FCSP Areas

PREVIOUSLY IDENTIFIED RESOURCES (NOT DESIGNATED)[106]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	STATUS CODE	SOURCE OF IDENTIFICATION	LOCATIONS
45813116	417 W. Belmont Ave.		McCardle Home		City staff	Jane Addams
45231513	2245 Belmont Ave.	1930	Trinity Lutheran Church	7R	HRI	Jefferson
45921226	221 Broadway	1915	Edward J. Goodrich Home	6Y	HRI; NP	South Van Ness
46620505	1415 Broadway	1917	Mayflower Apartments Building	3CS/5S3	ACD	Downtown
46620207	1416 Broadway	1911	(Spanish Revival auto warehouse)	3CD/5D3	ACD	Downtown
46619603	1625 Broadway	1936	(auto service building)	5D3	ACD	Downtown
46619310	1636 Broadway	1911	(two-story house)	5S3	ACD	Downtown
46619503	1709 Broadway	1940	Pope Tire Co.	5D3	ACD	Downtown
46619206	1724 Broadway	1940	Winters Glass	3CD/5D3	ACD	Downtown
46619501	1755 Broadway	1935	Peerless Pump	5B/3CD	ACD	Downtown
46618316	2005 Broadway	1928 c.	American Pipe and Steel Co. Warehouse	5S3	UTA	Downtown
46714207	450 C Street	1909	Steinhauer House	2S2	HRI	Southwest
45932504	41 Calaveras St.	1911	J.M. Crawford Home	5D2	HRI	Lowell

[106] The majority of properties listed here were identified through previous survey evaluation. According to City of Fresno policy, these surveys fail to qualify as a valid historic surveys pursuant to Public Resources Code, section 5024.1(g) as these surveys have not been formally adopted by the City Council, pursuant to Fresno Municipal Code, section 12-1606(b)(7) and 12-1613(a) which is a prerequisite for official inclusion in the State Historic Resources Inventory and (with the exception of the 2008 GPA survey) these surveys are more than five years old and have not been updated. As such, these surveys cannot be relied upon to determine that a property, building or structure falls within the presumptive category of Historical Resources, set forth in CEQA Guidelines, section 15064.5(a)(2). (See Valley Advocates v. City of Fresno (2008) 160 Cal.App.4th 1039, 1057.

PREVIOUSLY IDENTIFIED RESOURCES (NOT DESIGNATED)[106]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	STATUS CODE	SOURCE OF IDENTIFICATION	LOCATIONS
45932503	49 Calaveras St.	1913	G.W. Willingham Home	7R	HRI	Lowell
45932315T	50 Calaveras St.	1912	Dickey Playground	5D2	HRI	Lowell
45932314	104 Calaveras St.	1929	Palm Apartments	5D2	HRI	Lowell
45932208	105 Calaveras St.	1919	G.V. Evans Home	5D2	HRI	Lowell
45932307	116 Calaveras St.	1914	Butts-Holcomb Home	5D2	HRI	Lowell
45906317	392 Calaveras St.	1911	Columbus W. Hobson Home	7R	HRI	Lowell
45906327	460 Calaveras St.	1910	Ross Residence	7N	HRI	Lowell
45906204	473 Calaveras St.	1910	Charles B. Evans Home	7R	HRI	Lowell
46707102	956 China Alley	1900 c.	Ego Family Building	5B	CHTN	Downtown
46702014	1844 S. Cherry Ave.	1918	Rosenburg Brothers and Company	-	City of Fresno	South Van Ness
45931112	109 College Ave.	Pre-1898	(vernacular cottage)	5S3	NP	Lowell
45931109T	137 College Ave.	1899-1906	(vernacular cottage)	5S3	NP	Lowell
45931105	163 College Ave.	Pre-1898	(American Foursquare residence)	5S3	NP	Lowell
45923210	200 College Ave.	Pre-1898	(American Foursquare residence)	5S3	NP	Lowell
45923211	204 College Ave.	Pre-1898	(vernacular cottage)	5S3	NP	Lowell
45923216	234 College Ave.	c. 1890	(vernacular cottage)	5S3	NP	Lowell
45914205	275 College Ave.	c. 1900	(Neo-classical cottage)	3D	NP	Lowell
46610120	1444 Divisadero St.	1900 c.	Clara Tweed Home	5D3	KHD	Downtown
46713309	206 E Street	1914	German Free Evangelical Church	3S	HRI	Downtown
46707509	818 E Street	1941	Spanish Revival Bungalow Court	5S3	CHTN	Downtown
45929214	150 Echo Ave.	1899-1906	(vernacular cottage)	5S3	NP	Lowell
46708506	525 F Street	1911	H.B. Bier Home and Summer Kitchen	5B	HASR Santa Clara	Downtown
46708505	535 F Street	1910 c.	Phillip Reitz Home	5D3	HASR Santa Clara	Downtown
46707203	804 F Street	1949	(Streamline Moderne service station)	5S3	CHTN	Downtown

PREVIOUSLY IDENTIFIED RESOURCES (NOT DESIGNATED)[106]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	STATUS CODE	SOURCE OF IDENTIFICATION	LOCATIONS
46707504	829 F Street	1951	(commercial building)	5S3	CHTN	Downtown
46707206	836 F Street	1950 c.	Azteca Theater	3C3	CHTN	Downtown
46707407	901 F Street	1912	Japanese Theater	5D3	CHTN	Downtown
46707111	914 F Street	1900 c.	(commercial building)	5B	CHTN	Downtown
46707114	922 F Street	1900 c.	Komoto K. Books	5D3	CHTN	Downtown
46707404	927 F Street	1910 c.	(two-story commercial building)	5S3	CHTN	Downtown
46707403	935 F Street	1925 c.	(commercial building)	5D3	CHTN	Downtown
46707402	937 F Street	1910 c.	(commercial building)	5D3	CHTN	Downtown
46707116	938 F Street	1925 c.	(commercial building)	5B3	CHTN	Downtown
46706603	1027 F Street	1948	Holly Department Store	5S3	CHTN	Downtown
46706331	1038 F Street	1940 c.	(commercial storefront)	5S3	CHTN	Downtown
46706333	1042 F Street	1930	(single-story brick residence)	5S3	CHTN	Downtown
46706602	1045 F Street	c. 1895	(commercial storefront)	5S3	CHTN	Downtown
46707409	911 Fagan Alley	c. 1920	Worker Housing	5S3	CHTN	Downtown
46707402	942 Fagan Alley	c. 1925	Worker Housing	5B	CHTN	Downtown
45908509	417 Fresno St.	1888	Charles M. McAllister Home	7R	HRI	Southwest
45922233	205 Fulton St.	c. 1900	(American Foursquare residence)	3D	NP	Lowell
45922328.	206 Fulton St.	c. 1900	(American Foursquare residence)	3D	NP	Lowell
45922209	215 Fulton St.	c. 1915	(Craftsman cottage)	3D	NP	Lowell
45922314	222 Fulton St.	c. 1915	(Craftsman cottage)	3D	NP	Lowell
45922232	225 Fulton St.	c. 1900	(Colonial Revival residence)	3D	NP	Lowell
45922333	242 Fulton St.	c. 1915	(Craftsman cottage)	3D	NP	Lowell
45922330	258 Fulton St.	1899-1906	(residence)	5S3	NP	Lowell
45922301	274 Fulton St.	c. 1915	(residence)	3D	NP	Lowell
46620104	1501 Fulton St.	1927	(streamline commercial building)	5D3	ACD*	Downtown

PREVIOUSLY IDENTIFIED RESOURCES (NOT DESIGNATED)[106]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	STATUS CODE	SOURCE OF IDENTIFICATION	LOCATIONS
46619304	1625 Fulton St.	1940	(streamline commercial building)	5D3/6Z	ACD*	Downtown
46619303	1629 Fulton St.	1950	(commercial building)	5D3/6Z	ACD*	Downtown
46619302	1635 Fulton St.	1952	(commercial building)	5D3/6Z	ACD*	Downtown
46619301	1663 Fulton St.	1946	Luau Restaurant	5D3	ACD*	Downtown
46619203	1703 Fulton St.	1946	(commercial building with Streamline elements)	5D3	ACD*	Downtown
46613336	1914 Fulton St.	1954	Salvation Army Chapel	5S3	UTA	Downtown
46708220	503 G Street	1935	California Packing Corp. Water Tower	3CS	HPSR Santa Clara	Downtown
45918109	2618 Grant	1910	Theodore W. Fairman Home	7R	HRI	Jefferson
45824039	315 H Street	1938	J.B. Hill Feed Company (Zacky Farms)	7N	HRI	Jane Addams
46620513	1452 H Street	1928	(warehouse)	3CD/5D3*	ACD	Downtown
46620514	1454 H Street	1930	(warehouse)	3CD/5D3*	ACD	Downtown
46620406	1514 H Street	1922	Thompson Building	5D3*	ACD	Downtown
46620407	1560 H Street	1929/1937	Budd Quinn Warehouse	3CD/5B	ACD	Downtown
46619604	1600 H Street	1925 c.	J.B. Hill Block	5D3/3CD*	ACD	Downtown
46619604	1636 H Street	1920	(warehouse)	5D3/3CD*	ACD	Downtown
46619507	1776 H Street	1920-1925	(warehouse)	3CD/5D3*	ACD	Downtown
46502001	2115 H St.	1930 c.	M.P. Hebblewaite's Gas Station	5S3	UTA	Downtown
46111509	3555 Huntington Blvd.	1915	A.G. Wishon Home	-	City of Fresno	Southeast
46707203	1515 Inyo St.	1949	Nissei Automotive Repair	5D3	CHTN	Downtown
46707208	1522 Kern St.	1923	(mixed-use commercial/residential building)	3CS	CHTN	Downtown
46610521	1542 L Street	1924	Carlton Mathewson Residence	5S3	UTA	Downtown
46610312	1754 L Street	1906 c.	William Collins Home	5B	UTA	Downtown
47809115	2157 Lily Ave.	1913	Peter Steitz House	2S2	HRI	Downtown

PREVIOUSLY IDENTIFIED RESOURCES (NOT DESIGNATED)[106]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	STATUS CODE	SOURCE OF IDENTIFICATION	LOCATIONS
46611503	1325 M Street	1940	Brix Apartments	5S3	BCS; Documented in 2011 Intensive Survey	Downtown
46610215	1540 M Street	1950 c.	First Presbyterian Church	5S3	UTA; since this survey the church has added a new facade	Downtown
45909213	2827 Madison Ave.	1911	Byron W. Butler Home	7R	HRI	Jefferson
45922301	908 Mildreda Ave.	c. 1915	(Craftsman residence)	3D	NP	Lowell
45922303	934Mildreda Ave.	c. 1900	(American Foursquare residence)	3D	NP	Lowell
45914203	1032 Mildreda Ave.	c. 1900	(vernacular residence)	3D	NP	Lowell
45914204	1036 Mildreda Ave.	1920	(Craftsman residence)	3D	NP	Lowell
45914110	1047 Mildreda Ave.	c. 1900	(vernacular residence)	3D	NP	Lowell
45914205	1048 Mildreda Ave.	c. 1900	(vernacular residence)	3D	NP	Lowell
46611203	1331 N Street	1931	Royal Court Apartments	5S3	BCS; Documented in 2011 Intensive Survey	Downtown
46611202	1339 N Street	1931	Royal Court Apartments	5S3	BCS; Documented in 2011 Intensive Survey	Downtown
46608203	1223 P Street	1940	(Spanish Revival bungalow court)	5S3	BCS; Documented in 2011 Intensive Survey	Downtown
45905501	486 Poplar Ave.	1907	George H. Larsen House	2S2	HRI	Lowell
45929115	136-138 Roosevelt Ave.	1892	Burns Residence	2S2	HRI (Weitze 1991)	Lowell
46610303	2235 San Joaquin St.	1937 c.	Lowrie Home	5B	UTA	Downtown
46610302	2245 San Joaquin St.	1897	Schroeder Residence	5D3	UTA	Downtown

PREVIOUSLY IDENTIFIED RESOURCES (NOT DESIGNATED)[106]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	STATUS CODE	SOURCE OF IDENTIFICATION	LOCATIONS
46610122	2-4 San Pablo Avenue	1913	W.P. Cutting Flats	5B	Found ineligible for designation by action of the Fresno City Council	Downtown
46610122	6-8 San Pablo Avenue	1913	W.P. Cutting Flats	5B	Found ineligible for designation by action of the Fresno City Council	Downtown
46604205	1025 T Street	1916	Ewing Home		City of Fresno	Downtown
45934521	159 N. Thesta St.	1960	Thornburn & Davies Medical Building	7R	HRI	Jefferson
46707116	1502 Tulare St.	1905 c.	Oriental Dry Goods Company	5D3	CHTN	Downtown
46707101	1528 Tulare St.	1895 c.	(two-story commercial block)	5B	CHTN	Downtown
46614314	2141 Tuolumne St.	1922/1958	YWCA (1922) Garden Court Building (1958)	5S1	ACD	Downtown
45931126	106 Van Ness Ave.	c. 1915	(American Foursquare residence)	5D3	NP	Lowell
45930311	113 Van Ness Ave.	c. 1900	(Neo-classical cottage)	5D3	NP	Lowell
45931115	114 Van Ness Ave.	c. 1900	(Neo-classical multi-family residential)	5D3	NP	Lowell
45931116	122 Van Ness Ave.	c. 1920	(Craftsman residence)	5D3	NP	Lowell
45930309	125 Van Ness Ave.	c. 1900	(transitional cottage)	5D3	NP	Lowell
45930308	135 Van Ness Ave.	c. 1900	(Neo-classical cottage)	5D3	NP	Lowell
45931118	144 Van Ness Ave.	c. 1915	(Neo-classical residence)	5D3	NP	Lowell
45930307	145 Van Ness Ave.	c. 1900	(Neo-classical cottage)	5D3	NP	Lowell
45931119	156 Van Ness Ave.	c. 1915	(Craftsman residence)	5D3	NP	Lowell
45931120	158 Van Ness Ave.	c. 1915	(Craftsman residence)	5D3	NP	Lowell

PREVIOUSLY IDENTIFIED RESOURCES (NOT DESIGNATED)[106]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	STATUS CODE	SOURCE OF IDENTIFICATION	LOCATIONS
45930305	161 Van Ness Ave.	c. 1900	(vernacular cottage)	5D3	NP	Lowell
45931121	166 Van Ness Ave.	c. 1900	(Neo-classical cottage)	5D3	NP	Lowell
45931122	172 Van Ness Ave.	c. 1915	(Craftsman residence)	5D3	NP	Lowell
45931122	174 Van Ness Ave.	c. 1915	(Craftsman residence)	5D3	NP	Lowell
45930302	187 Van Ness Ave.	c. 1900	(transitional cottage)	5D3	NP	Lowell
45923111	216 Van Ness Ave.	c. 1915	(Craftsman residence)	3D	NP	Lowell
45922310	221 Van Ness Ave.	c. 1915	(Craftsman residence)	3D	NP	Lowell
45923112	224 Van Ness Ave.	c. 1915	(Craftsman residence)	3D	NP	Lowell
45922309	227 Van Ness Ave.	c. 1900	(American Foursquare residence)	3D	NP	Lowell
45923113	232 Van Ness Ave.	c. 1910	(American Foursquare residence)	3D	NP	Lowell
45922308	233 Van Ness Ave.	c. 1900	(American Foursquare residence)	3D	NP	Lowell
45922307	243 Van Ness Ave.	c. 1900	(Shingle Influence residence)	3B	NP	Lowell
45922306	255 Van Ness Ave.	c. 1900	(vernacular cottage)	3D	NP	Lowell
45922305	261 Van Ness Ave.	c. 1915	(Craftsman residence)	3D	NP	Lowell
45913320	345 Van Ness Ave.	1905	McIndoo House	Eligible for the National Register with concurrence	Weitz	Downtown
45914134	366 Van Ness Ave.	c. 1910	(vernacular residence)	3D	NP	Lowell
46825601	755 Van Ness Ave.	1923	Black's Market	3CS, 5S3	City of Fresno	Downtown
46614615U	1445 Van Ness Ave.	1925/1964	Pacific Telephone & Telegraph Company	3CS	ACD	Downtown
46614209	1528 Van Ness Ave.	1957	Fraternal Order of the Eagles Building	5S3	ACD	Downtown
46613306	1821 Van Ness Ave.	1936 c.	Blue Cross Veterinary Hospital	5S3	UTA	Downtown

PREVIOUSLY IDENTIFIED RESOURCES (NOT DESIGNATED)[106]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	STATUS CODE	SOURCE OF IDENTIFICATION	LOCATIONS
46613305	1829 Van Ness Ave.	1949 c.	CA Automobile Association Building	5S3	UTA	Downtown
45918305	2544 E. Washington Ave.	1914	William K. George Home	5S3	HRI	Jefferson
--	Weber Avenue	1952	Weber Avenue Overcrossing (Bridge 42C0071)		HSR Survey	Jane Addams
45930108	145 Yosemite Ave.	c. 1900	(Neo-classical cottage)	5D3	NP	Lowell
45930106	161 Yosemite Ave.	c. 1900	(Neo-classical cottage)	5D3	NP	Lowell
45930217	164 Yosemite Ave.	c. 1900	(Neo-classical cottage)	5D3	NP	Lowell
45930218	168 Yosemite Ave.	c. 1900	(Neo-classical cottage)	5D3	NP	Lowell
45930105	169 Yosemite Ave.	c. 1900	(Neo-classical cottage)	5D3	NP	Lowell
45930219	172 Yosemite Ave.	c. 1900	(Neo-classical cottage)	5D3	NP	Lowell
45930104	175 Yosemite Ave.	c. 1900	(Neo-classical cottage)	5D3	NP	Lowell
45930201	180 Yosemite Ave.	c. 1900	(Queen Anne cottage)	5B	NP	Lowell
45930103	181 Yosemite Ave.	c. 1900	(Neo-classical cottage)	5D3	NP	Lowell
45922112	209 Yosemite Ave.	c. 1900	(American Foursquare residence)	5B	NP	Lowell
45922111	215 Yosemite Ave.	c. 1900	(Neo-classical cottage)	5D3	NP	Lowell
45922212	224 Yosemite Ave.	1917	(residence)	3D	NP	Lowell
45922110	225 Yosemite Ave.	c. 1900	(Neo-classical cottage)	5D3	NP	Lowell
45922108	237 Yosemite Ave.	c. 1910	(residence)	3D	NP	Lowell
45922214	242 Yosemite Ave.	1911	(Craftsman cottage)	3D	NP	Lowell
--	Roughly bounded by Belmont, Grant, Fresno and Thesta.		Proposed Bellevue Bungalow District		City Historic Resources Map	Jefferson

PREVIOUSLY IDENTIFIED RESOURCES (NOT DESIGNATED)[106]						
PARCEL	ADDRESS	CONSTRUCTION DATE	HISTORIC NAME or OTHER IDENTIFIER	STATUS CODE	SOURCE OF IDENTIFICATION	LOCATIONS
--	Fulton Mall between Tuolumne and Inyo streets. Parts of Merced, Mariposa, and Kern streets.	1964	Fulton Mall Landscape	2S	Determined eligible for listing on the National Register with concurrence; listed on the California Register	Downtown
--	Huntington Blvd. between First St. and Cedar Ave.		Proposed Huntington Boulevard District		City Historic Resources Map	Southeast
--	--		Kearney Blvd Landscape	2S		Southwest
--	Madison Ave. between Fresno and Angus streets.		Proposed East Madison Avenue District		City Historic Resources Map	Jefferson
--	890 W. Belmont	1903 (first land acquisition)	Roeding Park	2S2	Found eligible for listing on the National Register through concurrence with SHPO.	Jane Addams
--		1932	Belmont Circle, underpass and railroad bridge.			Jane Addams

Source of Identification Abbreviations
ACD: Arts-Culture District Survey (2006)
BCS: Bungalow Court Survey (2004)
CHTN: Chinatown Survey (2006)
HPSR: Historic Property Survey Report for Renaissance at Santa Clara Project (2011)
HRI: California State Historic Resources Inventory (2010)
NP: North Park Survey (2008)
UTA: Upper Triangle Area Survey (2007)

Threshold of Significance

The purpose of this section is to analyze whether the proposed project would result in a "substantial adverse change" to an "historical resource." Under CEQA, the potential impacts of a project on historical resources must be considered. The purpose of CEQA is to evaluate whether a proposed project may have an adverse effect on the environment and, if so, if that effect can be reduced or eliminated by pursuing an alternative course of action or through mitigation measures.

In accordance with California Public Resource Code §21084.1, the proposed project would have a significant effect on the environment if development regulated by the project, or associated with any of the proposed development scenarios would cause a substantial adverse change in the significance of a historical resource as defined in Section 21084.1 of the Public Resources Code and Section 15064.5(b) of the CEQA Guidelines.

In determining potential impacts, a "substantial adverse change" means "demolition, destruction, relocation, or alteration of the resource such that the significance of an historical resource would be materially impaired."[107] Material impairment occurs when a project demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance.[108] The setting of a resource may also contribute to the significance of the resource. Impairment of the setting could affect the ability of the resource to convey its historic significance.

DNCP and FCSP Policies with Respect to Historic Resources

The preservation and protection of historic resources is fundamental to the DNCP's future vision of Downtown Fresno and its adjacent neighborhoods. Strategy 10 in Chapter 1 of the Plan states:

"The Plan Area includes some of Fresno's oldest neighborhoods and districts, and accordingly contains some of its most historically significant cultural resources. The preservation and

[107] *California Public Resources Code*, Section 5020.1(q) and *CEQA Guidelines*, Section 15064.5(b)(1)
[108] *CEQA Guidelines*, Section 15064.5(b)(2)

maintenance of these resources – whether buildings or parks, street trees, or signs – is essential to maintaining a sense of traditional continuity and community pride."

The DNCP goes on to state that *"New development compatible with these resources is critical to preserving the unique character of the Plan Area."*[109]

Historic and Cultural Resources are the topic of Chapter 6 of the DNCP. Chapter 6 reiterates the commitment to historic preservation as an organizing principal of the Plan. It states:

"This Community Plan emphasizes preservation and adaptive reuse. The late 19th and early 20th-century urban pattern can provide the foundation for a desirable urban form that integrates various land uses, the transportation network, parks, and open space in a coordinated manner. Using the existing built environment as a catalyst not only protects Fresno's heritage, but can also strengthen and support a wide range of the City's economic [illegible] quality of life goals."

Chapter 6 also addresses the historic character of each of the Plan Areas, and describes the types of resources found within each area.

In accordance with the DNCP, historic preservation is considered "a critical component of Downtown's revitalization" in the FCSP. [111] Goals and strategies for historic preservation within the FCSP area are discussed in Chapter 7 of the FCSP. They include encouraging rehabilitation and adaptive reuse of historic buildings, new development that is compatible with historic resources, and the use of preservation incentives.[112]

Definitions

The DNCP and FCSP use the following terms related to historic resources:[113]

Historic Resource, *Significant Resource*, *Significant District*, *Potential Significant Resource* and *Potential Significant District*. These terms are defined in the Historic Environmental Review [illegible]

[109] DNCP (1:5.10)
[110] DNCP (6:1.A)

[111] FCSP (7:6)
[112] FCSP, (7:6)
[113] DNCP (6:1); FCSP (7:2)

Development Code or the Downtown Development Code. Definitions of these terms as defined in the draft Historic Environmental Review Procedures Ordinance are reviewed on pages 50-51 of this Technical Report.

Note that this Technical Report provides an inventory of resources in Table 7 and Table 8 that fall within the mandatory and presumptive categories of Historical Resources pursuant to CEQA as well as other resources for which there may be substantial evidence to support a determination that those resources would qualify as Historical Resources for purposes of CEQA under the discretionary category, should the City Council exercise its discretion in that regard. Finally, Table 9 contains a listing of other resources for which additional research and verification is necessary before they could potentially qualify under any category of Historical Resource for purposes of CEQA.

Land Use Designation and the Development Code

Development within the DNCP and FCSP areas is regulated through land use designations described in the plans[114] and an accompanying Downtown Development Code. Land use designations are zoning classifications intended to be "broad descriptions of the intended future character and use"[115] of a designated area. The Downtown Development Code provides detail on development standards including the following:

a. Building Placement

b. Allowed Building Types

c. Allowed Frontage Types

d. Building Height and Size

e. Allowed encroachments into required yards

f. Parking Placement and Site Access

g. Required Parking

h. Allowed Land Uses

i. Allowed Signage Types

j. Allowed Street Types"[116]

[114] DNCP (2:24 – 2:41); FCSP (6:10 – 6:15)
[115] DNCP (2:24)
[116] Ibid.

The Downtown Development Code provides for the protection of designated historic resources through specific application provisions and development standards. Application requirements that apply to historic resources are delineated in section 1.2.1D5:

All property immediately adjacent to or containing an identified historic resource, as defined by the City's Historic Preservation Ordinance (FMC 12-1601), is subject to the Downtown Code as follows:

- *All requirements of FMC Chapter 12-1601 'Historic Preservation Ordinance' apply;*
- *Land use activity shall comply with subsection 2 'Land Use Standards' of the zoning district;*
- *Improvements, modifications and expansions to historic resources, as defined by FMC 12-1601, and the construction of additional structures shall comply with the requirements of the zoning district and FMC 12-1601';*
- *Sites immediately adjacent to an identified historic resource, as defined by FMC 12-1601, shall comply with the requirements of Section 2.3.5 'Historic Resource Adjacency Standards'.*[117]

Development standards for sites adjacent to designated historic resources are delineated in Section 2.3.5 of the Downtown Development Code:

The following requirements apply to: a) sites that contain historic buildings as defined by FMC 12-1600, b) sites that are immediately adjacent to a historic building by sharing a property line, or c) sites that do not share a property line but are visually adjacent by being separated from the subject site by a public right-of-way.

1. *New or modified buildings shall visually complement the adjacent historic building through the following as applicable. New or modified buildings shall:*
   i. *Match the building setbacks of the historic building(s). When*

[117] *Downtown Development Code*, Section 1.2.1D5

several setbacks exist, the prevalent setback shall be used;

ii. Match the roof pitch of the historic building(s);

iii. Be similar in scale and massing to the historic building(s);

iv. Be similar in organization and size of openings to the historic building(s);

v. Have site access (e.g., driveways and on-site paths) that are complementary in size and materials to the historic building(s);

vi. Have site details (e.g., fencing and landscaping) that are complementary to the historic building(s).

2. Historic buildings as defined in FMC 12-1601, shall comply with the applicable requirements of FMC 12-1600 and the applicable requirements of the Downtown Code.

The Downtown Development Code also complies with section 12-306 of the FMC which allows for deviation in the application of development standards with regard to historic resources. The FMC stipulates that "any building or structure, including signs, that are identified and designated as a Historic Resource pursuant to the Historic Preservation Ordinance, may, at the discretion of the Director, Planning and Development Department upon advice from the City Historic Preservation Specialist, be exempted from any and all property development standards of the zoning ordinance with the exception of those rules and regulations imposed in the vicinity of Airports."

Section 1.2.1D6 of the Downtown Development Code also states that "structures built prior to February 13, 1954 are exempt from the parking requirements of the Downtown Code."[118] While not specifically written to address historic resources, this exemption may help historic buildings avoid alteration that would otherwise be required to conform to parking requirements for new buildings or changes in use.

Finally, the Downtown Development Code affirms that any permit

[118] *Downtown Development Code*, Section 1.2.1D6

application involving a historic resource, significant resource, significant district, potential significant resource or potential significant district will follow the review procedures for historic resources defined in the Environmental Review Procedures Ordinance to be considered for adoption by the City when it considers adoption of a new Development Code or the Downtown Development Code. .[119] If adopted, this review process would ensure that all significant resources and potential significant resources are subject to the appropriate review under CEQA.

DNCP Impacts Analysis

The DNCP is intended to be a visionary document that is "the community's tool for guiding successful regeneration of Downtown Fresno and its surrounding neighborhoods" and "lays out the community's long-term goals for the Plan Area."[120] As such, it sets forth development policy in broad terms and does not suggest site-specific development projects.

Impacts associated with the DNCP itself that may cause a substantial adverse change in the significance of a historic resource would typically be policy directives, strategies, and/or provisions within the Downtown Development Code that result in:

- Demolition or substantial alteration of a historic resource.
- Incompatible size, scale and massing of new construction on properties adjacent to historic resources such that the resource's ability to convey its significance is impaired.
- Obstruction of significant views to and from a historic resource by new construction.
- Disruption and substantial alteration of the setting of a historic resource by new construction.

The Jane Addams Neighborhood, Jefferson Neighborhood, Southeast Neighborhoods, Southwest Neighborhoods, and the South Van Ness Industrial area have not been subject to historic survey since at least1994 if they have been surveyed at all. It is probable; therefore, that buildings, structures, objects, and sites that are historically significant but have not been identified as such, exist in these areas.

[119] The proposed Environmental Review Procedures Ordinance is reviewed on p. 50 of this report.
[120] DNCP (2)

Because much of the Community Plan area has not been surveyed for historic resources, the Community Plan has the potential to leave historic resources vulnerable to demolition, destruction, relocation, or alteration such that the significance of such a resource would be materially impaired.

This risk however would be mitigated by the Environmental Review Procedures Ordinance to be considered for adoption by the City. The Ordinance would require that all significant resources and potential significant resources are subject to the appropriate review under CEQA.[121]

FCSP Impacts Analysis

As a specific plan, the FCSP is both "a visionary document that lays out the community's long-term goals for the Plan Area, as well as an implementation plan for the immediate and midterm actions needed to achieve the long-term vision."[122] Therefore, the FSCP differs from the DNCP in that it not only sets forth development policy in broad terms, but includes targeted and site-specific development projects as catalysts for revitalization.

Similar to the DNCP, impacts associated with the FCSP include policy directives, strategies, and/or provisions within the Downtown Development Code that could result in a substantial adverse change in the significance of a historic resource. In addition, site specific development projects included as implementation of the FSCP may adversely affect historic resources.

Because the FCSP is regulated by the same Downtown Development Code as the DNCP, potential historic resources that have not been designated are not protected by the development standards outlined in sections 1.2.1B5 and 2.3.5. This has the potential to result in demolition, destruction, relocation, or alteration of identified historic resources such that the significance of such a resource would be materially impaired. Again, this risk would be mitigated by the Environmental Review Procedures Ordinance to be considered for adoption by the City. If adopted, the Ordinance would require that all historically significant resources and

[121] The proposed Environmental Review Procedures Ordinance is reviewed on p. 50 of this report.
[122] FCSP (1:1)

potential historically significant resources are subject to the appropriate review under CEQA.[123]

Priority Projects

The FCSP recommends fourteen "Priority Development Projects" to generate immediate physical impact and economic regeneration for Downtown Fresno.[124] Three of these projects will directly affect areas that contain resources recognized as historically significant. The potential impacts from these projects are analyzed below.

Priority Project 1: Fulton Mall Revitalization

As detailed in Section 3 of this report, the Fulton Mall has been formally determined eligible for listing in the National Register, and is, therefore, listed in the California Register. As such, the Fulton Mall landscape is considered a historic resource under CEQA.

The FCSP presents three options for revitalization of the Fulton Mall in order to improve its function. Two options for treatment of the Fulton Mall contemplate direct actions on a recognized historic resource that have the potential to result in significant impacts to that resource. The three options are analyzed below.

Option 1: Reconnect the Grid on Traditional Streets

This project will completely remove the existing Mall and introduce a narrow, two-lane, two-way enhanced street with oversize sidewalks, stately trees, and on-street parking, throughout the Fulton Mall and its cross streets.[125]

Analysis of Option 1

Option 1 will remove all of the existing Mall's character-defining features and materials and replace them with a two-lane, two-way "enhanced street" with sidewalks, street trees, and on-street parking.

The proposed removal of all of the historic hardscape and landscape features, the introduction of new sidewalks, the replacement of street trees, and the introduction of automobile traffic to previously pedestrian-only streets, would alter the Fulton Mall such that it would no

[123] The proposed Environmental Review Procedures Ordinance is reviewed on p. 50 of this report.
[124] FCSP (5:2)
[125] FCSP (4:8)

longer retain integrity of location, design, setting, materials, workmanship, feeling, or association. Because all of its original design features and materials would be lost, the Fulton Mall would no longer be able to convey its historic significance, and would no longer be eligible for the National Register or the California Register. Therefore, implementation of this Option would result in a significant impact to the Fulton Mall.

Option 2: Reconnect the Grid with Vignettes

This project will introduce a two-way street through the Fulton Mall. It will keep selected original features in their original Mall context ("vignettes"), in a manner that provides improved retail visibility and some on-street parking. Kern, Mariposa and Merced will be reintroduced as "enhanced streets" with narrow traffic ways, sidewalks, trees, and on-street parking.[126]

Analysis of Option 2

"Option 2: Reconnect the Grid: Vignettes," has been identified in the FCSP as the preferred alternative for the future of the Fulton Mall and is considered "the project" for the purposes of environmental review. Therefore, Option 2 is analyzed in more detail here.

Option 2 will introduce a two-way street through what is currently the Fulton Mall, re-opening Fulton Street to automobile traffic and some on-street parking. Those portions of Kern Street, Mariposa Street, and Merced Street that currently contain Mall character-defining features both hardscape and landscape will be re-designed for automobile traffic and street parking. According to the DNCP, "key features of the original Mall landscape will be kept in place as 'vignettes' within the new streetscape… most Mall landscape features will be removed." [127] Of the six blocks along Fulton Street that comprise the historic Fulton Mall, approximately 2.5 non-contiguous blocks will remain, dispersed as six "vignettes" throughout the length of Fulton Street between Tuolumne Street and Inyo Street. "Vignette" areas will not include on-street parking. Fourteen of the original Mall sculptures will be retained in their original location; the remaining six will be relocated within the Central Business

[126] FCSP (4:10 - 4.11)

[127] FCSP (4:10)

District. Twelve of the original twenty-one water features will remain in place. The remaining portions of the Fulton Mall landscape will be removed and replaced with more traditional curbs, gutters, sidewalks, street trees and street lighting.

Option 2 will retain important portions of the Fulton Mall's character-defining features, including the majority of original sculptures, over half of the original water features, as well as segments of the original paving treatment. By retaining these features, important aspects of the Mall's original design will be memorialized.

Despite retaining many important features, the majority of the historic Fulton Mall will be removed under Option 2. The existing historic cultural landscape includes six blocks of Fulton Street, two blocks of Mariposa Street and approximately one block each on Kern and Merced streets. After the implementation of Option 2, approximately two and a half blocks of discontinuous "vignettes" will remain.

The proposed removal of the majority of original hardscape and landscape features, the introduction of automobile traffic to a previously pedestrian-only thoroughfare, and the relocation of five original sculptures would alter the Fulton Mall such that it would no longer retain a level of integrity necessary to convey its historic significance. As noted in Section 3.0 of this report, The National Park Service defines seven aspects of integrity. These are location, design, setting, materials, workmanship, feeling, and association.

Location is defined as "the place where the historic property was constructed or the place where the historic event occurred." Because the majority of the character-defining hardscape and landscape features would be removed from their historic location, the Fulton Mall would no longer retain integrity of location.

Design is defined as "the combination of elements that create the form, plan, space, structure, and style of a property." Removing the majority of the Fulton Mall's landscape and hardscape features will significantly alter the form, plan, space, structure and style of the Mall and it would no longer retain integrity of design.

Setting is defined as the physical environment of a historic property. The majority of the Mall's character-defining hardscape and landscape features would be removed, and automobile traffic would be re-introduced to areas currently designed as pedestrian-only spaces. These actions would significantly alter the setting of those portions of the Mall that would remain as "vignettes". Subsequently, the Fulton Mall would no longer retain its integrity of setting.

Materials are defined as "the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property." Because the majority of the character-defining hardscape and landscape material will be removed under Option 2, the Fulton Mall would no longer retain integrity of materials.

Workmanship is defined as "the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory." The character-defining hardscape and landscape features of the Fulton Mall embody the particular craftsmanship of both landscape designer Garrett Eckbo and the individual artists commissioned to provide sculptures and mosaics. Because the majority of the original hardscape and landscape features will be removed, and five original sculptures will be relocated, the Fulton Mall will no longer retain integrity of workmanship.

Feeling is defined as "a property's expression of the aesthetic or historic sense of a particular period of time." The Fulton Mall is historically significant in part for its association with post-World War II landscape design and the mid-20th century trend for pedestrian malls as a redevelopment scheme. These associations are expressed not only through the Mall's individual design elements but in how these elements are arrayed and integrated along several street blocks closed to automobile traffic. Option 2 will remove the majority of the original hardscape and landscape features and those features that remain will be interrupted by a traditional multimodal street. The original expression of a linear, pedestrian landscape traversing several blocks will be lost and the Fulton Mall will no longer retain integrity of feeling.

Association is defined as "the direct link between an important historic event or person and a historic property." The Fulton Mall is historically linked to its designer, master landscape architect Garrett Eckbo, because the original implementation of his design remains largely intact today. Option 2 will remove the majority of the original hardscape and landscape features and those features that remain will be isolated as individual "vignettes" that no longer work together as an integrated whole. Garrett Eckbo's original vision of a continuous linear landscape will no longer be discernible and the Fulton Mall will no longer retain integrity of association.

In summary, the proposed removal of the majority of original hardscape and landscape features, the introduction of automobile traffic to a previously pedestrian-only thoroughfare, and the

relocation of five original sculptures would alter the Fulton Mall such that it would no longer retain integrity of location, design, setting, materials, workmanship, feeling, or association. Subsequently, the Fulton Mall would no longer be eligible for the National Register or the California Register. Therefore, implementation of this option would result in a significant impact to the Fulton Mall.

Option 3: Restoration and Completion
This alternative would keep Fulton Street, Merced Street, Mariposa Street, and Kern Street as pedestrian-only thoroughfare. The Mall would be renovated, and its character-defining features and materials would be restored in their entirety, including landscape, hardscape, and artwork.

Analysis of Option 3
Option 3 will keep Fulton Street, Merced Street, Mariposa Street, and Kern Street in their current pedestrian-only configuration and preserve the Mall's character-defining features and materials. As described in Chapter 4 of the FCSP, "the entire project as envisioned and realized by Garrett Eckbo, including all of its features and details (fountains, pavement, plantings, lighting, etc.) is renovated and the existing artwork is restored in place."[128]

With mitigation to ensure that the proposed restoration is completed according to the Secretary of the Interior's Standards, this option would retain integrity of location, design, setting, materials, workmanship, feeling, and association. Subsequently, the Fulton Mall would continue to convey its historic significance and maintain its eligibility for the National Register and the California Register. Therefore, Option 3 would not result in significant impacts to this historic resource.

Priority Project 3: South End of the Fulton Mall

As proposed in the FCSP, development of the southern end of the Fulton Mall would involve the adaptive re-use of the former Gottschalk's department store building as a public market. Adaptive re-use would involve the introduction of new skylights and light wells in the building.

The former Gottschalk's building, located at 802 Fulton Mall, was

[128] FCSP (4:12)

identified in the 2011 Fulton Corridor Survey as eligible for the National, State and local registers as an excellent example of Late Moderne architecture, and as the flagship location of important regional retailer Gottschalks. The building would, therefore, be considered a potential significant resource as defined in the FCSP.

Adaptive re-use of the Gottschalk's building has the potential to result in alteration such that the significance of an historical resource would be materially impaired. However, this risk would be mitigated by the Environmental Review Procedures Ordinance to be considered for adoption by the City. If adopted, the Ordinance would require that all historically significant resources and potential historically significant resources are subject to the appropriate review under CEQA.

Priority Project 4: Proposed High-Speed Train Station

The Fulton Corridor Specific Plan Area is proposed to be the site of one of the California High Speed-Train (HST) stations, to be constructed in the system's first phase. The FCSP advocates "work(ing) with the California High-Speed Rail Authority (CHSRA) to build the HST station"[129] as a Priority Project. The proposed location of Fresno's HST station is near the heart of Downtown and has the potential to impact historic resources.

The CHSRA and the Federal Railroad Administration (FRA) are the state and federal agencies responsible for the environmental review of the state's high-speed train system. The environmental review process falls under the requirements of (CEQA) and the National Environmental Policy Act (NEPA). Under CEQA, the project impacts are reported in the Environmental Impact Report or "EIR." Under NEPA, the impacts are reported in the Environmental Impact Statement or "EIS." For this project, the draft report and statement have been combined in a joint document that fulfills both state and federal requirements.

In 2005, the FRA and the CHSRA completed a Statewide Program EIR/EIS

[129] FCSP (5:2)

in accordance with NEPA and CEQA as the first phase of a tiered environmental review process for the proposed California HST System. Following programmatic environmental review, CHSRA and FRA approved the HST system for intercity travel in California, and selected corridors for project-level study.

A Programmatic Agreement (PA) was developed among the FRA, the CHSRA, the Advisory Council on Historic Preservation (ACHP), the California State Historic Preservation Officer (SHPO) and other consulting parties for compliance with Section 106 of the National Historic Preservation Act (NHPA) throughout the High-Speed Train system. The PA provides consultation procedures, documentation standards, and federal agency oversight in compliance with the NHPA. The PA also provides guidelines for identification and evaluation of historic properties, including developing the Area of Potential Effects (APE); identification, documentation, and evaluation procedures for historic properties; and assessment and treatment of adverse effects. The PA presents the approach for the treatment of historic properties, including guidance on developing Memoranda of Agreement (MOA) for each undertaking where there are adverse effects. [130]

The draft EIR/EIS for both the Merced-to-Fresno and Fresno-to-Bakersfield sections of the project was released in August of 2011. These documents analyze and disclose the potential environmental impacts – including impacts to historic resources -- associated with the construction, operation and maintenance of the 65-mile Merced-to-Fresno and 113-mile Fresno-to-Bakersfield sections of the project. Both draft EIR/EIS documents identify the substantial adverse changes to historic resources located within the Fulton Corridor. Mitigation measures to reduce impacts are also detailed in the EIR/EIS documents.

Revised draft EIR/EIS documents were released in the summer of 2012.

[130] California High-Speed Rail Authority. *Draft California High-Speed Train Project EIR/EIS Fresno to Bakersfield Section, 3.17 Cultural and Paleontological Resources*, August 2011 (3.17-8)

Open Space Improvements

In addition to the Priority Projects outlined in Chapter 5, the FCSP also makes recommendations for improving the public realm. Strategies and suggested improvements for the public realm are detailed in Chapter 8 of the FCSP, including improvements of existing open spaces.[131] They are intended "to provide a long-term vision for a high-quality public realm in Downtown, with enhanced vitality, character, and community space." Two of the recommended improvements to existing open spaces will directly affect areas that contain resources recognized as potential historically significant resources. The potential impacts from these improvements are analyzed below.

Existing Open Spaces 3: The Civic Mall

The FCSP recommends altering the Civic Mall along Mariposa to strengthen "the civic presence and importance of the mall… by introducing a grand boulevard with a wide tree-lined median that includes:

- A single lane of traffic in either direction to improve safety and provide eyes on the sidewalk during off-peak hours when government offices are closed;
- Pedestrian-scaled light standards and enhanced paving that improves pedestrian connectivity and reinforces the axis between City Hall and the County Courthouse; and
- A simplified ground plane landscape that provides an open, visible and well-lit environment that increases the perception of safety and enables an unobstructed view of City Hall to the east and the County Courthouse to the west."[132]

A potential "Civic Center Historic District" was identified by the 2011 Downtown-Fulton Corridor Historic Survey. With the mall along Mariposa as its central spine, the identified historic district includes Depression Era government buildings, and mid-Century government buildings associated with the New Deal Era and mid-20th

[131] FCSP (8:3)

[132] FCSP (8:8)

Century expansions of the Civic Center, and their associated landscapes and landscape features. The identified potential district contains fourteen contributing buildings and one non-contributor. Seven of the contributors have been designated individually as historic resources by the City. The alterations proposed for the Mariposa Mall do not appear to result in a loss of historic significance for the designated historic buildings or identified potential district, since the proposed changes are contained within the Mariposa Street public right-of-way and do not affect important character-defining features.

Existing Open Spaces 4: Courthouse Park

The FCSP recommends removing barriers along (Courthouse Park's) edges "in order to open up the park to surrounding streets, sidewalks, and buildings and create a more inviting environment for Downtown residents, workers, and visitors…" Key transformations include:

- Relocating the Downtown Transit Mall in order to improve visibility into Courthouse Park and enhance pedestrian connectivity.
- Introducing a street level crossing at Van Ness Avenue and Mariposa Street that includes a pedestrian refuge median and dual, high-visibility crosswalks, instead of requiring the use of the existing pedestrian underpass;
- Adjust garage ramp entries/exits at the corners of Van Ness Avenue and Fresno Street and Van Ness Avenue and Tulare Street, so they are accessible from only one street (for example, the Van Ness Avenue ramps are modified to only be accessible from Van Ness Avenue; the drive lanes that provide access to Fresno Street and from Tulare Street are removed);
- Removing the bus bays along Van Ness Avenue and Fresno Street;
- Replacing the parking lots along Fresno and Tulare Streets with on-street parking;
- Introducing continuous sidewalks and street trees around Courthouse Park's entire perimeter including along the entire length of Van Ness Avenue;
- Updating Courthouse Park's landscape and hardscape by introducing enhanced paving, native landscapes, and providing filtered

shade via landscape or architectural trellises/ canopies; and

- Providing pedestrian lighting that continues the Civic Mall axis from M Street to Van Ness Avenue."[133]

Courthouse Park was dedicated as open space during the late 1800's, and was evaluated as a contributing landscape to the potential Civic Center Historic District identified in the 2011 Historic Survey. Although the proposed alterations to Courthouse Park are largely confined to its edges and may not necessarily result in a loss of historic significance, care would need to be taken to ensure that character-defining features are retained. With mitigation to ensure that the proposed improvements are completed according to the Secretary of the Interior's Standards, Courthouse Park would continue to convey its historic significance and avoid potential impacts.

Courthouse Park is under the jurisdiction of the County of Fresno. The Fresno County Landmarks & Records Commission advises the County Board of Supervisors on historic resource issues. Any future alterations to Courthouse Park would ultimately be regulated by the County.

Summary of Potential Impacts

The above analysis identifies three proposed projects delineated in the FCSP that have the potential to impact historically significant and potential historically significant resources. These impacts are summarized below.

Fulton Mall Revitalization Option 2

As of the release of the public draft of the Fulton Corridor Specific Plan, the City Administration recommended and will be pursuing "Option 2: Reconnect the Grid: Vignettes," as the preferred alternative for the future of the Fulton Mall and "the project" for the purposes of environmental review.

Despite retaining important portions of the Fulton Mall landscape, including the majority of original sculptures and over half of the original water features, the majority of the historic Fulton Mall landscape will be removed under Option 2, such that it would no longer be eligible for the National Register or the California Register, resulting in significant adverse effects to a historic resource as defined by CEQA. These impacts could not be mitigated to a less-than-significant level.

[133] FDSP (8:9)

High-Speed Train Station

Impacts to historic resources are analyzed in the draft EIR/EIS for both the Merced-to-Fresno and Fresno-to-Bakersfield sections of the High Speed Train Project.

The DNCP and FCSP will not add additional impacts to historic resources associated with High-Speed Train construction activity.

Development of the South End of the Fulton Mall

Development of the southern end of the Fulton Mall would involve the adaptive re-use of the former Gottschalk's department store building as a public market. The former Gottschalk's building, located at 802 Fulton Mall was identified in the 2011 Fulton Corridor Survey as eligible for the National, State and local registers.

Adaptive re-use of the Gottschalk's building has the potential to result in alteration such that the significance of an historical resource would be materially impaired. However, the City's Historic Environmental Review Procedures ensure that any development project associated with the former Gottschalk's building will require review for the purposes of CEQA.

Courthouse Park Improvements

Proposed alterations to Courthouse Park are largely confined to its edges and may not necessarily result in a loss of historic significance; however, care would need to be taken to ensure that character-defining features are retained. With mitigation to ensure that the proposed improvements are completed according to the Secretary of the Interior's Standards, Courthouse Park would continue to convey its historic significance and avoid potential impacts.

Courthouse Park is under the jurisdiction of the County of Fresno. The Fresno County Landmarks & Records Commission advises the County Board of Supervisors on historic resource issues. Any future alterations to Courthouse Park would ultimately be regulated by the County.

6.0 RECOMMENDED MITIGATION MEASURES

The following mitigation measures are recommended to reduce impacts to historic resources. These mitigation measures reduce impacts by increasing the recognition of potentially significant resources and enhancing review protocols and protections. Implementation of these mitigation measures will substantially reduce the impacts identified in this report.

Fulton Mall Revitalization

1. Archival documentation (Historic American Building Survey [HABS] level I documentation) will be prepared for the Fulton Mall landscape prior to commencement of demolition. HABS Level I documentation shall consist of the following:
    - architectural and historical narrative;
    - adequate archival drawings as available;
    - historic photographs as available;
    - archival photographs documenting all character-defining features, as well as context views.
2. Develop an interpretive program using plaques, photos, drawings and text, etc. informing the public about Garrett Eckbo, and the Fulton Mall as an important example of mid-20th century landscape design.

While the mitigation measures listed above will document and memorialize the Fulton Mall landscape, they will not reduce impacts to the Fulton Mall to a less-than-significant level.

Review Procedures for Historic Resources

The City of Fresno should adopt the "Historic Environmental Review Procedures Ordinance" (the Ordinance) either when it considers adoption of a new Development Code or the Downtown Development Code. The procedures defined in the Ordinance would provide "clear procedures for the review of historically significant and potential historically significant resources" under CEQA when a development project is under review.

The Ordinance defines terms that describe those resources subject to its procedures and defines a three-step process for review of historic resources. The Ordinance would also offer the option to incorporate Historic Development Standards so that impacts to historically significant resources will be avoided, and would ensure that development projects that involve historically significant resources and potential historically significant

resources are subject to the appropriate review under CEQA.

Implementation of the above mitigation measure will reduce impacts to potential historically significant resources to a less-than-significant level.

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2.2 - Fulton Corridor Survey Report

REPORT

Downtown Fresno (Fulton Corridor) Historic Resources Survey

December 2011

HISTORIC RESOURCES GROUP

PREPARED FOR

Moule & Polyzoides
Architects and Urbanists
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REPORT

Downtown Fresno (Fulton Corridor) Historic Resources Survey

HISTORIC RESOURCES GROUP

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OVERVIEW

Downtown Fresno and its immediately surrounding neighborhoods contain some of the City's oldest and most historically significant areas, and has been the subject of numerous previous surveys and studies. These earlier efforts have identified both individual historic resources and several historic districts, and include resources found eligible for the National Register of Historic Places and the California Register of Historical Resources. Many resources have also been designated as local historic resources by the City of Fresno.

The 2011 survey was designed to accomplish three key objectives regarding historic resources within the Downtown Fresno (Fulton Corridor):

1. Identification of individual properties significant to the history of the City of Fresno, California, and the nation that had not been previously identified through survey.
2. Identification of any geographic or thematic groupings of properties that would comprise a potential historic district.
3. Evaluation and documentation for all properties located within the Fulton Corridor that had not been previously evaluated and documented.

With these objectives in mind, the scope of the survey was defined in consultation with City staff to comprise five main components:

1. A reconnaissance-level survey of properties within the central portions of the City as well as selected outlying areas.
2. Intensive survey of the all properties located on the Fulton Mall.
3. Intensive survey of all properties located within the Fulton Corridor that had not been previously surveyed or otherwise evaluated as a historic resource.
4. An historic context statement for Downtown Fresno.
5. A comprehensive data table of all surveyed properties, with evaluations for local, state, and national designation as historic resources where applicable.

The survey was conducted between April 2010 and March 2011. Participants included Christy McAvoy, Managing Principal; Paul Travis, Senior Preservation Planner; and Christine Lazzaretto, Senior Architectural Historian; all of whom meet the Secretary of the Interior's qualifications

for professionals in historic preservation.[1] Additional assistance was provided by Robbie Arangun, assistant researcher.

Project coordination on behalf of the City of Fresno was managed by Karana Hattersley-Drayton, Historic Preservation Project Manager.

As this survey report indicates, Downtown Fresno boasts a substantial number of historically significant properties. With the information compiled in this report and associated appendices, the City is prepared to pursue its ongoing efforts to protect and preserve its vibrant past.

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[1] Federal Register, Vol. 48, No. 190, pp. 44738-44739, September 29, 1983.

FEDERAL AND STATE REGULATORY FRAMEWORK

The identification and protection of historic resources is supported by Federal and state regulations. The following discussion provides an overview.

National Historic Preservation Act

The National Historic Preservation Act (NHPA), which was most recently amended in 1992, created the framework for preservation activity in the United States. The NHPA redefined and expanded the National Register of Historic Places which had been established by the Historic Sites Act of 1935; created the position of State Historic Preservation Officer (SHPO) to administer state preservation programs; established the Certified Local Government Program; and set up the Historic Preservation Fund to fund the provisions of the Act.

Section 106 of the National Historic Preservation Act, through a consultation process with the Advisory Council on Historic Preservation, mandates that the effects of all federal undertakings on properties listed in or eligible for listing in the National Register be taken into account.

National Environmental Policy Act

The intent of the National Environmental Policy Act is to protect the natural and built environment, including historic properties, from adverse effects resulting from federal actions. Before a federal agency may proceed with a proposed action, it must first perform an environmental assessment to determine whether the action could have any significant effect on the environment. If it is determined that the action may have an effect on the environment, the agency must then prepare an Environmental Impact Statement (EIS) which identifies all environmental impacts resulting from the action and lists mitigation measures and project alternatives which avoid or minimize adverse impacts.

Impacts involving historic properties are usually assessed in coordination with the process established under the National Historic Preservation Act of 1966. Normally, the Section 106 process must be completed before the Environmental Assessment or EIS can be finalized.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) was enacted in 1970 and most recently modified in 1998. The basic purpose of CEQA is to inform governmental decision makers and the public about the potential significant adverse effects, if any, of proposed activities and projects.

It also provides opportunities for the public and for other agencies to review and comment on draft environmental documents. As environmental policy,

CEQA requires that environmental protection be given significant consideration in the decision making process. Historic resources are included under environmental protection. Thus, any project or action which constitutes a substantial adverse change on a historic resource also has a significant effect on the environment and shall comply with the State CEQA Guidelines.

When the California Register of Historical Resources was established in 1992, the Legislature amended CEQA to clarify which cultural resources are significant, as well as which project impacts are considered to be significantly adverse. A "substantial adverse change" means "demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired."

CEQA defines a historical resource as a resource listed in, or determined eligible for listing, in the California Register of Historical Resources. All properties on the California Register are to be considered under CEQA. However, because a property does not appear on the California Register does not mean it is not significant and therefore exempt from CEQA consideration. Similar to Section 106 and the National Register, all resources determined eligible for the California Register are also to be considered under CEQA.

Public agencies must treat some resources as significant under CEQA unless the "preponderance of evidence demonstrates" that the resource is not historically or culturally significant. These resources include locally designated properties and properties evaluated as significant in cultural resources surveys which meet California Register of Historical Resources criteria and California Office of Historic Preservation Survey Methodology.

Substantial adverse change in the significance of a historical resource is viewed as a significant effect on the environment. CEQA prohibits the use of a categorical exemption for projects which may cause a substantial adverse change.

Historic Designations

A property may be designated as historic by National, State, and local authorities. In order for a building to qualify for listing in the National Register or the California Register, it must meet one or more identified criteria of significance. The property must also retain sufficient architectural integrity to continue to evoke the sense of place and time with which it is historically associated.

National Register of Historic Places

The National Register of Historic Places is an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify

the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment.[2] The National Park Service administers the National Register program. Listing in the National Register assists in preservation of historic properties in several ways including: recognition that a property is of significance to the nation, the state, or the community; consideration in the planning for federal or federally assisted projects; eligibility for federal tax benefits; and qualification for Federal assistance for historic preservation, when funds are available.

To be eligible for listing and/or listed in the National Register, a resource must possess significance in American history and culture, architecture, or archaeology. Listing in the National Register is primarily honorary and does not in and of itself provide protection of an historic resource. The primary effect of listing in the National Register on private owners of historic buildings is the availability of financial and tax incentives. In addition, for projects that receive Federal funding, a clearance process must be completed in accordance with Section 106 of the National Historic Preservation Act. Furthermore, state and local regulations may apply to properties listed in the National Register.

The criteria for listing in the National Register follow established guidelines for determining the significance of properties. The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose

[2] 36CFR60, Section 60.2.

components may lack individual distinction; or

D. That have yielded, or may be likely to yield, information important in prehistory or history. [3]

In addition to meeting any or all of the criteria listed above, properties nominated must also possess integrity of *location, design, setting, materials, workmanship, feeling,* and *association.*

California Register of Historical Resources

The California Register is an authoritative guide in California used by State and local agencies, private groups, and citizens to identify the State's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change.[4]

The criteria for eligibility for listing in the California Register are based upon National Register criteria. These criteria are:

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
2. Associated with the lives of persons important to local, California or national history.
3. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

The California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register includes the following:

- California properties formally determined eligible for (Category 2 in the State Inventory of Historical Resources), or listed in (Category 1 in the State Inventory), the National Register of Historic Places.
- State Historical Landmarks No. 770 and all consecutively numbered state historical landmarks following No. 770.

[3] 36CFR60, Section 60.3.
[4] California PRC, Section 5023.1(a).

For state historical landmarks preceding No. 770, the Office of Historic Preservation (OHP) shall review their eligibility for the California Register in accordance with procedures to be adopted by the State Historical Resources Commission (commission).

- Points of historical interest which have been reviewed by the OHP and recommended for listing by the commission for inclusion in the California Register in accordance with criteria adopted by the commission. [5]

Other resources which may be nominated for listing in the California Register include:

- Individual historical resources.
- Historical resources contributing to the significance of an historic district.
- Historical resources identified as significant in historical resources surveys, if the survey meets the criteria listed in subdivision (g) of Section 5023.1" of the Public Resources Code.
- Historical resources and historic districts designated or listed as city or county landmarks or historic properties or districts pursuant to any city or county ordinance, if the criteria for designation or listing under the ordinance have been determined by the office to be consistent with California Register criteria.
- Local landmarks or historic properties designated under any municipal or county ordinance. [6]

[5] California PRC, Section 5023.1(d).

[6] California PRC, Section 5023.1(e).

CITY OF FRESNO REGULATORY FRAMEWORK

2025 General Plan

Fresno's responsibilities regarding Historic Preservation are addressed in Section G of the Resource Conservation Element (Chapter 4) of the City of Fresno's 2025 General Plan. The objectives and policy provided in Section G reiterate the City of Fresno's commitment to historic preservation, advocating for the "identification, appropriate recognition, and promotion of historic and cultural resources."[7] Fresno's heritage will be safeguarded "by preserving resources which reflect important cultural, social, economic, and architectural features so that community residents will have a foundation upon which to measure and direct physical change."[8]

Some key policy directives include:

- Continued historic surveys throughout the City;
- Maintaining a computerized database of information;
- Developing resources to assist and encourage citizen participation in implementing preservation policy and programs;
- Enlarge the role of the Historic Preservation Commission in advising the City Council, other legislative bodies, and the general public on preservation issues;
- Liberal interpretation and possible amendment of existing codes to be more supportive of historic preservation objectives;
- Encouraging adaptive re-use of historic resources and the use of the State Historic Building Code.
- Required review of potential for local listing by historic preservation staff and, if necessary, the Historic Preservation Commission, of any building over fifty years old prior to a formal demolition order by the City.[9]

Historic Preservation Ordinance

The City of Fresno Historic Preservation Ordinance was adopted in 1979 and amended in 1999. It provides for the designation, preservation, promotion,

[7] *2025 Fresno General Plan* Chapter 4, G-10
[8] *2025 Fresno General Plan* Chapter 4, G-11

[9] The General Plan language qualifies that review is subject to staffing levels and amendment of the Historic Preservation Ordinance.

and improvement of historic resources and districts for the educational, cultural, economic, and general welfare of the public and the City of Fresno.[10]

The Historic Preservation Ordinance establishes a Historic Preservation Commission to oversee the City's historic preservation program, assigns city staff to assist the Commission including a historic preservation specialist, establishes a local register of historic resources, and criteria for historic designation and the listing of properties on a Local Register of Historic Resources. Designated properties are subject to a permit review process that includes review by the Historic Preservation Commission.

Historic Resource Designation

The Historic Preservation Ordinance defines three categories of designation for properties in Fresno: *Historic Resource*, *Heritage Property*, and *Local Historic District*.

The City of Fresno Historic Preservation Commission and City Council may designate any building, structure, object, or site as a Historic Resource if it is found to meet the following criteria:

It has been in existence for more than fifty years and possesses integrity of location, design, setting, materials, workmanship, feeling, and association, and:

i. It is associated with events that have made a significant contribution to the broad patterns of our history; or

ii. It is associated with the lives of persons significant in our past; or

iii. It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values; or

iv. It has yielded or may be likely to yield, information important in prehistory or history.[11]

Additionally, a property may be eligible for designation as a Historic Resource if it is less than fifty years old and meets the above-listed criteria, and is found to have exceptional importance within the

[10] Fresno Municipal Code 12-16.

[11] Fresno Municipal Code 12-1607(a)(1)

appropriate historical context at the local, state, or national level.[12]

Designation of a Historic Resource may be initiated by the City Council, the Historic Resources Commission, the Secretary, the property owner, or an authorized representative of the owner.[13]

Heritage Property Designation

The Historic Preservation Ordinance defines a Heritage Property as " a resource which is worthy of preservation because of its historical, architectural or aesthetic merit but which is not proposed for and is not designated as an Historic Resource…"

Any building, structure, object, or site may be eligible for designation as a Heritage Property by the City of Fresno Historic Preservation Commission if it is found by the Commission to be worthy of preservation because of its historical, architectural, or aesthetic merit.[14] There is no specific age requirement for Heritage Property designation, and no criteria for significance and integrity has been established.

Heritage Property designation "may only be initiated by the property owner or an authorized representative of the owner"[15] and consideration of the property by the Historic Preservation Commission does not require advance public notice. In addition, Heritage Property designation is not reviewed by the City Council.

Local Historic District

A Local Historic District is defined as "any finite group of resources related to one another in a clearly distinguishable way or any geographically definable area which possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development."[16] In addition, a proposed Local Historic District must meet one or more of the following criteria:

1) It exemplifies or reflects special elements of the city's cultural, social, economic, political, aesthetic, engineering, or architectural heritage; or

[12] Fresno Municipal Code 12-1607(a)(2)
[13] Fresno Municipal Code 12-1609(a)
[14] Fresno Municipal Code 12-1607(d)
[15] City of Fresno Municipal Code Section 12-1612(a)
[16] City of Fresno Municipal Code Section 12-1603(s)

2) It is identified with a person or group that contributed significantly to the culture or development of the city; or

3) It embodies the distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship; or

4) Structures within the area exemplify a particular architectural style or way of life to the city; or

5) The area is related to a designated historic resource or district in such a way that its preservation is essential to the integrity of the designated resource or LHD; or

6) The area has the potential for yielding information of archaeological interest.[17]

Fresno Heritage Sign Permit Program

The City of Fresno has established a heritage sign permit program that provides code compliance relief for property owners of historic-era signs if the signs are designated as historic objects under the City of Fresno municipal code. In order to qualify for heritage sign status and receive relief from compliance to existing building codes, the historic sign must meet the following criteria:

- Be at least 45 years old at the time of application
- Maintain appearance and materials as originally designed
- Meet (or will meet) all safety and health codes,

  And

- Contribute to the history and social history of the City, or
- Contribute to a "sense of place" of a City neighborhood, or
- Maintain an association with a person important in local history, or
- Exemplify a style, design, or type of sign.

Certified Local Government Status

Fresno is a Certified Local Government (CLG) through an agreement with the State Office of Historic Preservation. This agreement allows the City to

[17] *City of Fresno Municipal Code* Section 12-1607(b)

review and approve projects funded by the Department of Housing and Urban Development (HUD) which may impact Fresno's historic resources. [18]

The 1980 amendments to the National Historic Preservation Act of 1966 provided for the establishment of a Certified Local Government program (CLG). The CLG program is a national program designed to promote the direct participation of a local government in the preservation of historic properties located within its jurisdiction. The CLG program further encourages the preservation of cultural resources by establishing a relationship between the local government, the State of California, and the National Park Service. In order to be a CLG, cities must comply with the following five criteria:

- Adopt an historic preservation ordinance.
- Establish a qualified preservation commission.
- Provide for adequate public participation in the local historic preservation program.
- Conduct and maintain a comprehensive historic and architectural survey.
- Complete other responsibilities assigned by the state.

Certified Local Governments directly participate in the nomination of historic properties to the National Register of Historic Places and perform other preservation functions delegated by the SHPO under the National Historic Preservation Act. These may include the responsibility to review and comment on development projects for compliance with federal and state environmental regulations, including such activities as Section 106 reviews, review of National Register nominations, and review of rehabilitation plans for projects seeking the Federal Rehabilitation Tax Credit.

Local governments that participate in the CLG program are also eligible to apply to the SHPO for funding. Each state is required to allocate ten percent of their annual Federal appropriation to CLG activities. Types of activities that can be funded through a CLG grant include: architectural, historical, archeological surveys; nominations to the National Register of Historic Places; staff work for historic preservation commissions; design guidelines and

[18] City of Fresno Planning Department, Historic Preservation web page. Accessed October 2010.

http://www.fresno.gov/Government/DepartmentDirectory/PlanningandDevelopment/Planning/HistoricPreservation/default.htm

preservation plans; public outreach materials such as publications, videos, exhibits, and brochures; training for commission members and staff; and rehabilitation or restoration of National Register listed properties.

Fulton/Lowell Specific Plan (1996)

The Fulton/Lowell Specific Plan (adopted in 1996 and amended in 2002) guides development in an area that includes the Lowell plan area, much of the Cultural Arts District and portions of the Central Business District within the Fulton Corridor plan area.

The Fulton/Lowell Specific Plan "supports and recommends an increased emphasis on historic preservation" stating that "high priority should be given to the rehabilitation and restoration of historic structures, neighborhoods, and districts…" Fifty-seven (57) designated historic structures within the neighborhood (in 1996) are acknowledged and preservation is a stated goal supported by policy and implementation actions. [19]

The development of the Fulton/Lowell plan included the formation of the Fulton-Lowell Plan Advisory Committee to monitor and oversee the implementation of the Specific Plan. Key among the Committee's responsibilities is to "review and make recommendations on plan amendments, development entitlements (including building, demolition, and sign permits), and site plan review applications in the Fulton/Lowell Specific Plan Area."[20]

[19] *Fulton-Lowell Specific Plan* (45.-46)

[20] Ibid. (61)

Overview

A historic context statement for Downtown Fresno is contained in the following pages. This historic context statement is a critical component of the 2011 survey.

In order to understand the significance of the historic and architectural resources in Downtown Fresno, it is necessary to examine those resources within a series of contexts. By placing built resources in the appropriate historic, social, and architectural context, the relationship between an area's physical environment and its broader history can be established. For this reason, historic properties must be considered in relation to important historic events and periods of development in the City of Fresno as a whole.

A historic context statement analyzes the historical development of a community according to guidelines written by the National Park Service and specified in National Register Bulletin 16A. The Bulletin describes an historic context as follows:

Historic context is information about historic trends and properties grouped by an important theme in pre-history or history of a community, state, or the nation during a particular period of time. Because historic contexts are organized by theme, place, and time, they link historic properties to important historic trends. In this way, they provide a framework for determining the significance of a property.

An historic context statement is linked with tangible built resources through the concept of "property type," a grouping of individual properties based on shared physical or associative characteristics. It should identify the various historical factors that shaped the development of the area. It may include, but need not be limited to:

- Historical activities or events
- Historic personages
- Building types, architectural styles, and materials
- Patterns of physical development

An historic context statement is not a comprehensive history of an area. Rather, it is intended to highlight trends and patterns critical to the understanding of the built environment. It provides a framework for the continuing process of identifying historic, architectural, and cultural resources. It may also serve as a guide to enable citizens, planners, and decision-makers to evaluate the relative significance and integrity of individual properties. Specific examples referred to in this context statement are included solely to illustrate physical and

associative characteristics of each resource type. Exclusion from this context statement does not diminish the significance of any individual resource.

Numerous sources were used to compile the historic context statement for Fresno's Downtown. These include local newspapers; historic photographs; Sanborn fire insurance maps; and published histories.

In addition, material included here has been developed in part by previous survey efforts. These surveys are reviewed in the Regulatory Framework section of the Downtown (Fulton Corridor) Survey Report. Elements of these documents and other studies have been incorporated here to provide continuity of scholarship and approach.

Objectives

Specific objectives of this historic context report include:

- Establishment of significant themes and events in the development of Downtown Fresno;
- Identification of property types associated with this development;
- Description of architectural styles found in Downtown Fresno;
- Identification of significant people who were influential in the development of Downtown Fresno;
- Identification of architects, builders, developers and landscape architects known to have influenced the physical character of Downtown Fresno.

Important Themes

The historic context provides a general history of the built environment of Downtown Fresno, its associated themes and property types. It addresses the broad historical themes that contributed to the development of Fresno, outlines the chronological development of the built environment, and identifies key historic resources from each period. Themes that have had the most significant impact on the extant built environment of Downtown Fresno include:

- The Railroad and Town Establishment
- Early 20th Century Commercial Development
- Early 20th Century Residential Development
- Immigration and Fresno's Ethnic Communities
- Industrial Development
- New Deal Civic Development
- Mid-Century Downtown Commercial Revitalization
- Mid-Century Downtown Civic Revitalization

Pre-European History

Humans have lived in the dry, arid regions of central California for thousands of years. The area's earliest known human inhabitants are generally referred to as the "Yokuts" a native term meaning "people" that refers to over sixty tribes linked through language, culture, and kinship. These tribes populated a large swath of central California, ranging from the Sacramento River Delta in the north to present-day Bakersfield to the south as well as the Sierra Nevada foothills to the east. Evidence suggests the Yokut tribes developed a robust trading culture with other native California peoples including California coastal tribes.[21]

European Exploration and Settlement 1805-1848

Europeans did not arrive in central California until the 19th Century. Spanish missionaries first explored the region in 1805 and 1806, followed by the Ashley Expedition which arrived from St. Louis in 1823 to hunt and trap along the Merced, Stanislaus, and Tuolumne rivers.[22] While the Spanish expeditions would name the valley "San Joaquin", the dry, desert-like region was not considered suitable for permanent settlement. Scattered settlements were eventually established after Mexican Independence in 1834. It was during the Spanish and Mexican eras that the name "Fresno," (a Spanish word meaning "ash tree") was first applied in the region to identify the Fresno River, a tributary of the larger San Joaquin River.[23]

In 1848, Mexico's northern territories, including California, were ceded to the United States following the Mexican-American War. The discovery of gold at Sutter's Mill north of Sacramento that same year attracted thousands of people to California in the Gold Rush. Miners were drawn to the southern Sierra Nevada in search of riches, and soon cattle ranchers occupied the San Joaquin's arid lands. The new arrivals quickly organized their own settlements, including the mining town of Rootville

[21] Picayune Rancheria of the Chukchansi Indians website. accessed March 26, 2011. http://www.chukchansi.net/history.html

[22] Page & Turnbull, Inc. *Historic Properties Survey Report South Stadium Project Area,* August 2008.

[23] Hattersley-Drayton, Karana. *Historic Architecture Survey Report for Renaissance at Santa Clara Residential Development Project,* City of Fresno, February 2011. (16)

in 1851. Located on the San Joaquin River, Rootville was renamed Millerton in 1854 and in 1856 became the county seat of the newly created Fresno County, a new county carved out from portions of existing Mariposa, Merced, and Tulare counties. Millerton remained the county seat until 1874, when the recently established town of Fresno, located fifteen miles to the south, assumed the title. By that time, the majority of Millerton's population had largely decamped to Fresno as well.[24]

Town Establishment 1872-1900

The town of Fresno's establishment and its subsequent growth into the San Joaquin Valley's most important urban center was made possible by three roughly concurrent developments: (1) the development of regional irrigation systems that unleashed the valley's fertile soils and abundant sunshine for agricultural use; (2) the construction of the Central Pacific Railroad through central California which provided a vital connection to the country's urban centers to the east; and (3) the formation of agricultural colonies which brought thousands of farmer-settlers to the region and maximized the valley's agricultural potential. These three factors would place Fresno at the center of what would become the most productive agricultural regions in the United States.[25]

Water, Agriculture and the Railroad

Irrigation of farmland in Fresno County begins with the storied partnership of ranch owners Anthony Y. Easterby and Moses J. Church. Believing that the land in Fresno County held significant agricultural possibilities, Easterby purchased a large tract of land north and east of present-day Downtown Fresno in 1867. He hired Church, another believer in the county's agricultural potential, to design and build a canal and irrigation system that would divert water from the Sierra Nevada and provide a reliable water source. The resulting system provided Easterby with enough water to successfully cultivate a substantial wheat

[24] Page & Turnbull, Inc. *Historic Properties Survey Report South Stadium Project Area,* August 2008. (5)

The Millerton town site is today the site of Lake Millerton, an artificial lake created by the 1942 construction of the Friant Dam.

[25] Hattersley-Drayton, Karana. *Historic Architecture Survey Report for Plan Amendment A-08-007 and Rezone A-08-034,* City of Fresno, July 2009 (5)

crop by 1871.[26] Church would then form the Fresno Canal and Irrigation Company and go on to build hundreds of miles of canals -- referred to colloquially as "Church Ditches" -- throughout the region.[27]

Easterby's lush wheat fields were noticed by officials from the Central Pacific Railroad as they passed through Fresno County looking for a location for a train station to service newly laid tracks running north-south through the San Joaquin Valley. They purchased over 4000 acres of land located to the west of Easterby's ranch and established the Fresno Station site.

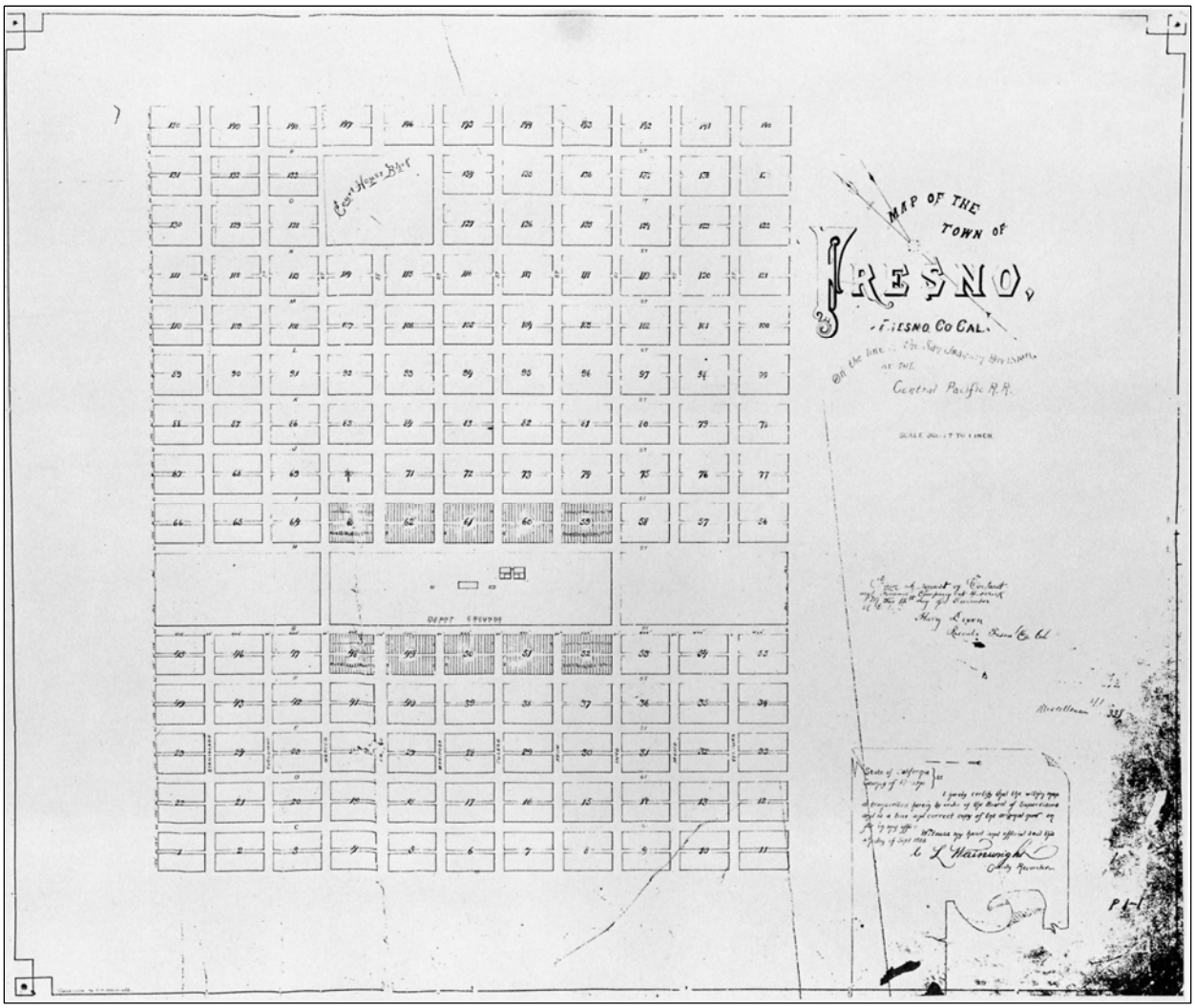
The new town of Fresno Station was surveyed by Edward H. Mix in a gridiron plan that paralleled the railroad tracks. The standardized pattern of streets, blocks, lots and alleys varied only to set aside land for a county courthouse and a broad corridor through the center of town for rail yards, and track right-of-way. The Central Pacific train depot was located at Tulare and "H" streets.

By 1874, the County Courthouse was constructed, and a cluster of commercial establishments had formed along "H" Street that included stores, hotels, restaurants, and saloons.

Fresno County Courthouse (demolished)
Fresno Historical Society Archives

[26] Page & Turnbull, Inc. (6)

[27] Panter, John "Central California Colony: Marvel of the Desert", *Fresno Past & Present, the Journal of the Fresno City and County Historical Society,* Vol. 35 No. 2, Summer 1994.



Fresno Map 1873

REPORT

Downtown Fresno (Fulton Corridor) Historic Resources Survey

HISTORIC RESOURCES GROUP

One year later, 600 people were resident in Fresno including approximately 200 Chinese living on the west side of the railroad tracks.[28] By 1880 the population was over 1000.

Widespread prosperity would ultimately come to Fresno County with the introduction of agricultural colonies. These colonies secured water rights for large tracts of land. The land was subdivided into smaller land plots, and the individual plots sold as family farms with the individual farmers sharing water rights on a cooperative basis. The first of these to be successful was the Central California Colony established in 1875 just three miles south of the town of Fresno.[29] It would serve as a model for the region and by 1903 Fresno County boasted 48 separate colonies on over 70,000 acres.[30] Through the colony system, the large tracts of land surrounding Fresno were cultivated by thousands of settlers who relocated to the region.

Fresno County's most famous and lucrative cash crop was the raisin. Local legend has it that California's first raisin crop was the result of a massive heat wave in 1873 which dried grapes on the vine before farmers could pick them. Whether apocryphal or not, the intensive sun of the San Joaquin proved perfect for drying raisins and raisin grapes became a primary crop in Fresno County. Cotton and figs also became important crops. As agricultural production grew and diversified, Fresno became the primary market town for the San Joaquin Valley.[31]

City Incorporation and Development

In 1885, with a population of over 3000, Fresno was incorporated as a city. The January 1885 Sanborn map shows a typical American frontier town with scattered development across a roughly six-block area radiating north-east from the Central Pacific depot. The town includes a densely constructed commercial corridor running three blocks up Mariposa Avenue between H Street and the courthouse at Mariposa and K Streets (present-day Van Ness Avenue) replete with commercial shops, lodging houses, banks, offices,

[28] Clough, Charles W. and Secrest, William B., Jr. *Fresno County: The Pioneer Years from the Beginnings to 1900*. Fresno, CA: Panorama West Books, 1984. (122)
[29] Panter 1994 (2)
[30] Ibid. (9)

[31] Hattersley-Drayton, *Plan Amendment* 2009 (7)

restaurants and saloons. Residential dwellings are less densely distributed north and northwest of Mariposa Avenue along Fresno and Merced Streets, and H, I, J, and K streets.

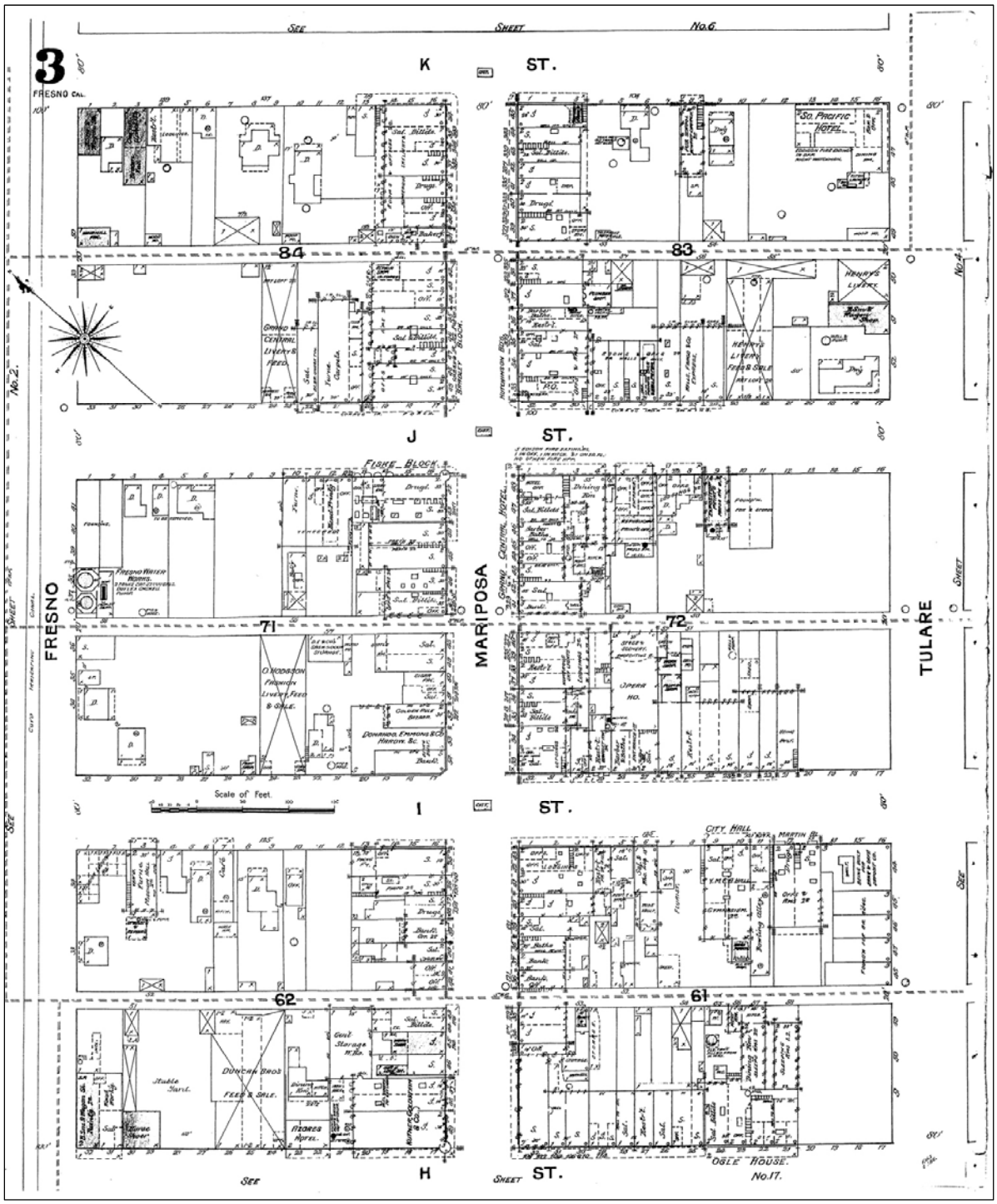
Southern Pacific (originally Central Pacific) Depot

By 1887 all of the originally platted railroad lots had been sold and expansion subdivisions outside the original town site were underway. The May 1888 Sanborn Map shows residential development expanding north and west of Merced Street along Tuolumne, Stanislaus, Calaveras, H, I, J and K streets, and east of Mariposa Avenue along Tulare, Kern, Inyo, Mono, and Ventura Streets, and H, I J, K, L, M, and N streets.

In 1889 the City's streets were paved and a new Central Pacific Depot was constructed at H and Tulare streets, replacing the earlier depot at the same site. By 1890 Fresno's population had reached over 10,000 people. In 1896, the San Francisco and San Joaquin Valley Railroad (later the Santa Fe Railroad) came to Fresno, located northeast of and parallel to the Central Pacific. The Mission Revival style depot at Tulare and "O" streets was completed in 1899.

Although never a manufacturing center, Fresno developed a robust industrial sector needed to support its growing status as a transport and distribution center for an increasingly important agricultural region. Industrial activity in Fresno developed largely in support of agricultural activities -- primarily raisin and dried fruit packing – with facilities tending to cluster in close proximity to the railroad. By 1898 eleven large fruit packing houses could be found on H and G streets, forming an industrial corridor between Fresno Street to the north and Santa Clara Street to the south. Other industrial properties along the same corridor include grain warehouses, produce warehouses, and lumber yards.[32] Industrial development continued south and east along the rail lines and also clustered near the Santa Fe depot to the north.

[32] Fresno Sanborn Fire Insurance Maps 1898



Mariposa Street in 1888
May 1888 Sanborn Insurance Map

REPORT

Downtown Fresno (Fulton Corridor) Historic Resources Survey

HISTORIC RESOURCES GROUP

Immigration and Ethnic Settlement

Fresno's late 19th Century population was an ethnic mix of people with origins from many points around the globe. The earliest settlers were former miners drawn to California by the Gold Rush and Scandinavian farmers who were some of the first to take advantage of the cooperative opportunities of the agricultural colonies. Ethnic groups whose settlement patterns were important to the development of Downtown Fresno include the Chinese, present in Fresno from the very beginning. Restricted from other areas, the Chinese settled south of the railroad between G Street, Mariposa Avenue, F Street and Kern Street which immediately became known as "Chinatown."[33]

The racial restrictions produced a density and intensity of land use in Chinatown found nowhere else in Fresno. The 1898 Sanborn Map reveals lodging houses, saloons, gambling parlors, "female boarding" houses[34], and a Chinese theater all packed into a couple of blocks. Towards the end of the 19th Century, Japanese immigrants

Wing Chee Family circa 1900
Fresno Historical Society Archives

also began arriving in Fresno. Facing similar anti-Asian racial prejudice, many would settle in the Chinatown area.

The first Armenian settlers, the Seropian Brothers, arrived in Fresno in 1881. Successive waves of Armenian immigration would create one of the strongest and most successful ethnic communities in Fresno. Many of the first Armenian immigrants were farmers whose expertise with vineyards and grape cultivation would become instrumental in the development of the raisin industry. Armenians would eventually colonize an area located between the Santa Fe and Southern Pacific tracks known locally as "Armenian Town"[35] which was roughly bounded by Kern Street, Los Angeles

[33] Hattersley-Drayton, *Plan Amendment* 2009 (5-6)
[34] Understood to be a euphemism for brothels.

[35] Hattersley-Drayton, *Plan Amendment* 2009 (6)

Street, Broadway and O Street. Fresno's Armenian population would reach its peak in the aftermath of the1915 Armenian Genocide by the Ottoman Empire which forced emigration of many Armenians.[36]

Ethnic Germans from Russia or "Volga Germans" first arrived in Fresno in 1887.[37] Their numbers continued to grow and the community coalesced in "German Town" located directly south of Downtown in an area of land bounded by Church Street, Mono Street, G Street, and Fruit Street.[38]

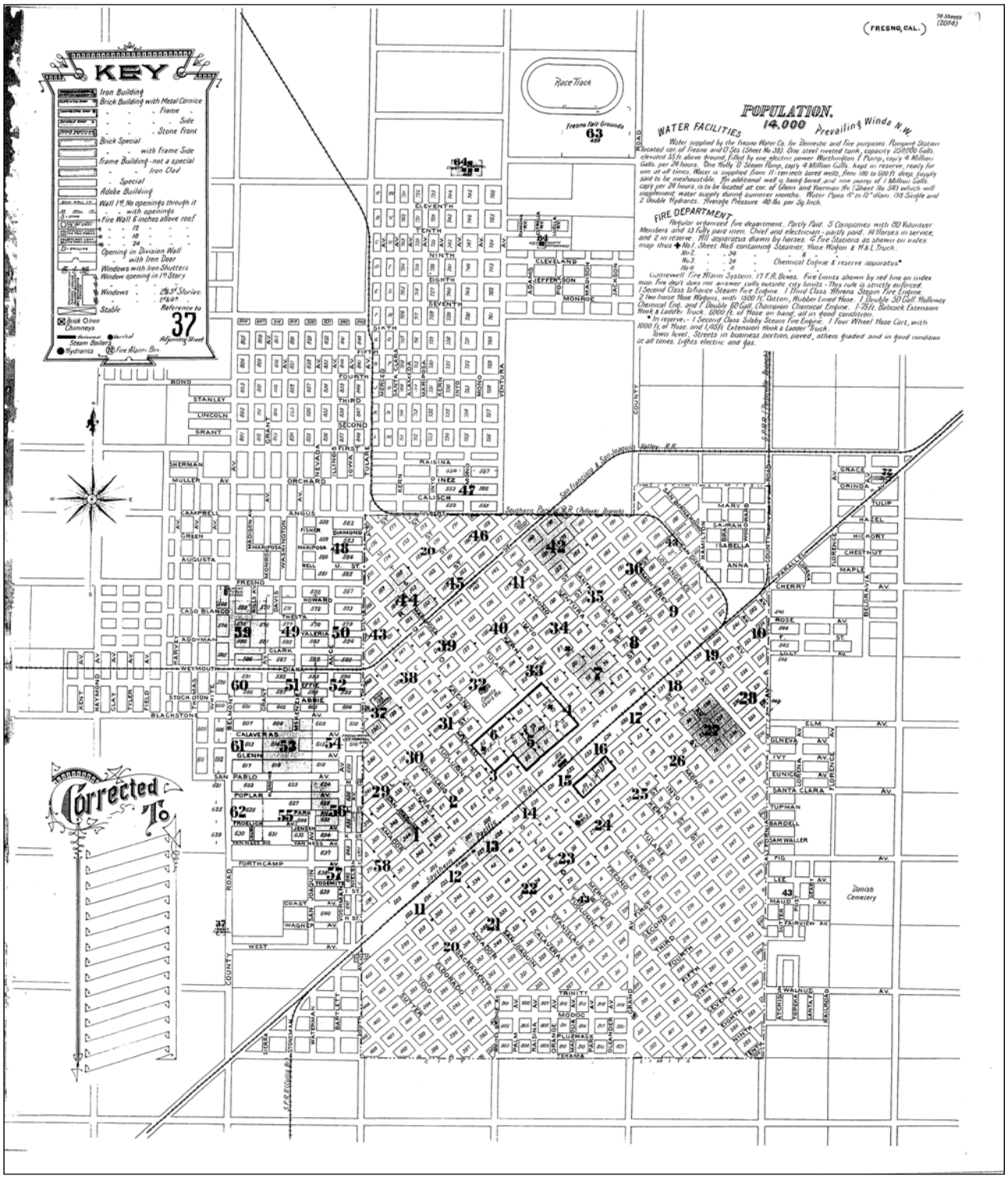
A smaller community of African-Americans was also present very early, evidenced by the 1892 establishment of an African Methodist Church in 1882. The African-American community largely settled south and west of Downtown Fresno.[39]

[36] Armenian National Institute website http://www.armenian-genocide.org
[37] Architectural Resources Group. *Germantown, Fresno Historical Context,* April 2006. (8)
[38] Ibid. (12)
[39] Clough, 1984. (137)

Urban Form and Pattern

Mariposa Street 1889
A.W. Peters Collection of Fresno County, Fresno Historical Society Archives

By the turn of the century Fresno had a population of over 12,000 people and the city had established its fundamental urban form. Key characteristics of this form include the two parallel rail lines bordering the central city to the southwest and northeast; the original street grid oriented northwest-southeast in concert with the rail lines; mid-block alleys as part of the street grid; the centrally located County Courthouse within a large grassy square; a growing central business and commercial district radiating from the intersection of Mariposa Street and J Street just south of the Courthouse; industrial uses clustered along both rail lines (H and G streets to southwest, R and Q streets to the northeast); and surrounding residential neighborhoods with the more prosperous citizens locating to the north and east, and citizens of more modest means located to the south and west.



Sanborn Fire Insurance Map 1898
Overview map showing Fresno's urban pattern at the end of the 19th century.

REPORT

Downtown Fresno (Fulton Corridor) Historic Resources Survey

HISTORIC RESOURCES GROUP

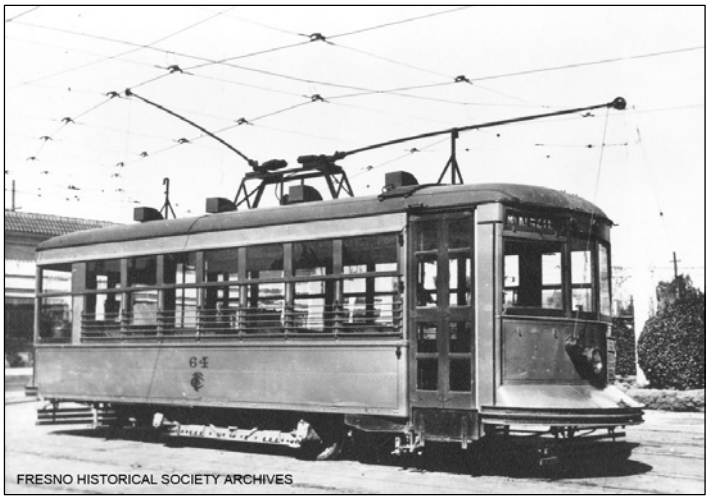
The expansion of the city outside the original town site was also well-established with street alignments shifting from the original northwest-southeast direction within the original town site to an alignment with the cardinal directions within the expansion areas.[40] This general pattern would carry forward into the mid-20th Century.

The Valley's Metropolis (1901-1930)

The first three decades of the 20th Century were a period of steady growth and increasing prosperity for Fresno during which the city established itself as the primary city of the San Joaquin Valley.

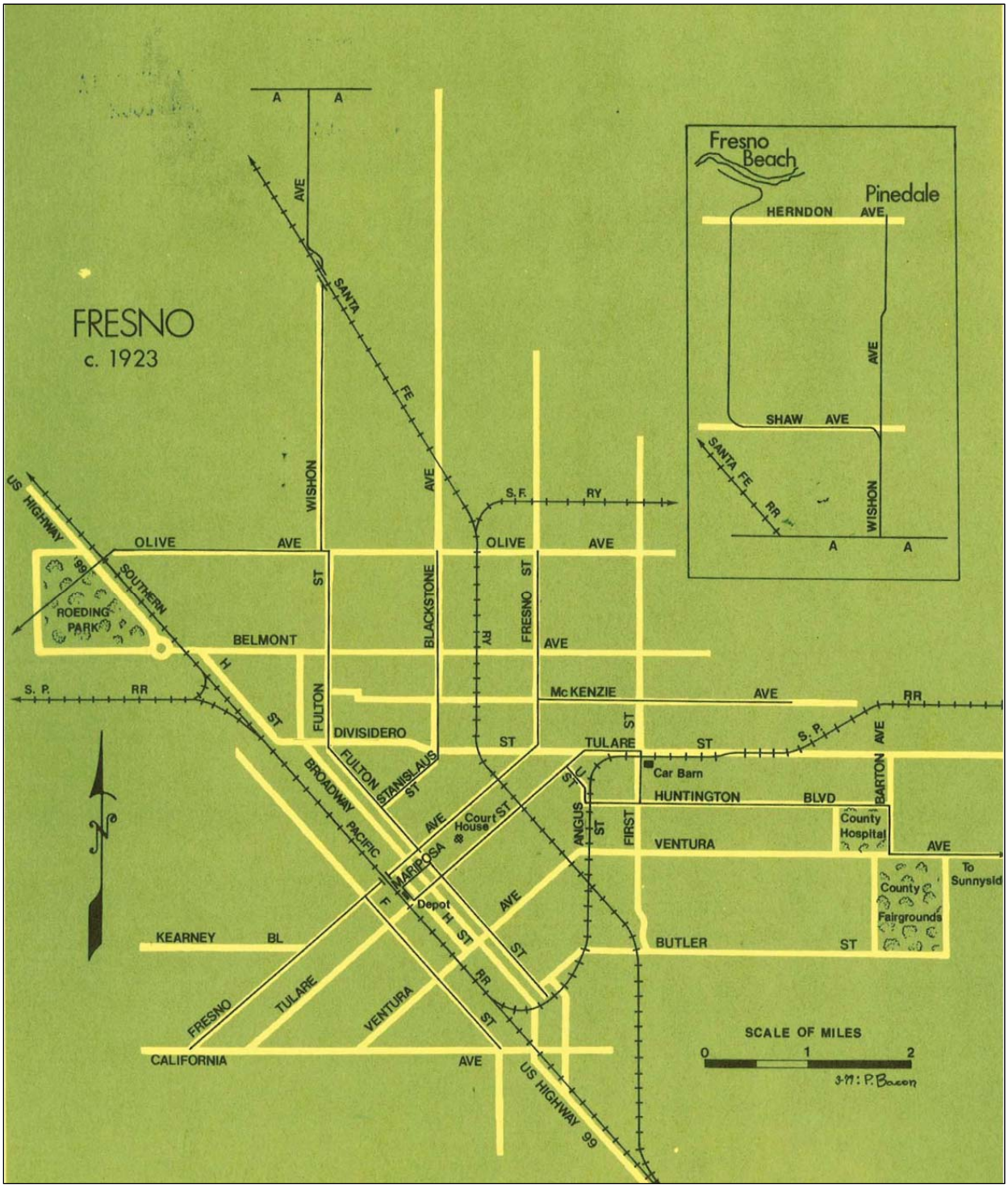
Growth and Prosperity

The City's first electric streetcar was in use in 1902. By 1909 the first double-track streetcar line was installed along J Street. By the early 1920s, streetcar lines would radiate out from the central business district to the north, east, south, and west where farmland was being subdivided for suburban development. The expanding transit infrastructure, along with exponentially increasing private automobile ownership, made living further from the city center possible. Land within the central city increasingly became used for commercial and civic purposes.



Fresno Streetcar
Fresno Historical Society Archives

[40] Page & Turnbull, Inc. (8)



Fresno Transit Map 1923
Taken from Trolleys of the San Joaquin-When Fresno Rode the Rails by Edward Hamm Jr. 1979

REPORT

Downtown Fresno (Fulton Corridor) Historic Resources Survey

HISTORIC RESOURCES GROUP

Three important civic buildings were constructed Downtown in the decade just after the turn of the century. The first, the Fresno Public Library, was built on the east side of I Street between Merced and Tuolumne with a $30,000 Carnegie grant. Completed in 1904, the Fresno Carnegie Library was one of the earliest and costliest in the Carnegie system. Architects Copeland and Dole of New York designed the building in the Classical Revival style.[41]

Fresno Carnegie Library (demolished)
Fresno County Public Library Collection

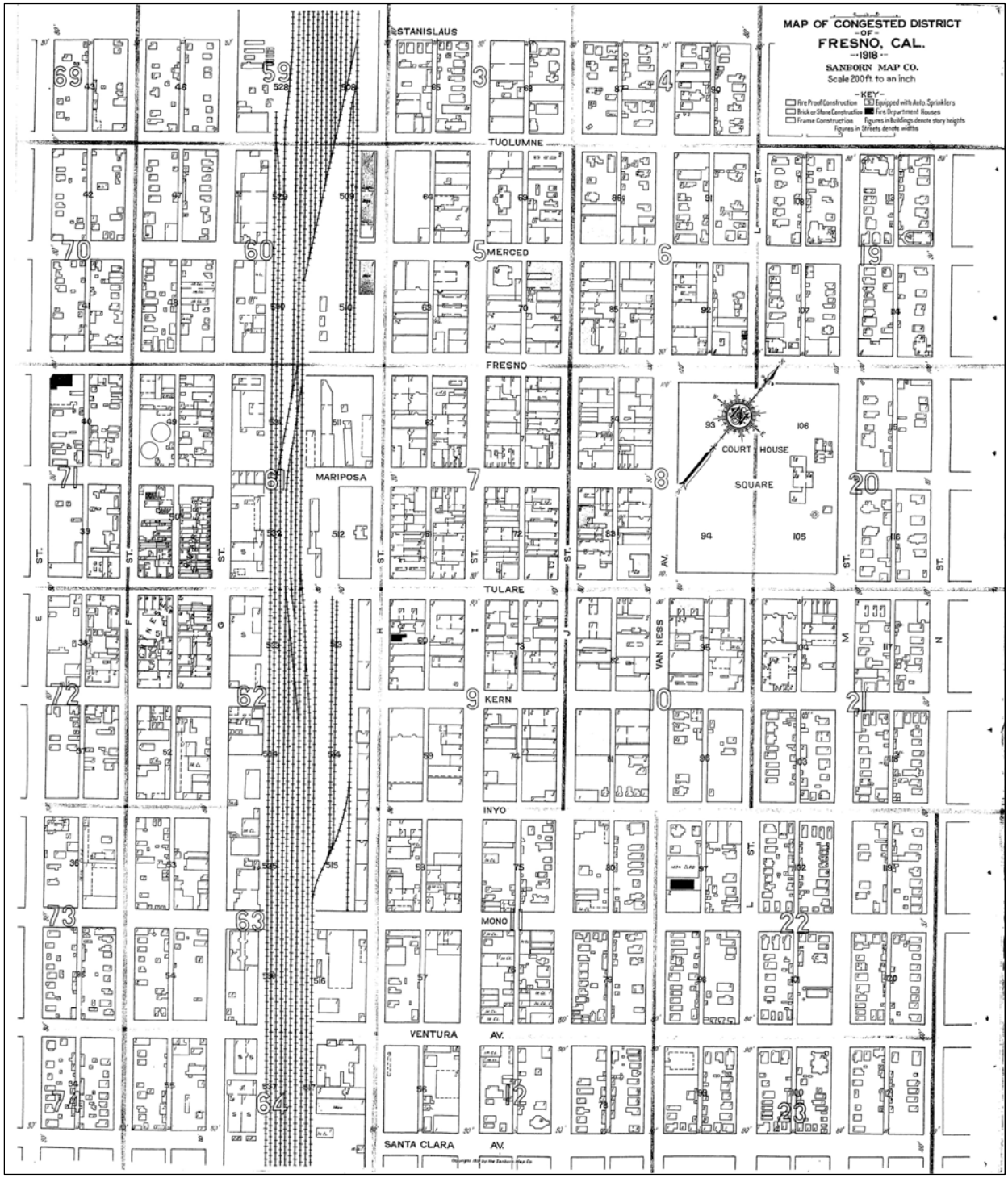
In 1907, the first purpose-built City Hall was constructed just down the street from the library at the southeast corner of I Street and Merced. A new Post Office was constructed at the northwest corner of Tulare and Van Ness. These substantial and architecturally distinguished buildings signaled that Fresno had moved beyond its early nascent stage.

Concurrently, Fresno's central business district experienced a building boom during the early part of the 20th century. The 1906 Sanborn Maps show the central commercial corridor expanded along I and J streets both north and south of Mariposa between Tulare and Fresno streets. By 1919, the concentration of buildings on both streets reaches north to Tuolumne and south to Inyo with stores, restaurants, offices, banks, hotels, and theaters are all represented. [42] That same year, I Street was renamed Broadway and K Street was renamed Van Ness Avenue. In commemoration of Fresno business man Fulton G. Berry, J Street was renamed Fulton Street in 1923.[43]

[41] Carnegie Libraries of California website http://www.carnegie-libraries.org/california/fresno.html

The Carnegie Library was demolished in 1959.

[42] Fresno Sanborn Fire Insurance Map 1919.
[43] Urbana Preservation and Planning. *City of Fresno Arts-Culture District Historic Property Survey*, July 2006. (17)



Sanborn Fire Insurance Map 1918-1919
Map showing the density of central Fresno in the early-20th century.

REPORT

Downtown Fresno (Fulton Corridor) Historic Resources Survey

HISTORIC RESOURCES GROUP

The newly named Fulton Street had been Fresno's established "Main Street" for years, the preferred location for the Valley's major consumer retailers.

Downtown Fresno circa 1920

Downtown's skyline was transformed in 1913 when the ten-story Griffith-MacKenzie building was constructed on J and Mariposa streets, beginning a series of high-rise and significant building construction that would last until 1929.

Major commercial buildings constructed in the central business district during this period include the Hotel Fresno (1913); Gottschalk's Department Store(1914); the Bank of Italy Building (1918); the Hotel Virginia (1920); the Mattei Building (1921); the T.W. Patterson building (1922); the San Joaquin Light & Power Company building and Hotel Californian (both 1923); the Radin-Kamp Department Store (1924); the Wilson Theater(1926); and the Pantages Theater(1928).

Bank of Italy Building shown in 1926

San Joaquin Light & Power Building 1923

Many of the significant buildings were designed and constructed by the local firm of R.F. Felchlin which was formed in 1912 by Richard F. Felchlin and architect Charles Franklin. In 1917, architect Raymond Shaw joined the firm and the firm became Felchin, Shaw & Franklin in 1925.[44] Their work would define the Fresno skyline to the present day.

Fruit Packing and Industrial Growth

Led by the fruit packing industry, the City's industrial areas continued to expand in the 20th century. Large parcels south of the Central Pacific tracks were developed with packing houses, storage warehouses, and drying sheds. Fruit and produce wholesalers Hobbs-Parsons Company operated several warehouse and packing facilities. Their 1903 produce warehouse at the corner of H Street and Tulare remains in place today and has been designated a historic resource by the City. The Pacific Coast Seeded Raisin Co Plant No. 6 first appears on the 1906 Sanborn Map at the northeast corner of G and Mariposa. Later operated by other concerns, the facility would continue to grow, taking over the block between Mariposa and Fresno. The plant still remains today.[45]

Many of the businesses identified on the early Sanborn Maps indicate branch operations of statewide, national and international companies. The California Fruit Canners Association Fresno Branch Cannery No. 16 was located on H Street between Ventura and San Benito streets.[46] The Association was the result of a merger of California's major fruit canners. In 1916, they became the California Packing Corporation or CALPAK, marketing products under the Del Monte brand.[47]

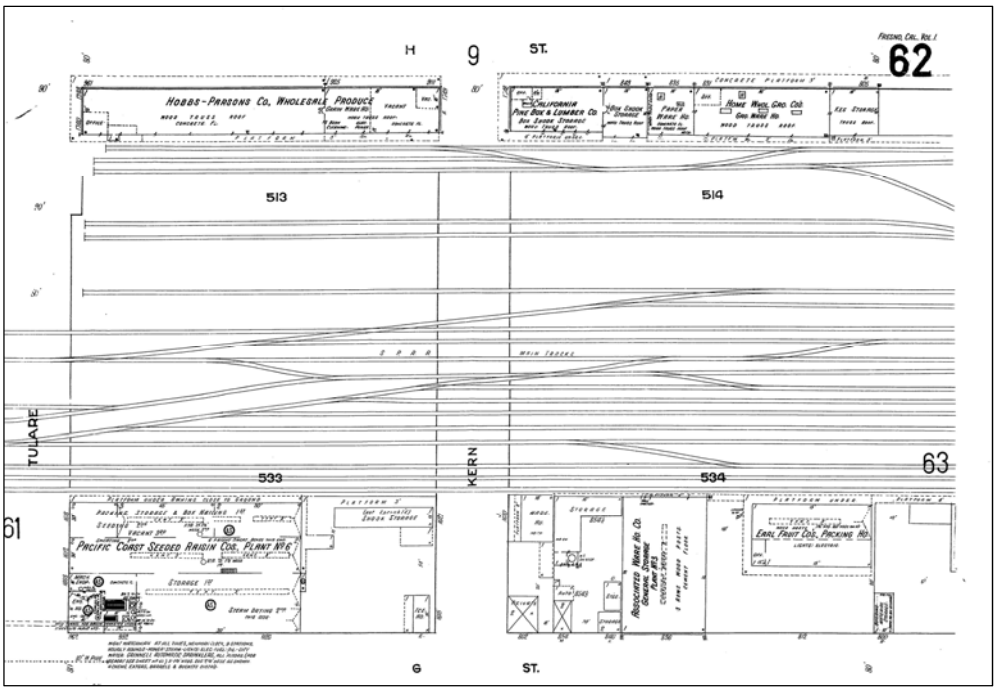
[44] *A Guide to Historic Architecture in Fresno, California* Accessed April 15, 2011. http://historicfresno.org/bio/bio.htm

Among the firm's major projects in Downtown Fresno were the Bank of Italy Building (1918), the Patterson Building (1922), the San Joaquin Light & Power Building (1923), the Pacific Southwest Building (1923), and the Radin & Kamp Department Store (1925).

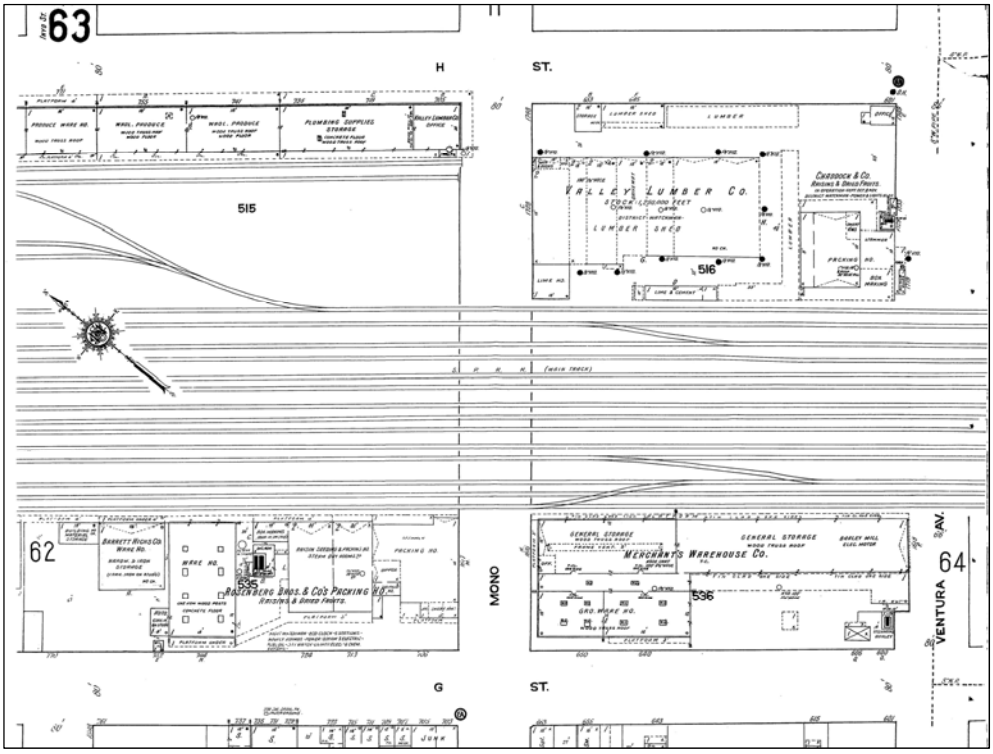
[45] Fresno Sanborn Fire Insurance Maps 1906, 1919, 1948, 1963, 1970.

[46] Fresno Sanborn Fire Insurance Map 1906.

[47] "California Fruit Canners Association." *Encyclopedia Britannica. Encyclopedia Britannica Online*. Encyclopedia Britannica, 2011. Web. 17 Jun. 2011. <http://www.britannica.com/EBchecked/topic/89584/California-Fruit-Canners-Association



Sanborn Fire Insurance Map 1918-1919
Industrial development along the railroad between Tulare Street and Inyo Street.



Sanborn Fire Insurance Map 1918-1919
Industrial development along the railroad between Inyo Street and Ventura Street.

The Rosenberg Brothers Company operated a large raisin and dried fruits packing house (previously operated by the H.L. Hobbs Company) at the northwest corner of G Street and Mono.[48] The Rosenberg Brothers were the founders of the Bear Creek Corporation of Medford, Oregon, marketing fruits and nuts as gifts under the "Harry & David" brand.[49]

Another organization whose name appears on early 20th Century Sanborn maps is the California Associated Raisin Company (CARC) whose success would bring the San Joaquin Valley and Fresno international recognition. CARC was a cooperative organization formed in 1912 by a group of San Joaquin Valley raisin growers to gain greater market share and combat fluctuating prices and demand. Growers sold their raisins to CARC for a guaranteed price and then shared in any net profit, less a fee to run the organization and pay a dividend to shareholders.

1916 Sun Maid logo
Image courtesy of Sun Maid Corporation.

CARC would be responsible for packaging the raisins and promoting their use throughout the country.[50]

In 1915, CARC began marketing their raisins under the "Sun-Maid" brand name. A painted image of a young girl wearing a red sun bonnet and holding a tray of freshly picked grapes became the company's trademark, reproduced on raisin boxes and all manner of promotional materials. The model for the image was a local Fresno girl named Lorraine Collett Peterson who worked part time for a packing company.

[48] Fresno Sanborn Fire Insurance Map 1919.
[49] http://www.oregonencyclopedia.org/entry/view/harry_david/

[50] Sun-Maid Corporate website. Accessed April 24, 2011. http://www.sun-maid.com/en/about/our_history.html

Along with a group of other "Sun Maids" employed by the firm, Miss Peterson made personal appearances to promote the raisins, while magazine and newspaper ads emphasized the benefits of raisins dried naturally by the sun versus mechanical or chemical drying. Recipe booklets and other materials helped increase Americans' consumption of raisins significantly. CARC also employed a national team of agents to sell raisins directly to grocers, reducing the need for an outside distribution network. This sophisticated integration of advertising, public relations and sales efforts was enormously successful.[51]

In 1918, CARC opened a huge processing and packing plant at the corner of Hamilton and Pearl streets just south of the Fulton Corridor. CARC's name was officially changed to Sun-Maid Raisin Growers of California in 1922, reflecting the success of its national branding efforts. Sun Maid would continue operating the Fresno plant until 1964.[52]

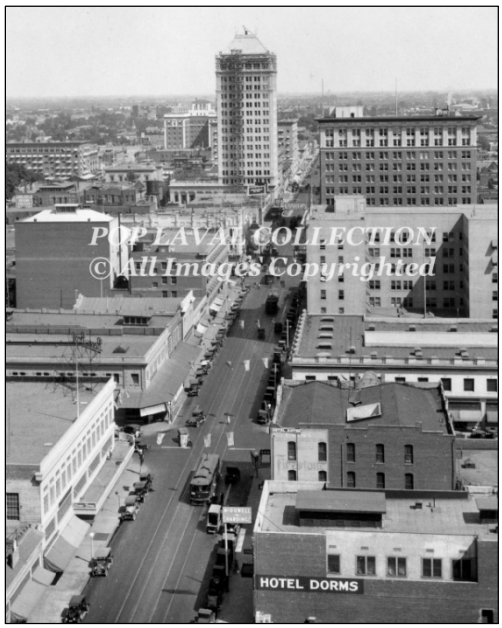
In addition to fruit packing, other industrial activities during this period

Fresno Sun Maid Packing Plant 1918
Image courtesy of Sun-Maid Corporation.

included grain storage, general merchandise warehousing, lumber yards, beer and soda bottling, soap manufacturing, and a machine foundry. The Danish Creamery Association began operating a dairy products processing facility at the corner of E Street and Inyo sometime before 1919.[53] Dairy products are still processed today at the site by California Dairies, Inc. including butter under the Danish Creamery brand name.[54]

[51] Ibid.
[52] Ibid.

[53] Fresno Sanborn Fire Insurance Map 1919.
[54] http://www.californiadairies.com/products



Fulton Street 1924
Image courtesy of Pop Laval Collection.

The area north of the railroad tracks and northwest of the central business district also began to change dramatically during the second decade of the 20th Century where commercial and light industrial uses, including a large number of automobile service businesses, began to replace the residential properties originally constructed there.

By the end of the 1920s, Fresno had transformed into a thriving city at the center of the United State's most productive agricultural region. The downtown was fully established as the San Joaquin Valley's primary marketplace offering office, retail, lodging, dining, and entertainment facilities. Adjacent industrial activity enabled agricultural goods to be processed and shipped to distant consumers. The central city's residential areas had largely been developed. Residential properties were increasingly redeveloped for commercial uses as the City's wide-ranging streetcar system and increased private automobile ownership allowed more of Fresno's citizens to live outside of the city center. Fresno, along with the nation, appeared increasingly prosperous. Then on November 24, 1929, the New York Stock Exchange crashed and millions of dollars in stock value vanished. The stock market crash exposed structural weaknesses in the banking and finance systems, key industries, and the economy as a whole, ushering in the Great Depression.

The Great Depression and World War II (1930-1945)

The Great Depression had a profound effect on the San Joaquin Valley. Farmers were forced to cut costs in the face of reduced demand for their products; many were forced into foreclosure. Along with the rest of the country, unemployment skyrocketed. The Valley's problems were exacerbated by the influx of migrant

refugees or "Dust Bowl" migrants. It is believed that 2.5 million people migrated from the Midwestern Plains states between 1930 and 1940, with over 300,000 relocating to California just between 1930 and 1934.[55] Thousands more would continue to arrive throughout the 1930s and many ended up in the Central Valley as migrant farm workers earning very low wages.

Fresno's downtown development boom came to an end. While the economy did reach a tenuous equilibrium by the mid-1930s and Downtown Fresno's streets continued to bustle with commercial activity, no new major downtown construction project was initiated by private enterprise until after World War II. Instead, major projects were the result of government spending.

Intersection of Fulton Street and Tulare Street 1936
Image courtesy of the Pop Laval Collection

Civic Improvements and the "New Deal"

The domestic policies of the administration of U.S. President Franklin Delano Roosevelt in the 1930s – popularly called the "New Deal" -- marshaled direct government investment to alleviate the problems of poverty, unemployment and the disintegration of the American economy associated with the Great Depression.[56] The Public Works Administration (PWA), which began in

[55] Starr, Kevin, Endangered Dreams, The Great Depression in California, Oxford University Press 1996. (224)

[56] "New Deal", Encyclopaedia Britannica online, accessed April 7, 2011. http://www.britannica.com/EBchecked/topic/411331/New-Deal

1933 and the Works Progress (later Work Projects) Administration (WPA), which began in 1935, funneled significant financial resources to communities across the United States for the construction of roads, bridges, parks, and civic and institutional buildings.[57]

In 1933 the City of Fresno implemented a street improvement program along Broadway between Divisadero and Tulare streets. The width of Broadway was increased by ten feet and buildings affected by the street widening were given façade remodels in a Spanish Revival style. Two extant properties Downtown that reflect the 1933 Spanish architectural controls are the warehouse at 1416 Broadway and the Parker Nash building at 1462 Broadway.[58]

A group of local architects including W. D. Coates, Charles H. Franklin, H. Rafael Lake, Ernest J. Kump, Sr., Fred Swartz, and Edward W. Peterson formed a partnership in order to compete with larger firms for commissions funded by New Deal programs. This group – Allied Architects of Fresno – would go on to design the majority of New Deal funded buildings constructed in Fresno.[59]

Fresno Memorial Auditorium
Postcard image circa 1940

The New Deal would transform the City's Civic Center with the construction of five new civic buildings constructed between 1936 and 1941 near the County Courthouse. These projects include the Fresno Memorial Auditorium, the U.S. Post Office, the Fresno County Hall of Records, the Fresno Unified School District Administration Building, and the Fresno City Hall.

[57] Ibid. "Works Progress Administration", http://www.britannica.com/EBchecked/topic/648178/Works-Progress-Administration-WPA?anchor=ref17478

[58] Urbana Preservation and Planning., *Arts-Culture* 2006. (17)

[59] Planning Resource Associates, Inc. *Mid-Century Modernism Historic Context,* September 2008. (22)

Fresno Hall of Records
Postcard image circa 1940.

In addition to monumental civic projects the New Deal benefited Fresno through park improvements, street improvements, and fire stations.

In 1939, following a national trend away from fixed-rail transit, Fresno's streetcars were removed from service and replaced with buses. Despite the severe economic downturn, the decentralizing forces of increased automobile ownership and readily available land were apparent.

World War II

On December 7th, 1941 the Japanese attacked Pearl Harbor and the United States officially entered World War II. The United States entrance into the War effectively ended the Depression in California as all aspects of the national economy mobilized to serve the war effort. California received almost 12% of the government war contracts and produced 17% of all war supplies.[60] California also acquired more military installations than any other state by a wide margin, and military bases were opened throughout the state. Aircraft, shipbuilding, and numerous other industries were booming due to the war effort, and unemployment was virtually eliminated.

Streetcars on Fulton Street at Mariposa 1938
Image courtesy of the Fresno Bee archives.

[60] California Military History Online, website (http://www.militarymuseum.org/HistoryWWII.html). Accessed June 2011.

Approximately 60,000 servicemen were stationed in and around Fresno during the War. Military activity was concentrated at two locations. One, the Hammer Field bomber base, was constructed in 1941 just beyond what was then the eastern boundary of the City. Today it is the site of Fresno Yosemite International Airport. The second, Camp Pinedale, was located six miles east of Downtown Fresno in the (then) unincorporated community of Pinedale on the site of the defunct Sugar Pine Lumber Company.[61] The Army had acquired the site in March of 1942 for use as an Army Signal Training School.[62]

Fresno County was also the site of two of the temporary detention camps (also known as "assembly centers") that facilitated the first phase of the mass incarceration of Californians of Japanese ancestry. One detention camp operated at Camp Pinedale between May and July of 1942. The second was at the Big Fresno Fairgrounds located east of

Soldiers parade down Fulton Street 1943
Image courtesy of The Fresno Bee.

Downtown at the intersection of Kings Canyon Road and Maple Avenue.[63]

[61] Planning Resource Associates, Inc. *Mid-Century Modern* (27)
[62] Planning Resource Associates, Inc. *Pinedale Historic Resource Survey,* October 2007. (8)

[63] Planning Resource Associates, Inc. *Mid-Century Modern* (28)

Renewal and Revitalization (1946-1979)

In the years following World War II California experienced a period of unprecedented population growth and economic expansion. California's population increased by sixty-seven percent between 1950 and 1960. By 1970, California would have almost 20 million residents.[64]

The population explosion coupled with ever increasing automobile ownership spurred the development of the automobile-oriented suburb. As the California's cities expanded outward to accommodate new residential subdivisions, business and industry followed. The traditional role of Downtowns as the primary location for economic and cultural activity was eroded.[65]

Downtown Stagnation

The post-war era marked the decline of downtowns throughout the United States due to suburban development, the demise of urban mass transportation and disinvestment in City centers.[66] The City of Fresno was no exception although these changes were not immediate. In 1948, Gottschalk's flagship store on Fulton Street was expanded and its façade was renovated in a late-Moderne style. This investment appeared to signal the retailer's belief in the continued viability of Downtown Fresno as an important retail center. Other smaller retailers also revamped their street-facing facades. The pending construction of Highway 99 just west of Downtown promised greater accessibility from outlying areas.

Fulton Street
Postcard image circa 1955.

[64] Starr, Kevin, Golden Dreams, California in an Age of Abundance 1950-1960, Oxford University Press 2009.(x-xi)
[65] Fogelson, Robert F. Downtown: Its Rise and Fall, 1880-1950, Yale University Press, 2003.

[66] Ibid.

By the mid-1950s, however, the results of rapid suburbanization were becoming evident in Downtown Fresno as major retailers such as Sears & Roebuck relocated to newly developed suburban shopping centers such as Manchester Center (1955) and Fig Garden Village (1956).[67] The downtown core was continually being bypassed as a place to locate new businesses. With Downtown unable to compete with burgeoning suburban development, construction of new buildings in Downtown Fresno came to a virtual halt.

The Gruen Plan and Urban Renewal

Official planning for the renewal and revitalization of Downtown Fresno began under the leadership of Mayor Arthur Selland (1958-1963). In 1958, the Fresno Redevelopment Agency and the Downtown Association[68] hired Victor Gruen Associates to create a General Plan for the redevelopment of the downtown area. The revitalization of Fulton Street, development of a government and public service civic center, and the construction of a regional conference center were all considered essential for restoring Downtown Fresno as an important urban center.[69]

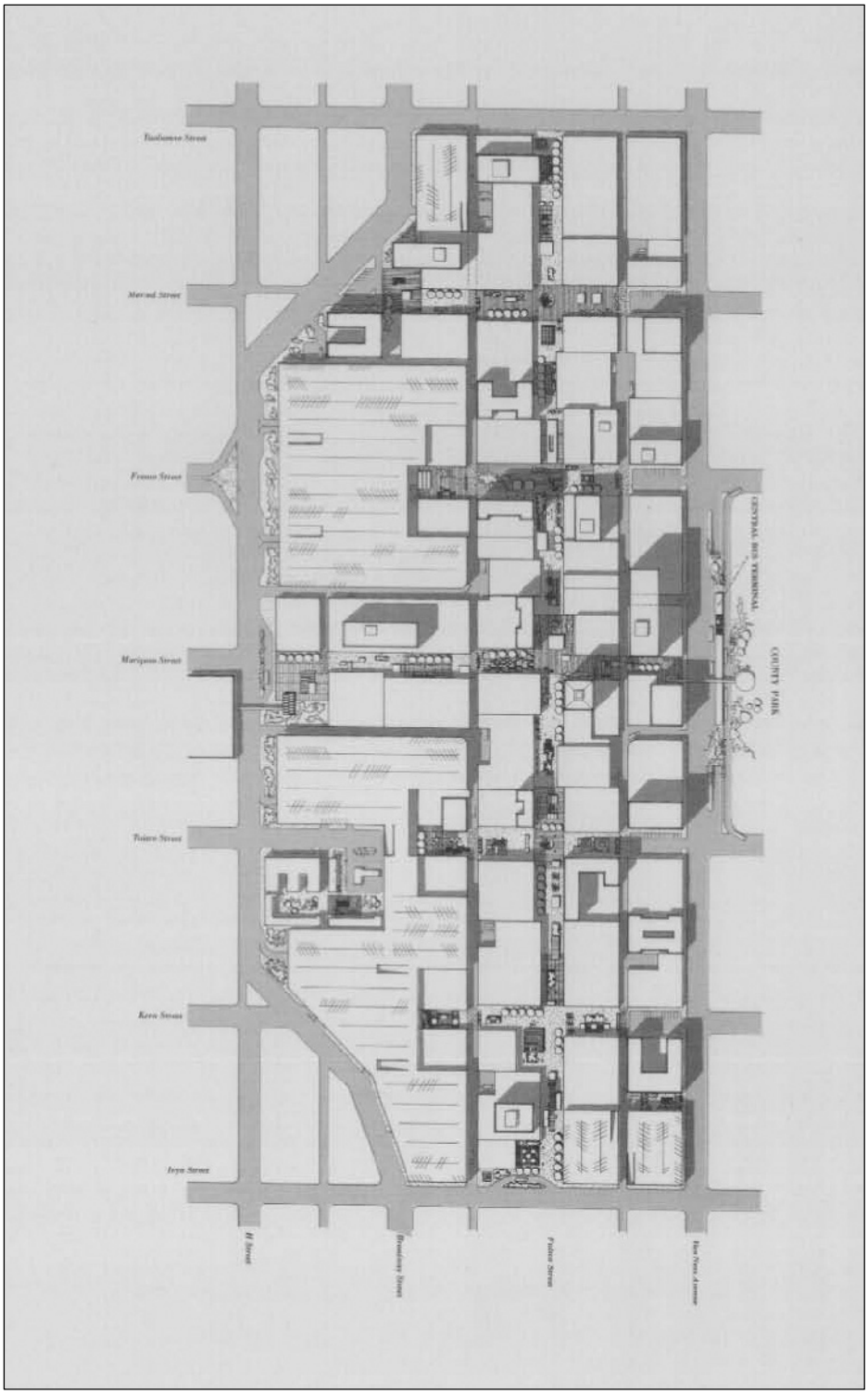
Victor Gruen was considered one of the most innovative and influential figures in the design of commercial and retail architecture. After immigrating to the United States from his native Austria in 1938, Gruen quickly found success with his imaginative designs for urban retail stores. His 1954 design of the Northland Center shopping mall in suburban Detroit, is considered America's first outdoor suburban shopping mall, and brought Gruen national attention. In 1956 he designed the nation's first indoor shopping mall -- Southdale Center -- in Edina, Minnesota, southwest of Minneapolis.[70]

[67] PBID Partners of Downtown Fresno website, *The Fulton Mall: A Brief History* , accessed March 9, 2011 http://www.downtownfresno.org/fulton-mall.html

[68] The Downtown Association of Fresno is a private, nonprofit membership organization founded in 1955 to support the revitalization of Fresno's Central Business District.

[69] PBID Partners of Downtown Fresno website.

[70] Loomis, Allen A. *Locating Victor Gruen*, 2000. Accessed on Delirious LA website April 22, 2011. http://www.deliriousla.net/essays/2000-gruen.htm



Original Comprehensive Plan for Core Superblock
Victor Gruen Associates, 1960

REPORT

Downtown Fresno (Fulton Corridor) Historic Resources Survey

HISTORIC RESOURCES GROUP

Gruen believed that the lessons learned with his shopping mall designs would have a transformative effect when applied to urban settings. In 1955, Gruen Associates designed a conceptual plan for the revitalization of downtown Fort Worth. The Fort Worth plan surrounded the downtown's central business district with a ring road that fed automobile traffic from freeways and major boulevards into large parking structures. Inside the traffic ring was a landscaped pedestrian zone defined by the former street grid, forming a massive "superblock" unmolested by automobile traffic.[71]

Although the Fort Worth plan was never built, it generated a considerable amount of attention, particularly among the architects, planners and engineers engaged in combating urban decay in the United States. Gruen and Associates soon developed a similar plan for Kalamazoo, Michigan where the nation's first downtown pedestrian mall was constructed in 1959.

Similar to his plans for Fort Worth and Kalamazoo, Gruen's plan for Fresno envisioned new downtown freeways, high-rise office and residential developments and a new downtown traffic pattern looping around a traffic-free commercial core. A six-block pedestrian mall along Fulton Street would be the centerpiece of the commercial core.[72]

Commercial Revitalization and the Fulton Mall

The focused attention on Downtown immediately spurred new commercial development in fulfillment of the plan's vision. In 1961, Guarantee Savings and Loan moved in to the 1921 Mattei Building after remodeling the first three floors. The iconic revolving "G" at the top of the building signaled resurgence in Downtown business activity.[73] That same year, Berkeley's, a women's clothing retailer, [74] and Walter Smith a men's and boy's clothing retailer, opened new stores on opposite corners of Fulton and Kern streets.[75]

[71] Ibid.

[72] Ibid.
[73] "Savings Firm Will Open New Quarters", *Fresno Bee*, July 2, 1961
[74] "Berkley's Will Open In New Quarters", *Fresno Bee*, April 9, 1961
[75] "Walter Smith Moves To Fulton-Kern Area", *Fresno Bee*, November 5, 1961

Fulton Street looking northwest 1962
Image courtesy of Lance & Cromwell.

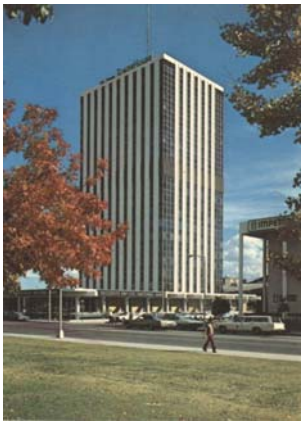
Present-day view of the former Fink & Skopp store building.

In 1962, the Fink & Skopp furniture store moved into a new building at 933 Van Ness Avenue. Constructed on the site of the 1920s-era Sequoia Hotel, the new building, designed by local architect Robert W. Stevens, featured a dramatic arched façade.

Even more impressive was the development of the Del Webb Center at M Street and Tulare which opened to the public in 1964.[76] The Center was developed by Delbert Eugene "Del" Webb, (1899-1974), a Fresno native who had made a fortune in real estate development.

A larger-than-life personality, Del Webb was friend and confidant to many prominent politicians and entertainers.[77] Perhaps best known for founding and developing the model retirement community of Sun City, Arizona in 1960, the Del Webb Company developed numerous residential subdivisions, shopping centers, hotels and retirement communities throughout the nation.[78]

The full city block Del Webb Center included a high-rise office and hotel tower, street level shops and a parking garage. Designed in a Corporate Modern style, the Del Webb tower was the first high-rise building to be constructed in Downtown Fresno since the 1920s.



Del Webb Center
Postcard image circa 1965.

[76] Grimes, Ward W., "Del Webb Center Will Be Dedicated Tomorrow", *Fresno Bee*, March 6, 1964

[77] Sisson, H.L., "Webb Opening Points To Big Fresno Future", *Fresno Bee*, March 7, 1964

[78] Del Webb was also a part owner of the New York Yankees baseball team from 1945 to 1964.

Fulton Mall circa 1965

The centerpiece of the Gruen Plan was the development of a six-block outdoor pedestrian mall along Fulton Street, intended to revitalize the City's historic "Main Street" as a retail destination and spur further development of Downtown's commercial core.[79]

Fulton Mall was created by excluding vehicular traffic from six blocks of Fulton Street between Inyo and Tuolumne streets. Mariposa, Kern, and Merced streets were also vacated one block in each direction from the point of where they transect Fulton Street.

The Mall was designed by the celebrated landscape architect Garrett Eckbo, a pioneer in modernist landscape design. Eckbo's design was inspired by the natural environment and agricultural roots of the San Joaquin Valley. The Mall right-of ways were paved in stained concrete inlaid with sweeping curvilinear ribbons of concrete aggregate.

[79] Victor Gruen Associates, *Central Area Fresno, California, vol. 1, Research and Basic Planning,* March 16, 1959

Fulton Mall circa 1965
Image courtesy of The Cultural Landscape Foundation.

The Mall features planted areas with shade trees and shrubs, numerous fountains and water features, shade pavilions, and seating areas. The mall also contains a diverse and celebrated collection of sculpture and tile work by local, national, and international artists.[80]

The Fulton Mall was opened to the public on September, 1 1964. Thousands attended the opening ceremonies, officiated by local dignitaries and California Governor Edmund G. Brown. It was initially viewed as a great success, celebrated as a bold innovation in urban renewal and revitalization.[81] Drawing world-wide attention, the mall received several national design awards, including honors for "Excellence in Community Architecture" from the American Institute of Architects in 1965, and the "National Design Excellence" award from the US Department of Housing and Urban Development in1968.

[80] McKnight, H. Ray and Harold Tokmakian, *At Risk: Fulton Mall, Fresno CA,* August 6, 2008, Cultural Landscape Foundation website, Accessed May 18, 2011. http://tclf.org/content/fulton-mall-fresno-ca

[81] "Fresno: A City Reborn" . Short film produced by Victor Gruen & Associates, 1968.

Representatives from cities around the country traveled to Fresno to tour the mall and apply similar ideas to their communities, and downtown pedestrian malls became an urban design trend throughout the 1960s and 70s.

Locally, merchants on the Fulton Mall reaped the benefits of increased foot traffic and improved sales.[82] The Mall would remain popular with shoppers through the end of the 1960s.

Critical to Gruen's plan was the strategic placement of structured parking facilities to accommodate downtown shoppers. Two examples of architect designed parking garages in Fresno are located on opposite ends of the Fulton Mall. A municipal parking garage (ca. 1964) at Merced Street and Van Ness Boulevard designed by Alastair Simpson was located on the north end of the Fulton Mall. This garage was integrated with commercial storefronts facing Van Ness Avenue.

A second garage was constructed at the south end of the Fulton Mall in 1968. Designed by Martin Temple of Walter Wagner and J. Martin Temple Architects, this uniquely designed structure features twin spiral ramps on the Van Ness façade.[83]

Present-day view of the Spiral Garage.

The cost of structured parking, however, proved to be prohibitively expensive. As an interim solution, the majority of buildings on the Broadway Avenue business district were leveled to make room for surface lots.

The Gruen plan identified the parcels fronting Van Ness Avenue between Fresno and Tulare as an important development site. Conceptual drawings showed mid- and high-rise buildings set back on a two-story podium. The entire block was envisioned as a unified complex.[84]

[82] Planning Resources Associates Inc. 2008 (37)

[83] Ibid. (50)
[84] Victor Gruen Associates, *Central Area*

Actual construction on this block was initiated in conjunction with the construction of an underground parking garage at the site. Completed in phases between 1968 and 1979, the project as built included a bank building, Hilton Hotel and commercial offices.

The Fresno Convention Center

The development of a modern convention and cultural arts facility was considered a key component of Downtown's revitalization. As early as 1961 plans for the development of a convention and cultural center were underway. An $8 million bond proposal failed to receive approval by the necessary two-thirds of voters in April 1963 elections. Undaunted, Fresno's City Council and Fresno County formed the City and County Convention Center Authority under the state Joint Exercise of Powers Act.[85] This act gave the new authority the ability to issue $8.5 million in revenue bonds to finance the project.

Intersection of Van Ness Ave. and Mariposa Street
1964 Conceptual drawing by Victor Gruen & Associates.

Located between Inyo, Ventura, M and O streets, construction of the Fresno Convention Center began in 1965 and was completed in 1966 for a total cost of $10 million. Designed by Robert Stevens and Associates in a late-Modern style, the complex contains a 2356 seat theater, a 32,000 square foot exhibit hall, and a 7000 seat arena connected by an interior landscaped courtyard. The asymmetrical buildings are accented with steeply pitched roofs of oxidized Alloy steel.[86]

Fresno Convention Center
Painting by Rik Roberts

Civic Revitalization

Fresno's Downtown revitalization efforts extended beyond the central business district and the Fulton Mall to include public sector buildings and the creation of bona fide civic center. Government buildings had been clustered near the County Courthouse since the 1930s, but they were generally constructed as stand-alone buildings without much relationship with each other. After World War II, the City of Fresno passed a bond issue to reserve the entire block occupied by the historic Fresno Water Tower – two blocks north of Courthouse Square -- for a future public plaza. $375,000 was acquired to clear the property and construct the plaza.[87] But by the early 1960s, the now cleared block was being used for parking. In 1950, a new building for the Fresno County Office of Education was constructed at the corner of M and Mariposa streets just east of Courthouse Plaza. A new Fresno County Library was constructed in 1959 just across Mariposa from the Water Tower block. In 1960, a new Police Headquarters was constructed in one block south on Mariposa, sharing the block with the 1941 City Hall building.

A Master Development Plan for Fresno's Civic Center adopted in

[86] Ibid.

[87] Planning Resources Associates Inc. 2008

1966[88] envisioned a centralized civic and governmental district communicating with the adjacent cultural and convention facilities. To integrate the existing buildings, recently built buildings, and proposed future construction, the plan proposed several street closures to favor pedestrian circulation, landscaped public areas and underground parking facilities. Older buildings would be unified with newer, modern buildings to create a contemporary civic campus with Mariposa Street as its central axis. The plan also included language preventing commercial development on the Water Tower Block.

Containing the County Courthouse, Hall of Records, and the County Jail, Court House Square anchored the civic center's western end. In the early 1960s, the City announced that plans to demolish the 1874 County Courthouse and construct a modern, eight story office and courthouse building in its place.

County Courthouse and Courthouse Square 1962
Image courtesy of Lance & Cromwell.

New County Courthouse artist rendering 1966

[88] Ibid. The Civic Center study was the work of James Oakes, AIA, Gay McCline, AIA, landscape architect Burr Garman, ASLA, and planning consultant, Robert E. Dyer.

The announcement galvanized community opposition and an effort was made to save the old courthouse which was finally torn down in 1966.[89] The new Fresno County Courthouse, designed by Walter Wagner and Associates, opened in 1966. The eight-story steel and glass slab on pilotis with ornamental metal grillwork was a stark contrast to its predecessor, an imposing symbol of Downtown's modernist reawakening.

Industrial Consolidation and Relocation

Fruit drying and packing uses would continue to dominate Fresno's industrial corridors after World War II. Other uses included lumber yards, farming implement and supply warehouses, and grain storage. Paper products and home furnishings were also warehoused along the railroad. The Kerr Rug Company began operations at the corner of G Street and Ventura as early as 1912.[90] The company continues today at the same site in a building that first appears on the 1948 Sanborn Map.

Vacant Sun-Maid packing plant circa 1985.
Image courtesy of Lance & Cromwell.

The building's subtle Streamline Moderne stylistic details suggest it was built sometime prior to World War II.

In 1964, the Sun Maid Company vacated their giant Fresno packing plant and moved to a new facility in neighboring Kingsburg.[91] Consolidation and technological innovations within the packing industry conspired to relocate the majority of packing activities away from Downtown as continued suburban expansion made Downtown locations less convenient. While fruit packing facilities continued to operate along H and G streets through the 1960s, the 1963 and 1970

[89] Clough and Secrest (29)
[90] The 1919 Sanborn map indicates a "rug weaving" concern operating at the Kerr Rug site. Anecdotal evidence suggests that the 1912 building was incorporated into the current building although corroborating documentation was not located for this report.

[91] Sun Maid website. http://www.sun-maid.com/en/about/our_history

Sanborn Maps show that large blocks previously built with warehouses and processing plants in earlier decades had been cleared of any development.

By the end of the 20th Century, most of Fresno's large-scale industrial buildings constructed prior to World War II were no longer extant. Many were demolished to make room for freeway expansion and other redevelopment projects. Other buildings – deemed seismically unstable due to their unreinforced masonry construction – were demolished for safety concerns. Smaller industrial buildings located in the blocks east of the railroad were more likely to be reused, often for automotive service uses. The adaptive reuse of early industrial buildings often radically altered their original form.

Central Business District Decline

Although retailers along the Fulton Mall enjoyed increased revenues in the first few years after the Mall opened, projections for future growth proved to be overly optimistic. Initial plans for the construction of a new department store at Mariposa failed to happen. Meanwhile, a development deal put together by the City's Redevelopment Agency in 1969 proposed ambitious plans for a high-rise, mixed-use development at the Mall's northern end. After purchasing and clearing a two block site, the deal fell through.

North End of Fulton Mall circa 1970.

With the exception of a new Longs Drugs store much of the site would remain vacant through the 1980s.[92]

In 1970 a new 58-acre regional indoor shopping mall – Fashion Fair -- opened in north Fresno. Located close to Fresno's rapidly growing northern suburbs, the arrival of Fashion Fair resulted in an immediate decline in downtown retail business. Led by Montgomery Ward in 1970, the Mall's major retailers began relocating to more profitable locations in the suburbs and the Mall became increasingly unpopular with middle-class shoppers.

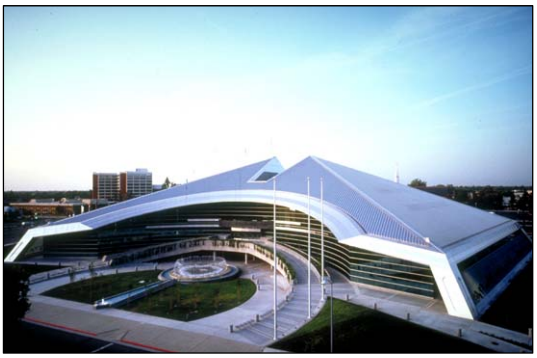
[92] Downtown Association of Fresno website.

In 1973, Del Webb's Townehouse Hotel, the anchor of the high-rise Del Webb Center, closed just six years after its grand opening. That same year a headline in the Fresno Bee asked "Is the Gruen Plan Dead?" Evidently it was. By 1974, the City had adopted a new General Plan that embraced a decentralized, suburban model for growth.[93]

Late 20th and Early 21st Century Civic and Institutional Development (1980-Present)

By the early 1980's most of the original Mall specialty retailers had relocated. JC Penney's closed in 1986. Two years later Gottschalks, after operating their flagship store in the same location since 1914, finally called it quits as well.

The Gruen Plan had incorporated a freeway loop surrounding Downtown that was codified in the California Department of Highways planning of the late 1950s. While CA Route 99 was upgraded to freeway standards in the early 1960s, Route 41, which completed the eastern side of the loop, was not upgraded until the 1980s. Construction of Route 180 through central Fresno (the northern portion of the loop) was not completed until the late 1990s and required considerable demolition in the neighborhoods north of Downtown.



Fresno City Hall
Image courtesy of Allen Lew & William Patnaud Architects, Inc.

As private sector business continued to locate elsewhere, Downtown Fresno became the preferred location for public sector institutions. Whole city blocks were cleared as Federal, State, County and City agencies expanded their downtown facilities beyond the civic center clustered around Mariposa Street.

The County constructed new jail facilities in 1989 and 1993, occupying a full city block at the corner of Fresno and M streets. Connected via underground tunnels to the 1947 jail

[93] Ibid.

facility adjacent to the County Courthouse, the jail expansion provided capacity for over 2000 inmates.[94]

Other major public sector projects include the new Fresno City Hall which was dedicated in 1999. The five-story, 210,000 square foot building was designed by Canadian architect Arthur Erikson.[95] It features a pyramidal metal-clad roof and dramatic circular entry. Located on two full blocks between Tulare, Fresno, P and Q streets, City Hall provides a northeastern terminus on the Mariposa Mall axis.

The Robert E. Coyle Federal Courthouse at 2500 Tulare Street was constructed in 2005. The nine-story building was designed by Moore Ruble Yudell Architects with Gruen Associates.[96]

The turn of the 21st century also brought significant growth of Downtown medical facilities with the expansion of Fresno Community Hospital.

Fresno Community Medical Center

The hospital began at its current location when the then Burnett Sanitarium constructed a new facility at the corner of Fresno and S streets in 1905. Named Fresno Community Hospital in 1945, the hospital would see steady growth through mergers with other institutions. In 1995, the City approved the development of a regional medical center at the downtown hospital site. Re-named the Community Regional Medical Center in 2003, the 58-acre campus is a state-of-the-art medical facility that includes a 626-bed

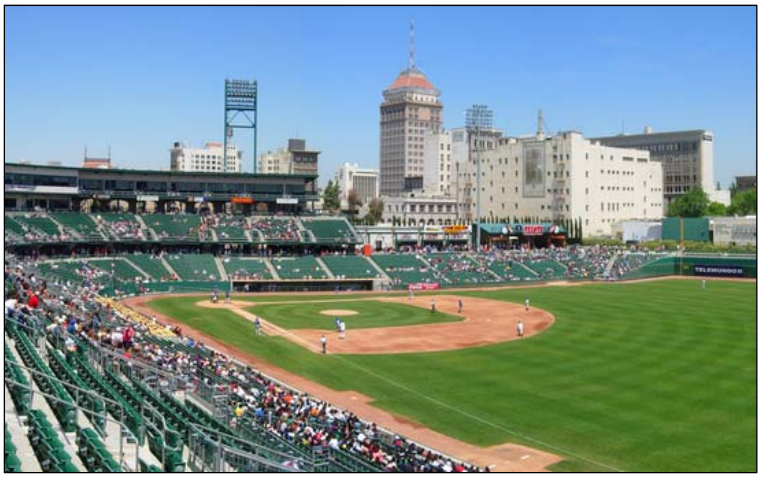
[94] Fresno County Jail factsheet.
[95] Archhop website, accessed May 13, 2011. http://archop.org/2009/05/arthur-erickson/
[96] Emporis.com , accessed June 23, 2011 http://www.emporis.com/building/fresnounitedstatescourthouse-fresno-ca-usa

hospital and University of California research and training center.[97]

While the government agencies and the medical center bring thousands of workers, this has so far not led to a larger reinvigoration of Downtown Fresno. Many of the new buildings have been designed as stand-alone facilities with self-contained amenities and expanses of parking which have done little to activate neighboring streets.

Plans for a Downtown baseball stadium -- part of the 1992 Radkovitch Plan for Downtown revitalization – gained traction toward the end of the 1990s. Occupying almost four city blocks, Grizzlies Stadium (now Chukchansi Park) opened to great fanfare in April of 2002.[98] Located just south of the Fulton Mall between Inyo, H, and Tulare streets, the stadium proved to be a popular entertainment and recreation destination. That popularity, however, has so far not been a successful catalyst for larger revitalization.

Recent efforts to bring new residents to Downtown Fresno have been more successful with the development of live-work lofts in the Arts and Culture District. Revitalization efforts continue as the City contemplates a new Specific Plan for the area.



Chukchansi Park
Image courtesy of OpenBuildings (openbuildings.com).

[97] Community Medical Centers Healthcare website http://www.communitymedical.org/about-us/our-vital-numbers

[98] PBID Partners of Downtown Fresno website.

Selected Chronology

The following chronology is intended to highlight activities and events important to the understanding of the built environment within and immediately surrounding Downtown Fresno from the earliest settlement through the present day. The events listed here highlight key points in the growth and development of Downtown Fresno and reference important historical associations.

1805 First exploration of the San Joaquin Valley by Spanish missionaries.

1823 Ashley expedition arrives from St. Louis to hunt and trap along the Merced, Stanislaus, and Tuolumne rivers.

1834 All California missions are secularized. Spain's vast land holdings are granted to Mexican and "Californio" rancheros.

1848 Mexico's northern territories, including California, are ceded to the United States following the Mexican-American War.

1848 Gold is discovered at Sutter's Mill in Northern California.

1850 California becomes the forty-eighth state.

1851 Settlement of Rootville founded.

1856 County of Fresno formed.

1871 Fresno Canal and Irrigation Company founded.

Central Pacific Railroad purchases 4, 480 acres of land, mostly west of the Easterby Ranch.

1872 A railroad station is established called Fresno Station.

A 3 square mile area near the rail station is platted for the new town of Fresno.

Commercial district forms along "H" Street adjacent to railroad tracks.

1874 Fresno is named the county seat.

County Courthouse is constructed on Mariposa Street.

1881 The first Armenian settlers, the Seropian Brothers, arrive in Fresno.

1885 Fresno incorporated as a city.

1887 The first Volga Germans arrive in Fresno.

1889 The Southern Pacific Train Station is constructed at Tulare and "H" streets, replacing an earlier depot structure at the same location.

1894 The Fresno Water Tower is constructed at Fresno and "O" streets.

1896 The Santa Fe Railroad Depot begins construction.

1900 Fresno population at 12,470.

Bing Kong Tong Association Building is constructed.

1902 Fresno's first electric streetcar line begins operation.

1903 Hobbs-Parsons Produce warehouse is constructed.

1904 Public Library constructed with a $30,000 Carnegie grant.

1905 First Armenian Presbyterian Church is constructed at 515 Fulton Street.

1907 First (purpose-built) City Hall constructed.

1909 Fresno's first double-track streetcar line in installed along "J" Street. (Present-day Fulton Street).

1912 The Hotel Fresno is constructed.

1913 Fresno's first "skyscraper", the Griffith-McKenzie Building, is constructed at Fulton and Mariposa streets.

1914 World War I begins in Europe.

Gottschalk's department store opens at the corner of Fulton and Kern streets.

Holy Trinity Armenian Apostolic Church is constructed at 2226 Ventura Street.

1915 Fresno's Armenian population reaches its peak after the Ottoman Armenian Genocide.

1916 Fresno's first City Planning Commission is established.

1917 The United States enters World War I.

The Bank of Italy Building is constructed on "J" Street (present-day Fulton Street).

Liberty Theater is constructed at present-day 944 Van Ness Avenue.

1918 World War I ends.

San Francisco architect and planner Charles Henry Chaney submits Fresno's first city planning document entitled "General Report on the Progress of City Plan for Fresno."

Fresno Natatorium is constructed at present-day 1725 Broadway.

1919 "I" and "K" streets are renamed "Broadway Street" and "Van Ness Avenue respectively.

1920 Rustigian Building is constructed at 701-723 Fulton Street.

A new Buddhist Temple is constructed at the corner of "E" and Kern streets after a fire destroys the previous temple building at the same site.

The Bow On Tong Association Building is constructed.

The Hotel Virginia begins construction at the corner of "L" and Kern streets.

1921 The Mattei Building is constructed on Fulton Street.

A YWCA residence hall, designed by Julia Morgan, is constructed at 1600 M Street.

1922 The T.W. Patterson building is constructed at 2014 Tulare Street.

Fresno Bee Building is constructed at 1545 Van Ness Avenue.

The YMCA Administration and Recreation building, designed by Julia Morgan, is constructed at 2141 Tuolumne Street.

1923 Fresno's first zoning ordinance is approved.

San Joaquin Light & Power Company building is constructed at 1401 Fulton Street.

Hotel Californian is constructed at 851 Van Ness Avenue.

1924 The Radin-Kamp Department Store opens on Fulton Street.

The First Mexican Baptist Church is constructed at 1061 "E" Street; the first church in Fresno constructed specifically to serve the Mexican-American community.

1925 Pacific Telephone and Telegraph Building is constructed at 1455 Van Ness Avenue.

1926 The Wilson Theater is constructed at 1445 Fulton Street.

Pacific Gas & Electric Company Building is constructed at 1544 Fulton Street.

1928 The Pantages Theater (now Warnor's Center for the Performing Arts) is constructed at 1400 Fulton Street.

1929 The stock market crashes in October, ushering in the Great Depression.

1932 Franklin Delano Roosevelt is sworn in as President of the United States.

1933 A major street improvement project along Broadway between Divisadero and Tulare streets includes widening the street by ten feet and implementing Spanish Revival facades on buildings affected by the project.

1935 Memorial Auditorium is constructed at Fresno and "M" streets.

The Fresno County Hall of Records is constructed on Tulare Street.

1936 Fresno Unified School District office is constructed on "N" Street.

1939 Post Office and Federal Building are constructed on Tulare Street.

Fresno's streetcars are removed from service.

1940 Fresno's population reaches 60,685.

1941 A new City Hall is constructed at 2326 Fresno Street in the International Style.

On December 7th, the United States is bombed at Pearl Harbor in Hawaii and the United States enters World War II.

1945 World War II ends in victory for the United States and the troops return home.

1947 The Fresno Water Tower is preserved and the entire block to the east is cleared for redevelopment as an open plaza.

The Mayfair residential subdivision is constructed north of central Fresno. Development includes the area's first suburban shopping center.

1948 The Gottschalk's store at Fulton and Kern is enlarged and redeveloped. The original Beaux-Arts facades are revamped in a late Moderne style.

Highway 99 is constructed just west of downtown Fresno.

1950 The Korean War begins.

Fresno Office of Education Building is constructed on Mariposa Street.

The Census reports Fresno's population at 91,669.

1953 The Korean War ends.

1954 Northland Center in Detroit, the nation's first regional suburban shopping center opens, designed by architect and planner Victor Gruen.

1955 Construction begins on Manchester Center at Shields and Blackstone, Fresno's first major suburban shopping center, anchored by a Sears and Roebuck department store.

Victor Gruen unveils a "superblock" plan of pedestrian malls for downtown Fort Worth.

1956 Fresno business leaders discuss the possibility of creating a pedestrian mall on Mariposa Street from the courthouse park, west to the Southern Pacific railroad tracks.

1957 Downtown Association of Fresno pushes for expansion of the Mariposa Street concept to Fulton Street.

1958 Victor Gruen & Associates submit a formal proposal to work on a plan for the Central Business District of Fresno, which is accepted by the City.

Fresno State begins to relocate from University Avenue near the Tower District, to a site at Cedar and Shaw in north Fresno.

1959 Fresno County Library is constructed on Mariposa Street.

Kalamazoo Mall, a Victor Gruen project, opens on Burdick Street in Downtown Kalamazoo Michigan, the nation's first downtown pedestrian mall.

1960 A new headquarters building for the Fresno Police is constructed on "N" Street.

The City of Fresno adopts in principle Victor Gruen's plan for the Central Business District, including a downtown pedestrian mall.

1961 Guarantee Savings and Loan occupies the 1920s Mattei Building at Fulton and Fresno streets after remodeling the first three floors.

Berkeley's, a women's clothing retailer, opens a two-story store at Fulton and Kern streets.

Walter Smith men's and boy's clothing opens a new store at Fulton and Kern streets.

1962 A new building for the Fink & Skopp store is constructed at 933 Van Ness Avenue.

1963 The high-rise Del Webb Center is constructed on "M" Street. The full city block complex includes a hotel, offices, shops, and parking.

1964 Construction of Fresno's Fulton Mall begins on March 30.

Fresno's Fulton Mall opens to the public on September 1.

The Fresno Clovis Metropolitan Area General Plan incorporates a retail emphasis for the Downtown Fresno Central Business District.

Fourteen-story high-rise for Midland Savings and Loan is constructed at Tulare and "L" streets.

1965 National Dollar Stores opens on the Fulton Mall.

The YMCA Administration and Recreation building at 2141 Tuolumne Street is completely remodeled as the "Garden Court Building."

A new Fresno County Courthouse is constructed in Courthouse Park directly in front of the original courthouse.

The Park Towers complex begins construction on Van Ness between Fresno and Tulare streets.

The American Institute of Architects awards Fresno with its national award for "Excellence in Community Architecture"

1966 The original 1874 Fresno County Courthouse is demolished.

The Fresno Convention Center opens.

1968 The Fulton Mall is honored with a "National Design Excellence" award from the Department of Housing and Urban Development.

1970 Montgomery Ward's closes their Fulton Mall location, and plans to relocate to north Fresno.

Fashion Fair, an indoor, regional shopping mall opens in north Fresno near Fresno State College.

1973 The city council votes 7-0 to amend the Central Area Plan to permit Fresno and Tulare Streets to remain open through the downtown "superblock" - a major deviation from the original plans of Victor Gruen.

The Del Webb Townehouse Hotel closes and is later converted to county government offices.

1974 Fresno General Plan calls for "multiple centers" - leading to the decentralization of retail services throughout the community.

1986 J.C. Penney's closes its downtown location.

1988 Gottschalks closes their flagship store on the Fulton Mall.

1999 Fresno City Hall, designed by Canadian architect Arthur Erikson, is completed and dedicated.

2002 A multi-purpose stadium (now Chukchansi Park) opens just south of the Fulton Mall between Inyo, H, and Tulare streets.

2005 Design for a portion of Eaton Plaza is completed.

THEMES AND ASSOCIATED PROPERTY TYPES

Through research HRG has identified several important themes that have influenced the physical development of Downtown Fresno since 1872. Each is defined by a particular period of significance. Overlapping periods illustrate the influence of multiple trends during Downtown Fresno's development. A single property may be associated with multiple themes.

Themes and their associated property types are reviewed in the following pages.

Railroad Development and Expansion (1872-1945)

The location of rail lines established Fresno as a major transportation crossroads and distribution center for the Central Valley's agricultural bounty. Early development patterns favored proximity to the railroad, solidifying the centrality of Fresno's downtown. The railroad's impact is immediately understood in the northwest-southeast orientation of the downtown street grid, which paralleled the orientation of the Central Pacific Railroad line.

Early railroad properties are rare in Downtown Fresno and most important remaining properties have been designated by the City.

Associated Property Types

Property types associated with railroad development include rail stations and their ancillary buildings, rail yards, rail lines, and rail spurs. Some early industrial buildings that were constructed in immediate proximity to rail lines and designed to take advantage of rail technology, may also be significant within this context.

A railroad property in Downtown Fresno may be significant:

- As a rare, intact example of railroad development from the late 19th to early-20th Century
- As an industrial property directly associated with the railroad (e.g. railroad warehouse)

Santa Fe Depot (1899)

Pullman Shed (1917)

Railroad properties that have been designated by the City as historic resources include the Southern Pacific Depot (1889) at 1713 Tulare St., and the Santa Fe Depot (1899) at 2650 Tulare St. Other extant railroad properties include an early railroad warehouse (circa 1910) at 735 H St., and the Pullman Shed (1917) located adjacent to the Southern Pacific Depot at 1713 Tulare St.

Residential Development (1872-1942)

The Downtown Fresno area included vibrant residential neighborhoods throughout the late 19th century. By the early 20th century, some of these neighborhoods were significantly eroded by expanding commercial and industrial sectors as well as transportation infrastructure that made it possible for people to live further from the city center. Large-scale redevelopment projects of the mid- and late-20th century continued to erode Fresno's earliest neighborhoods. Today, intact early residential properties within the Downtown area are comparatively rare. For this reason, integrity thresholds are lower than they might be for other resource types.

Outstanding examples of Fresno's early residential properties can be found within the proposed St. John's Cathedral District and the northern portions of the Cultural-Arts District. The majority of these have either been designated by the City as local historic resources or previously identified as potential individual resources or as contributors to a potential historic district. Modest residential properties exist in and around Chinatown; many of these have poor integrity due to alteration or extreme disrepair. Outside of these areas, only isolated examples of Fresno's early residential architecture remain.

Architectural styles associated with residential development during this period include Folk/Vernacular, Queen Anne, Neo-Classical, American Foursquare, Craftsman, Colonial Revival, Mission Revival, and Spanish Revival.

Associated Property Types

Property Type: Single-Family Residence

Single-family properties representing late-19th and early-20th century residential development include large homes for the City's upper and middle classes, and modest houses for working families. Carriage houses and other ancillary buildings are also representative.

Helm Home (1901)

1230 P Street (1913)

A residential property from this period may be significant:

- As an increasingly rare example of late-19th or early-20th century residential development
- As a good or rare example of a particular architectural style associated with the period, and/or the work of a significant architect or designer
- As a rare example of brick residential construction
- For its association with an important early resident or event

Over thirty single-family residential properties located in the Downtown area have been designated by the City as historic resources. Examples include the Vartanian Home (1891) at 362 F Street; the Helm Home (1901) at 1749 L Street; and the Van Valkenburg Home (1903) at 1125 T Street.

Other extant single-family residential properties include the Joseph Giardina House (circa1900) at 517 Van Ness Avenue; a single-story Craftsman Cottage (1920) at 555 F Street; and a Neo-Classical Cottage (1913) at 1320 P Street.

Property Type: Multiple Family Residence

Multiple family residences representing late-19th and early-20th century residential development include duplexes, fourplexes, apartment houses, and bungalow courts.

Maubridge Apartments (1911)
Image courtesy of HistoricFresno.org.

636 Van Ness (c. 1915)

A multiple family residential property from this period may be significant:

- As a rare example of early-20th century multiple family residential development
- As a rare example of a residential bungalow court
- As a good or rare example of a particular architectural style associated with the period, and/or the work of a significant architect or designer
- For its association with an important early resident or event

Multiple-family residential properties that have been designated by the City as historic resources include the Maubridge Apartment Building (1911) at 2344 Tulare Street.

Other extant multiple-family residential properties include a Neo-Classical duplex at 636 Van Ness (c. 1915) and the Brix Apartments bungalow court (1940) at 1325 M Street.

Ethnic Communities (1872-1960)

Successive waves of immigrant groups have settled in and around Fresno's downtown throughout the City's history. Areas west of the railroad have been settled by Italian, Russian-German, Chinese, and Japanese populations from the mid-19th Century through World War II. These communities were largely replaced by Hispanic and African-American populations in a process that began after World War II.

Historic ethnic neighborhoods within or overlapping the Downtown area include Chinatown, located between Highway 99 and the railroad along F Street; Fresno's historic Germantown roughly bounded by California Street, Ventura Street, and G Street; the historic Armenian Town located in the southeastern portion of the Fulton Corridor plan area, adjacent to the Central Business District; and the historic Italian community, located southwest of Downtown, spanning the Fulton Corridor area and further Southwest beyond Highway 99. Outside of Chinatown, where a small commercial historic district has been identified, only fragments of these historic neighborhoods remain.

Properties associated with Fresno's ethnic neighborhoods are not typically associated with particular architectural styles. Properties can be residential, commercial or institutional, and significance is frequently derived from

Bing Kong Association Building (1900)

historic association rather than from aesthetic qualities.

Associated Property Types

Property types include single-family homes, ancillary buildings such as the summer kitchens of the Volga Germans, boarding houses, churches, meeting halls, and small neighborhood commercial buildings. Many of these properties are also associated with other development themes.

A property associated with one of Fresno's important ethnic groups may be significant:

- As a recognizable remnant of a historic ethnic neighborhood.
- As the gathering place of an important ethnic social or religious institution.

- As a good or rare example of a particular building type associated with an important ethnic group
- For its association with a person or event important to the history of a particular ethnic group.

Properties with important ethnic community associations that have been designated by the City as historic resources include the Bing Kong Tong Association Building (1900) at 921 China Alley; the Holy Trinity Armenian Apostolic Church (1914) at 2226 Ventura Street; and the First Mexican Baptist Church (1924) at 1061 Kern St.

Other extant properties with important ethnic community associations include the Holly Department Store (1948) at 1027 F Street; and Komoto K. Books (circa 1900) at 922 F Street.

Late-19th and early-20th Century Commercial Development (1872-1945)

Commercial enterprise in Fresno expanded dramatically following the arrival of the railroad in 1872 and continued throughout the 19th century. The 20th century saw increased commercial development particularly in the years between World War I and the arrival of the Great Depression.

Architectural styles represented include Mission Revival, Beaux Arts, Renaissance Revival, Spanish Revival, Art Deco, and Streamline Moderne. Modest masonry vernacular commercial buildings may have minimal stylistic detailing or not represent any particular style. The majority of the large and architecturally distinguished buildings have been designated by the City as historic resources, and several are listed on the National Register.

Associated Property Types

While very few 19th century commercial buildings remain, Fresno's early 20th Century prosperity can be seen in the masonry buildings that were constructed between 1900 and 1930. These include high-and mid-rise office buildings, hotels, department stores, and low-rise storefront buildings. A handful of downtown's elegant and impressive theaters also remain intact.

Rustigian Building (1919)

L.C. Wesley Super Garage (1931)

A commercial property from this period may be significant:

- As a rare intact example of late 19th or early-20th century commercial development
- As a good or rare example of a particular architectural style associated with the period, and/or the work of a significant architect or designer
- As a rare intact example of an early commercial property type
- For its association with the city's original commercial core

- For its association with an important resident or event

Early commercial properties that have been designated by the City as historic resources include the Bank of Italy (1917) at 1001 Fulton Mall; the Rustigian Building (1919) at 701 Fulton Street; and the Radin-Kamp Department Store (1924) at 959 Fulton Mall.

Other extant early commercial properties include the Brix Building (1928) at 1221 Fulton Mall; the L.C. Wesley Super Garage (1931) at 862 Van Ness Avenue; and Lefty's Mexican Restaurant (circa 1930) at 915 Van Ness Avenue.

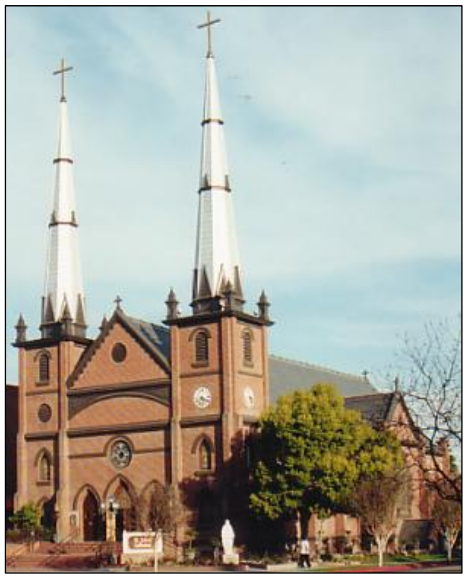
Late-19th and Early-20th Century Civic and Institutional Development (1872-1930)

A considerable portion of Downtown Fresno's development is associated with the public sector and non-commercial interests such as religious and social groups. With the construction of the first County Courthouse in 1874, a Civic Center was established and government buildings have generally clustered northeast of Van Ness Avenue around Mariposa Street ever since. Religious and social organizations located their facilities in various parts of the Fulton Corridor area. The oldest of these were often associated with early residential neighborhoods.

Important early civic buildings such as the first County Courthouse (1874), the first City Hall (1907), and the Carnegie Library (1904) are no longer extant. Several churches, temples, and buildings related to social organizations, however, can still be found within the Fulton Corridor area.

Associated Property Types

Civic property types include city halls, courthouses, post offices, libraries, schools, and buildings associated with public infrastructure agencies such as those providing power and water. Non-governmental institutional buildings include churches, meeting halls, and other buildings associated with social organizations such as the YMCA.



St. Johns Cathedral (1902)

G Street Substation (c. 1920)

A civic or institutional property may be significant:

- As a rare example (first, last remaining, only) of civic or institutional development
- As a good or rare example of a particular architectural style associated with its period, and/or

the work of a significant architect or designer
- For its association with an important resident or event
- For its association with an important religious, social, cultural, or civic institution

Architectural styles associated with late-19th and early-20th century civic or institutional development in Downtown Fresno include Mission Revival, Spanish Colonial Revival, Renaissance Revival, and Classical Revival.

Early civic and institutional properties that have been designated by the City as historic resources include the Old Fresno Water Tower (1894) at 2444 Fresno Street; the Old Post Office Sub-Station (1921) at 2422 Kern Street; and St. John's Cathedral (1902) at 2814 Mariposa Street.

Another extant early civic and institutional property from the period is the G Street Zone Substation (circa 1920) at 1159 G Street.

Industrial Fresno (1890-1950)

Fresno's status as a major transportation and distribution center for the Central Valley's agricultural bounty gave rise to a robust industrial sector. Industrial activity in Fresno developed largely in support of agricultural activities -- primarily raisin and dried fruit packing – with industrial facilities tending to cluster in close proximity to the railroad. Intact early industrial properties within the Downtown area are comparatively rare. For this reason, integrity thresholds are lower than they might be for other resource types.

Associated Property Types

Extant industrial buildings important to Downtown Fresno's development history date from the late-19th century through the mid-20th century. Properties include warehouses, processing plants, factories, associated offices, and ancillary buildings and structures. These properties are typically clustered along rail lines in areas where adjacent blocks developed into defined industrial zones.

An industrial property in Fresno may be significant:

- As a rare, intact example of a particular type of industrial development
- For its association with an important local industry (e.g. fruit packing, food processing, etc.)
- For its direct association with the railroad

State Center Warehouse (1918)

Kerr Rug Company (c. 1940)

In general, industrial development in Fresno is not associated with particular architectural styles. Vernacular industrial buildings of brick and reinforced concrete are the predominate form, and significance is frequently derived from historic association rather than from aesthetic qualities.

Industrial properties that have been designated by the City as historic resources include the Hobbs Parsons Produce Company Warehouse(1903) at 903 H Street; the Berven Rug Mills building (1917) at 616 P Street; and the State Center Warehouse (1918) at 747 R Street.

Other extant industrial properties include the Baz Brothers warehouse (circa 1905) at 840 G Street; and Kerr Rug Company (circa 1940) at 539 G Street.

Depression-Era Civic and Institutional Development (1933-1942)

In Fresno, projects funded through the Roosevelt Administration's "New Deal" programs transformed Fresno's Civic Center where five new government buildings were constructed between 1936 and 1941. In addition to monumental civic projects the New Deal benefited Fresno through park improvements, street improvements, and fire stations.

Associated Property Types

Civic and institutional property types include city halls, post offices, fire stations, auditoriums, and office buildings for public agencies. Non-governmental institutional buildings include churches, meeting halls, and buildings associated with social organizations.

A civic or institutional property may be significant:

- For its direct association with New Deal funding programs.
- As a good or rare example of a particular architectural style associated with its period, and/or the work of a significant architect or designer
- For its association with an important resident or event
- For its association with an important religious, social, cultural, or civic institution

Architectural styles represented include Art Deco, Streamline Moderne, and International Style.

Fresno Memorial Auditorium (1936)

Depression-era civic and institutional properties that have been designated by the City as historic resources include the Fresno Memorial Auditorium (1936) at 1235 O Street; Fresno Fire Station No. 3 (1939) at 1406 Fresno Street; and Fresno City Hall (Annex) (1941) at 1406 Fresno Street.

Other extant civic and institutional properties include the Blue Cross Veterinary Hospital (1936) at 1821 Van Ness Avenue.

Mid-20th Century Commercial Redevelopment (1945-1970)

Unprecedented suburban growth aided by the ascendance of the automobile as the preferred transportation mode and a greatly expanded highway infrastructure, threatened the health and vitality of Fresno's downtown in the years after World War II. To combat the effects of suburbanization, city officials and downtown business and property owners embraced some of the most advanced ideas in architecture, urban design and planning to revitalize downtown and stay competitive with the burgeoning suburbs.

Property developers constructed new buildings in a wide range of modernist styles while many older buildings were revamped with new facades. The embrace of modernist ideals to transform downtown Fresno culminated in the adoption of the Victor Gruen plan for the Central Business District and construction of the Fulton Mall.

Associated Property Types

Downtown Fresno contains an impressive collection of mid- 20th century commercial buildings that reflect Fresno's extensive revitalization efforts of the late 1950s and 1960s. Associated property types include office buildings, department stores, hotels, commercial retail and/or office buildings, and parking facilities.

Alastair Simpson Offices/Fresno Photo Engraving (1946)

Equitable Life Insurance Building (1966)

Architectural styles include Late Moderne, International Style, Mid-Century Modern, Corporate Modern, Googie, and New Formalism.

A commercial property from this period may be significant:

- As a good or rare example of a particular architectural style associated with the period, and/or the work of a significant architect or designer
- For its association with the Downtown's mid-20th century revitalization

- For its association with an important resident or event

Only one mid-20th century commercial property has been designated by the City as a historic resource, the Alastair Simpson Offices/Fresno Photo Engraving (1946) at 748 Fulton Street.

Other extant mid-20th century commercial properties include the Gottschalk's Department Store (remodeled in1948) at 802 Fulton Mall; the former Fink & Skopp Home Furnishings Store (1962) at 933 Van Ness; the Equitable Life Insurance building (1966) at 1350 O Street; Bank of the West (1966) at 1221 Van Ness Avenue; and Wells Fargo Bank (1966) at 1206 Van Ness Avenue.

Bank of the West (1966)

Mid-20th Century Civic and Institutional Development (1945-1970)

The expansion of government during the second half of the 20th century dramatically increased the presence of the public-sector in downtown Fresno. Continuing the expansion of the Civic Center that began in the 1930s, several new buildings were erected and several blocks of Mariposa Street were closed to traffic and converted into a landscaped pedestrian mall. The Convention Center complex was also constructed.

Associated Property Types

Civic and institutional property types include libraries, auditoriums, office buildings for public agencies, theaters, and conference centers. Non-governmental institutional buildings include churches, and meeting halls.

A civic or institutional property may be significant:

- For its direct association with Post World War II urban revitalization programs.
- As a good or rare example of a particular architectural style associated with its period, and/or the work of a significant architect or designer
- For its association with an important religious, social, cultural, or civic institution

Fresno County Office of Education (1950)

Civic and institutional buildings in downtown Fresno reflect the City's adoption of modernist architecture and planning in the mid- 20th century. Architectural styles include the Corporate Modern, Mid-Century Modern and New Formalism.

No mid-20th century civic and institutional properties have been designated by the City as historic resources.

Extant civic and institutional properties from the period include the Fresno County Office of Education (1950) at 2314 Mariposa; the Fresno County Free Library (1959) at 2420 Mariposa; the Fresno Convention Center (1966) at 700 M Street; and the Fresno County Courthouse (1965) at 1100 Van Ness Avenue.

ARCHITECTURAL CHARACTER

Introduction

This section describes the predominant architectural styles currently represented in Downtown Fresno, from the late 19th Century through the mid-20th Century. The typology presented here is not intended to establish historic significance. Rather, it describes the existing population of buildings constructed Downtown during this period. The information below briefly describes the origin of each style, and its presence in the local landscape. Date ranges refer to the time the style was most prevalent in Fresno. A list of character-defining features is also provided. A property that is eligible for designation as a good example of its architectural style retains most - though not necessarily all - of the character-defining features of the style, and continues to exhibit its historic appearance.

Queen Anne (c. 1880 – 1910)

The Queen Anne style was one of the most popular Victorian-era styles for residential buildings in California. Like the Stick style that it quickly replaced, Queen Anne uses exterior wall surfaces as a primary decorative element. Elements Features used to avoid plain flat wall surface include bays, towers, overhangs, wall projects, and wall materials with differing textures.

Extant examples of Queen Anne architecture in Downtown Fresno include the Thomas R. Meux Home (1889) at 1007 R Street, the McVey homes (1903) at 1322 and 1326 N Street, and the Schmidt Home (1908) at 460 N Street.

Character-defining features include:

- Asymmetrical façade
- Steeply-pitched roof of irregular shape, usually with a dominate front-facing gable
- Wooden exterior wall cladding with decorative patterned shingles
- Projecting partial-, full-width or wrap-around front porch, usually one story in height
- Cut-away bay windows
- Wood double-hung sash windows
- Towers topped by turrets, domes or cupolas
- Tall decorative brick chimneys
- Ornamentation may include decorative brackets, bargeboards and pendants, as well as Eastlake details, such as spindle work

Neo-Classical Cottage (c.1875 – 1920)

The term "Neo-Classical Cottage" is used to describe simple house forms or cottages with fewer decorative features than other styles from the period. While vernacular residences may display certain characteristics of recognizable styles, decorative detailing is typically confined to the porch or cornice line.

Downtown Fresno retains a small population of such residential buildings from the late 19th and early 20th Centuries.

Character-defining features include:

- Symmetrical façade
- Simple square or rectangular form
- Gabled or hipped roof with boxed or open eaves
- Wood exterior cladding
- Simple window and door surrounds
- Details may include cornice line brackets
- Porch support with turned spindles or square posts

Residential Vernacular (c.1875 – 1920)

The term "Residential Vernacular" is used to describe simple houses or cottages with little or no distinguishing decorative features. These buildings are characterized by their simplicity and lack of any characteristics of recognizable styles.

Downtown Fresno retains a small population of such residential buildings from the late 19th and early 20th Centuries.

Character-defining features include:

- Simple square or rectangular form
- Gabled or hipped roof with boxed or open eaves
- Wood exterior cladding
- Simple window and door surrounds

Mission Revival (c. 1890 – 1920)

The Mission Revival style is indigenous to California. Drawing upon its own colonial past, Mission Revival was the Californian counterpart to the Colonial Revival of the Northeastern states. Never common beyond the Southwest, its regional popularity was spurred by its adoption by the Santa Fe and Southern Pacific Railways as the preferred style for train stations and resort hotels. Features of the California Missions were borrowed and freely adapted, often in combination with elements of other revival styles.

The Helm Home (1901) at 1749 L Street and the Santa Fe Depot (1899) at 2650 Tulare Street are examples of the Mission Revival style in Downtown Fresno.

Character-defining features include:

- Red clay tile roofs with overhanging eaves and open rafters
- Shaped parapets, including espandañas, with coping
- Stucco exterior wall cladding
- Arched window and door openings
- Details may include bell towers, quatrefoil openings or patterned tiles

Craftsman (c. 1900 – 1930)

Craftsman architecture in America grew out of the late-19th century English Arts and Crafts movement. It stressed simplicity of design, hand-craftsmanship, and the relationship to the climate and landscape. Craftsman architecture was widely published in architectural journals and pattern books, popularizing the style throughout the country. Affordable and easily constructed from local materials, the mostly one- or one-and-a-half-story homes were often

referred to as "bungalows" and dominated middle-class residential design during the first quarter of the 20th century.

Examples of the Craftsman style in Downtown Fresno include the Martin Home (1912) at 1002 T Street and the Aten Home (1914) at 1133 S Street.

Character-defining features include:

- Horizontal massing
- Low-pitched gabled roof
- Widely overhanging eaves with exposed rafters, beams, or braces
- Wood exterior wall cladding (shingle, shake, or clapboard)
- Projecting partial-, full-width or wrap-around front porch
- Heavy porch piers, often of river stone or masonry
- Wood-frame casement or double-hung sash windows, often grouped in multiples
- Widely-proportioned front doors, often with a beveled light
- Wide window and door surrounds, often with extended lintels
- Extensive use of natural materials (wood, brick or river stone)

Colonial Revival (c. 1900 – 1955)

The Colonial Revival style proliferated during the first half of the 20th century. This style incorporates traditions from the Georgian, Adam and early Classical Revival styles that were prevalent during the English colonial period. Dutch colonial influences were also incorporated. Earlier examples were rarely accurate recreations but were instead free interpretations with details inspired by colonial precedents, while later examples shifted to more historically correct proportions and details.

Examples of Colonial Revival architecture in Downtown Fresno include the Long/Black Home (1907) at 1727 L Street, and the Goodman Home (1906) at 1060 T Street.

Character-defining features include:

- Side gable or hipped roofs
- Wood exterior wall cladding, typically horizontal
- Accentuated front entry or portico, featuring decorative pediments supported by pilasters or slender columns
- Wood double-hung sash windows with multi-pane glazing
- Front doors flanked by sidelights with fanlights above
- Fixed wooden shutters

Classical Revival (c. 1900 –1920)

The Classical Revival style did not achieve the broad popularity of its closely-related Colonial Revival contemporary. The style is best identified by its symmetrical façade, which is typically dominated by a full-height porch with the roof supported by classical columns. Like the Renaissance Revival, this style was widely used for imposing civic buildings, institutional buildings, and banks.

Examples of Classical Revival buildings in Downtown Fresno include the Swift Home (1905) at 1605 L Street and the First Church of Christ Scientist (1916) at 1615 N Street.

Character-defining features include:

- Symmetrical façade
- Front- or side-gabled roof
- Wood or masonry exterior wall cladding
- Full-height gabled or pedimented front porch
- Porch roof supported by slender fluted columns with Ionic or Corinthian capitals
- Wood double-hung sash windows with multi-pane glazing
- Details may include dentils, a wide frieze beneath the cornice, and roofline balustrades

Renaissance Revival (c. 1905 – 1930)

Renaissance Revival buildings were often fairly literal interpretations of the Italian originals, unlike the free interpretations of the preceding Italianate style. Its formal, symmetrical facades and Classical or Beaux Arts details including quoins, roofline balustrades, pedimented windows, molded cornices and belt courses were often used for imposing civic buildings, institutional buildings, and banks.

Examples of Renaissance Revival style architecture in Downtown Fresno include the Bank of Italy Building (1917) at 1001 Fulton Mall, and the Hotel California (1923) at 851 Van Ness Avenue.

Character-defining features include:

- Symmetrical facade
- Tiled low-pitched hip roof, sometimes flat roof
- Boxed eaves with decorative brackets
- Stucco or masonry exterior wall cladding
- Arched window and door openings on the first story
- Wood divided-light casement or double-hung sash windows in the upper stories
- Front entry accentuated with slender classical columns or pilasters

Spanish Colonial Revival (c. 1915 – 1940)

Enormously popular in Southern California from the late 1910s through the late 1930s, the Spanish Colonial Revival style emerged from a conscious effort by architects to emulate older Spanish architectural traditions, and break with Eastern colonial influences. At the peak of its popularity, design features of other regions of the Mediterranean were often creatively incorporated, including those of Italy, France, and North Africa. The result was a pan-Mediterranean mélange of eclectic variations on Spanish Revival styles.

Examples of Spanish Colonial Revival architecture in Downtown Fresno

include the Physician's Building (1926) at 2607 Fresno Street,

Character-defining features include:

- Asymmetrical facade
- Red clay tile hip or side-gable roof, or flat roof with a tile-clad parapet
- Stucco exterior cladding, forming uninterrupted wall planes
- Wood-frame casement or double-hung windows, typically with divided lights
- Arched colonnades, window or door openings
- Decorative grilles of wood, wrought iron, or plaster
- Balconies, patios or towers
- Decorative terra cotta or tile work

Commercial Vernacular (c. 1915-1950)

Although not an officially recognized style, "commercial vernacular" describes simple commercial structures with little decorative ornamentation, common in American cities and towns of the late 19th and early 20th centuries. Fresno's original commercial core was largely composed of such buildings, typically for retail and offices uses. They are typically brick in construction, with minimal decorative detailing.

Examples of Commercial Vernacular architecture in Downtown Fresno include the Sun Stereo Warehouse (1916) at 736 Fulton Street, the Basque Hotel (1922) at 1102 F Street, and the Liberty Laundry building (1928) at 1830 Inyo Street.

Character-defining features include:

- Simple square or rectangular form
- Flat roof with a flat or stepped parapet
- Brick exterior wall surfaces, with face brick on the primary facade
- First-story storefronts, typically with a continuous transom window above
- Wood double-hung sash upper-story windows, often in pairs
- Segmental arch window and door openings on side and rear elevations
- Decorative detailing, if any, may include cornices, friezes, quoins, or stringcourses

Art Deco Style (c. 1910 – 1935)

Art Deco was the first popular style in the United States that consciously rejected historical precedents. Most commonly used in public and commercial buildings, Art Deco was rarely used in domestic architecture. The highly decorative style employed stylized floral, figurative and geometric motifs s as decorative elements on the façade. Towers, piers and setbacks were employed to give the buildings a vertical emphasis.

Examples of Art Deco buildings in Fresno include the L.C. Wesley Super Garage (1931) located at the corner of Kern Street and Van Ness Avenue, and the Fresno County Hall of Records (1935) designed by Allied Architects

and Coates and Metz with a grant from the PWA.

Character-defining features include:

- Smooth wall surfaces, usually of stucco
- Stylized decorative floral and figurative elements
- Geometric decorative motifs such as zigzags and chevrons
- Towers, piers and other vertical elements
- Setbacks as design elements

International Style (c. 1920 – 1945)

The International style emerged in the 1920s and 1930s during the formative decades of Modernist architecture. The style originated in Western Europe but quickly influenced architectural design throughout the world. Radical simplification of form, rejection of applied ornament, and the adoption of glass, steel and concrete as preferred materials are hallmarks of the International Style. The embrace of industrial mass-production techniques and emphasis on function were conscious efforts to break free of historic and cultural design precedents.

Character-defining features include:

- Flat roofs (cantilevered slabs or parapets)
- Steel sash windows
- Corner windows
- Horizontal bands of windows
- Lack of applied ornament
- Asymmetrical facades
- Exterior wall materials include concrete, brick and stucco

Streamline Moderne (c. 1934-1945)

Characterized by smooth surfaces, curved corners, and sweeping horizontal lines, Streamline Moderne is considered to be the first thoroughly Modern architectural style to achieve wide acceptance among the American public. Inspired by the industrial designs of the period, the style was popular throughout the United States in the late 1930s, particularly with the Federally-funded projects of the Works Progress Administration. Unlike the equally modern but highly-ornamental Art Deco style of the late 1920s, Streamline Moderne was perceived as expressing an austerity more appropriate for Depression-era architecture.

Examples of Streamline Moderne architecture in Downtown Fresno include the Fresno Unified School District Office (1936) at 2348 Mariposa Mall, and the Fire Station No. 3, (1939) located at1406-1430 Fresno Street.

Character-defining features include:

- Horizontal massing
- Asymmetrical façade
- Flat roof with coping
- Smooth wall surfaces, typically clad in stucco
- Curved end walls and corners
- Glass block and porthole windows

- Flat canopy over entrances
- Horizontal grooves or stringcourses
- Pipe railings along exterior staircases and balconies

Late Moderne (c. 1945-1960)

The Late Moderne style incorporates elements of both the Streamline Moderne and the International styles. While the earliest examples appeared in the late 1930s, the style achieved its greatest popularity in large-scale commercial and civic buildings of the late 1940s and 1950s. The Late Moderne style is most easily identified by the use of the "shadow-box" window, where horizontal groupings of windows are outlined in a protruding flange, often in a material and color that contrasts with the exterior wall.

Examples of Late-Moderne architecture in Downtown Fresno include the former Alistair Simpson Offices (1946) at 748 Fulton Street and the Gottchalk's Department Store (remodeled 1947) at 802 Fulton Mall.

Character-defining features include:

- Horizontal emphasis
- Concrete construction
- Exposed concrete or stucco cladding
- Flat rooflines
- Horizontal bands of "shadow-box" windows, often with aluminum fin sunshades
- Operable steel-sash windows (casement, awning, hopper)
- Projecting window frames

Mid-Century Modern (c. 1945-1970)

Mid-Century Modern is a term used to describe a post- World War II iteration of the International Style in both residential and commercial design. The International Style was characterized by geometric forms, smooth wall surfaces, and an absence of exterior decoration. Mid-Century Modern represents the adaptation of these elements to the local climate and topography, as well as to the postwar need for efficiently-built, moderately-priced homes and buildings. The Mid-Century Modern building is characterized by its clear expression of structure and materials, large expanses of glass, and open interior plan.

Examples in Downtown Fresno include the former Walter Smith store (now Luftenburg's) at 901 Fulton Mall, the Wells Fargo building at 1206 Van Ness Avenue and the two-story office building at 830 Van Ness Avenue.

Character-defining Features

- One or two-story configuration
- Simple geometric forms
- Expressed post-and-beam construction, in wood or steel
- Flat roof with wide overhanging eaves and cantilevered canopies
- Unadorned wall surfaces
- Exterior panels of wood, stucco, brick or stone
- Flush-mounted metal frame full-height and clerestory windows

- Exterior staircases, decks, patios and balconies
- Little or no exterior decorative detailing
- Expressionistic/Organic subtype: sculptural forms and geometric shapes, including butterfly, A-frame, folded plate or barrel vault roofs

Googie (c. 1955 – 1970)

Googie has been described as Modernism for the masses. With its swooping lines and organic shapes, the style attempted to capture the playful exuberance of postwar America. Named for the John Lautner-designed Googie's Restaurant in Los Angeles, the style was widely employed in roadside commercial architecture of the 1950s, including coffee shops, bowling alleys, and car washes.

While several Googie-style motels, restaurants, and commercial buildings could once be found in Downtown Fresno, few examples remain today. One example is the car wash at 2615 Tuolumne Street.

Character-defining features include:

- Expressive rooflines, including butterfly, folded-plate, and cantilevers
- Organic, abstract, and parabolic shapes
- Clear expression of materials, including concrete, steel, asbestos, cement, glass block, plastic, and plywood
- Large expanses of plate glass
- Thematic ornamentation, including tiki and space age motifs
- Primacy of signage, including the pervasive use of neon

Corporate Modern (c. 1946-1976)

Corporate Modern was the predominant style of large-scale commercial designs of the late 1950s and 1960s. A direct descendant of the International Style, this corporate version was concerned with simple geometric forms and expressing the building's structure.

The Corporate Modern-style building typically takes one of two forms. The first features a single or central windowless shaft, flanked by one or more radiating wings banded with windows. Structural supports may be accentuated with protruding steel piers. Exterior decoration is often limited to the use of vertical or horizontal sunscreens. An alternate form is characterized by soaring rectangular volumes and the generous use of glass. This version of the style borrows heavily from the minimalist designs of architect Ludwig Mies van der Rohe, whose highly-modular steel and glass structures first appeared in the early 1950s. Buildings that adhere most closely to this aesthetic are often referred to as Miesian.

Examples of the Corporate Modern style in Downtown Fresno include the former Del Webb complex (now Fresno

Equity Plaza) located at 2200 Tulare Street.

Character-defining features include:

- Rectangular volumes
- Materials of concrete, steel, and glass
- Horizontal bands of windows or glass curtain walls
- Steel frame accentuated with protruding steel piers or I-beam mullions
- Projecting aluminum sunscreens, vertical fins or louvers
- Tower over a parking podium, often screened
- Articulate ground story, often set back behind slender columns or *pilotis*
- Exterior staircases with no risers
- Building set back on a plaza or formal garden

New Formalism (1955-1975)

Popular in large-scale commercial and civic designs from the late 1950s through the 1970s, the New Formalism was widely seen as a rejection of the sparse steel and glass aesthetic of the period. Largely shaped by the work of Edward Durell Stone, the style is characterized by pronounced columnar supports and large expanses of patterned screens. In opposition to the minimalist approach of the International Style, the New Formalists eagerly referenced and abstracted the classical forms and applied ornamentation of historical styles.

The Fresno County Courthouse, designed by Walter Wagner and Associates and the Crocker Citizens Bank on Fresno Street are examples of the New Formalism style found in Downtown Fresno.

Character-defining features include:

- Symmetrical plan
- Heavy projecting roof slab
- Smooth wall surfaces
- Colonnade of stylized full-height columnar supports
- Repeating arches or rounded openings
- Large screens of perforated cast stone or concrete or metal grilles
- Building set behind a plaza or fountain

SURVEY METHODOLOGY

This survey project is comprehensive in approach and designed to be inclusive of potentially significant properties from Fresno's important development periods. It uses contemporary survey methods and established evaluation criteria as outlined by the National Park Service and the California Office of Historic Preservation.[99]

Survey Area

This survey was focused on the Fulton Corridor planning area as defined by the City. The survey area is generally bounded by Highway 99 and the Central Pacific Railroad tracks to the south and west; Highway 41 to south and east; and Divisadero Street to the north. Portions of the area between the Fulton Corridor and the Atchison, Topeka and Santa Fe railway, as well as parcels located near the convergence of Highways 99 and 41 were also included. A map of the primary survey area is provided in Figure 1.

The Fulton Corridor[100] plan area encompasses what is generally considered Downtown Fresno. It is the oldest portion of the City, containing the area originally platted in 1872. The plan area includes the City's traditional central business district, the Civic Center, the "Cultural Arts District", the "South Stadium" area, and Fresno's Chinatown neighborhood.

Like many downtowns in the United States, the Fulton Corridor area declined substantially in the latter decades of the 20th Century as residents and private enterprise largely abandoned Downtown for opportunities in suburban areas. The area has been subject to extensive redevelopment efforts since the 1960s.

Despite these challenges, a wide range of civic, institutional, and commercial uses are still concentrated within Fresno's Downtown. These include several government agencies, a large hospital complex, a sports stadium, a convention center, theaters, hotels, a casino, and numerous small businesses.

[99] National Park Service, U.S. Department of the Interior. *National Register Bulletin 24: Guidelines for Local Surveys: A Basis for Preservation Planning*. Washington, D.C.: 1985.

[100] The survey area expanded beyond the Fulton Corridor to include all parcels located in a triangle formed by Highway 99 to southwest, Highway 41 to east, and Divisadero Street to the north.

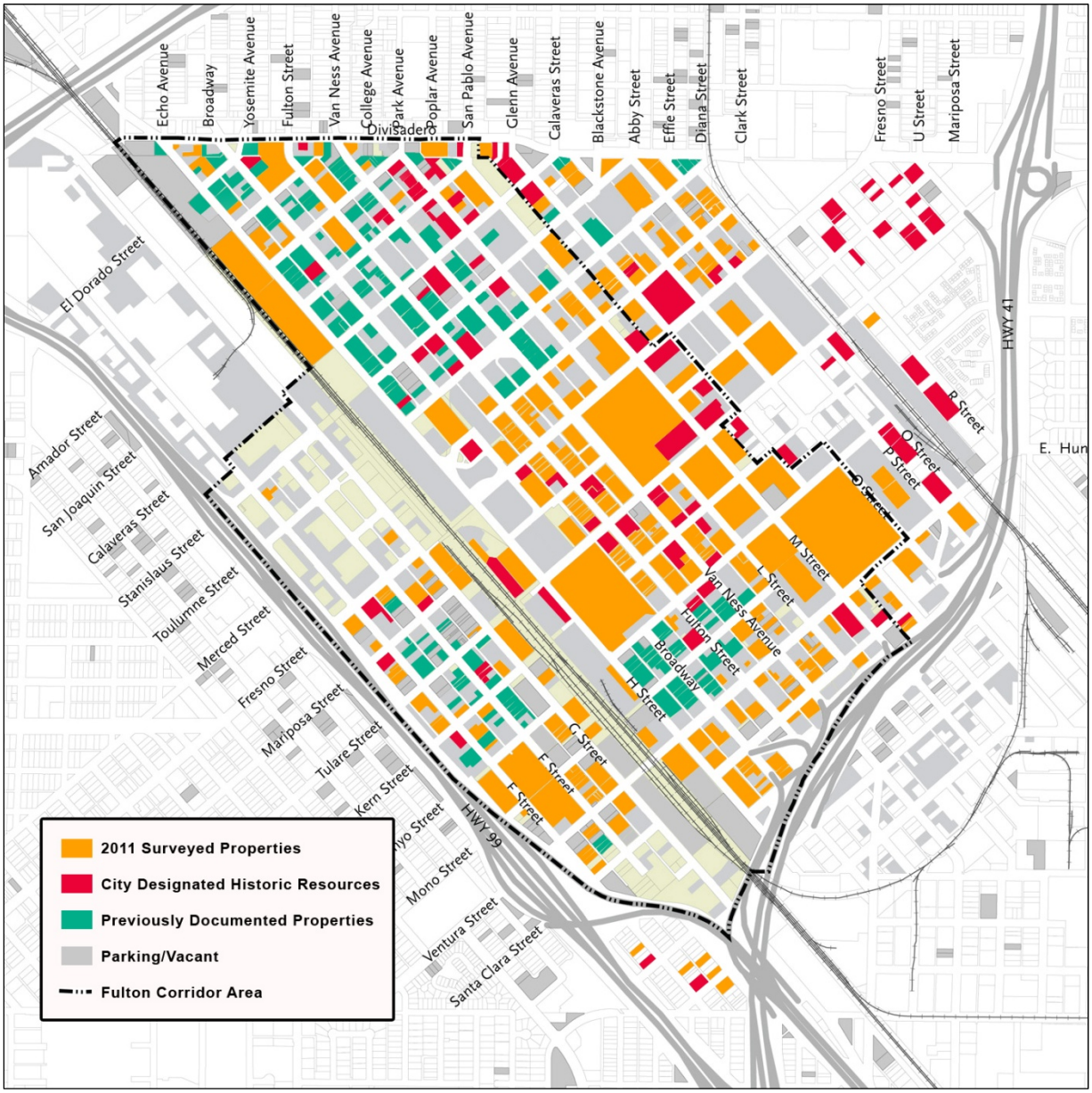


Figure 1: Survey Area Map

REPORT

Downtown Fresno (Fulton Corridor) Historic Resources Survey

HISTORIC RESOURCES GROUP

Previous Studies and Evaluations

Portions of the Fulton Corridor area have been subject to numerous historic surveys, studies, and historic-cultural environmental reviews. The area contains over one-hundred and ten (110) of the City's designated historic resources, representing a wide range of property types and periods of development.

One potential historic district is identified within the Fulton Corridor plan area on the City's Historic Resources map:

- *L Street District*
  This collection of residential properties is located in the northern portion of the Fulton Corridor plan area, overlapping the Cultural Arts District. It is bordered by Divisadero, N, M, Stanislaus, and Amador streets.

Two additional potential historic districts located just northeast of the Fulton Corridor plan area are identified on the City's historic resources map:

- *Santa Fe Warehouse District*
  This small collection of brick warehouses is located near the Santa Fe Rail depot bounded by R, Tulare, P and Mono streets. It was identified in 1994.
- *St. John's Cathedral District*
  This district was identified in 1994. It is located in the northeast corner of downtown Fresno, and is composed of approximately seven city blocks, bounded on the northwest by Fresno Street, on the north by Divisadero Street, on the northeast by U Street, on the southeast by Tulare Street and on the southwest by the Santa Fe Railroad tracks.

Prior historic evaluation work in the Fulton Corridor area includes a1977 historic resources survey which was completed as a result of the adoption of the Fresno-Clovis Metropolitan Area General Plan (1977 Survey), and the Supplementary Historic Building Survey of the Ratkovich Plan Area (Ratkovich Study), completed in 1994 by John Edward Powell and Michael J. McGuire under the auspices of the California State University, Fresno Foundation.

More recent historic surveys containing analysis which impacts future planning within the Downtown-Fulton Corridor include:

- Broadway Row Historic Resource Survey
  Architectural Resources Group, 2004
  Survey of a two-block area

bounded by Stanislaus, Fulton, Tuolumne, and H streets. Sixteen (16) properties were documented and a potential Automotive Warehouse District was identified.[101]

- Historic Architecture Survey Report for the Bungalow Court Project
  Karana Hattersley-Drayton 2004
  Survey and identification of one hundred twenty-eight (128) examples of "bungalow" courts within Fresno city limits.

- Chinatown Historic Resource Survey
  Architectural Resources Group, 2006
  Survey of buildings within the six-block heart of Fresno's historic Chinatown. This survey identified ten properties as individually eligible for national, state, or local designation. It also identified a small historic district along F Street.

- City of Fresno Arts-Culture District Historic Property Survey
  Urbana Preservation and Planning, 2006
  Survey of a sixteen-block area bounded by Tuolumne, "H", Amador and "L" streets, and known as the Uptown Arts-Culture District. This survey identified nine properties as individually eligible for national, state, or local designation. It also identified a seven-property potential historic district along Fulton Street[102], a fourteen-property potential district of historic warehouses, a potential thematic district of six automotive service buildings, and proposed eight additional properties for consideration as part of the previously identified "L" Street residential historic district.

- City of Fresno Upper Triangle Areas Historic Property Survey
  Urbana Preservation and Planning, 2007
  This survey expanded the survey area of the Arts-Culture District to include the "Upper Triangle" area bounded by "H", Divisadero and Tuolumne streets. Thirty-two properties were identified as eligible

[101] The boundaries of the potential district extended outside the Broadway Row survey area. Further investigation is needed to verify the district.

[102] The Historic Preservation Commission did not concur with the evaluation of this collection of buildings as a historic district.

for national, state, or local designation.

- Historic Properties Survey South Stadium Project Area
  Page & Turnbull, 2008
  Survey of an eighteen-block area bounded by Tulare, Van Ness, Highway 41, and the Southern Pacific Railroad tracks including intensive-level survey of a six-block area between Inyo, Van Ness, Ventura, and H streets. Eighty-three (83) properties were documented including several properties associated with an automotive business context.

In addition to historic surveys, two historic context statements have been prepared. These, along with contexts from prior survey reports, provided the basis for the current context for Downtown Fresno.

- Germantown Historical Context
  Architectural Resources Group, 2006
  This Historic Context for Fresno's historic Germantown documents the history of the Volga Germans who first settled in Fresno in 1887 and identifies property types such as residences, churches and "summer kitchen" outbuildings that are associated with this community.

- Mid-Century Modern Historic Context
  Planning Resource Associates, Inc. 2008
  This historic context statement addresses the regional and local emergence of Modern architecture in Fresno from the period of 1940-1970 and defines property types which characterize Fresno mid-century Modernism. A large portion of this context focuses on post-World War II planning and development in Downtown Fresno's Central Business District and Civic Center.

Survey Process 2010-2011

This survey was conducted using a five-step approach. This approach is based upon current professional methodology standards and procedures developed by the National Park Service, the California Office of Historic Preservation, and preservation professionals over the past three decades.

Historical Research

Background research was conducted on the history of Fresno and the development of its built environment. Sources of research included historic photographs, newspapers, Sanborn Fire Insurance maps, publications, previous

historic studies and City documents.[103] The City's map of historic resources, the City's historic resource database, and the State Historic Resources Inventory (HRI) were consulted to locate previously identified historic properties.

Previous surveys and historic context statements were used to establish the general historic context and development themes for Downtown Fresno. They provided an important foundation for further investigation and informed observations in the field. These contexts focused on early residential neighborhoods; the settlement patterns of various ethnic communities; automobile-oriented development; post-World War II comprehensive planning; and architecture from the mid-20th century.

Reconnaissance Survey

Informed by knowledge of the City's historic periods of development and their associated themes and property types, a focused investigation of the Downtown-Fulton Corridor area was conducted in August and September of 2010. The age of buildings, concentrations of specific property types, evidence of past development patterns, and large-scale planning efforts were noted during field investigations. Factors of the analysis included historic integrity, architectural style, neighborhood cohesion, and relationships to larger development patterns in the area. Groupings of properties were considered for their geographic or thematic relationships.

Intensive Survey

Intensive survey fieldwork of Downtown Fresno was conducted in March and April 2011. Approximately 200 properties within the Downtown-Fulton Corridor area were identified for intensive survey because they were property types associated with identified historic themes important to the development of Downtown Fresno. At the direction of city staff, an additional 100 properties were surveyed to provide comprehensive coverage within the survey area.

Properties subject to intensive survey were individually observed and photographed from the public right-of-way. These images were used to assess material and architectural integrity as well as to corroborate other property-specific data.

Data Management

All property-specific information has been compiled into an Excel table, referred to as the *property data table*.

[103] A bibliography of sources that contributed to this investigation is included in this report.

This includes information gathered during the course of the survey, as well as previously existing documentation for historic resources in the survey area. An electronic version of the property data table accompanies this report. In the electronic format, data can be sorted for further analysis and/or linked with the City's internal mapping and database systems. A printed version of the property data table is attached in Appendix F. It is preceded by a data key in Appendix E.

Analysis

Analysis of the compiled data was conducted, informed by the development of the historic context statement. Factors of the analysis included historic integrity; architectural style; rarity of type; historic association; and relationships to larger development patterns in the area. A determination of significance was made for each surveyed property based upon all of the data collected. Groupings of properties were analyzed for geographic or thematic relationships.

Evaluations and Recommended Designations

Informed by all of the previous steps, each surveyed property was evaluated for eligibility for listing on the National Register, the California Register, and for local designation as an individual historic resource and/or as part of a historic district. Finally, each property has been assigned a California Historical Resource Status Code ("Status Code"). These codes are used by the California Office of Historic Preservation to reflect designations or eligibility for the National Register of Historic Places, the California Register of Historical Resources, and for local designation.

Maps

The maps contained in this report visually represent current and recommended designations for properties within the survey area. These maps emphasize extant built resources, and do not reflect the actual boundaries of any specific property. Standard preservation practice defines the boundaries of an historic property as the parcel on which an historic structure is situated. Specific boundaries of an historic property should be clearly defined at the time of designation.

SURVEY RESULTS

Overview

The 2010-2011 survey identified, surveyed and evaluated over 300 individual properties within Downtown Fresno. A detailed explanation of the survey results is contained in this section. In addition to evaluation for potential local designation, properties have been evaluated for eligibility under the criteria for the National Register of Historic Places and the California Register of Historical Resources. Summary lists of all evaluated properties that were found eligible for listing as individual resources or as part of a district can be found in Appendices A through D.

Understanding the Survey Results

Identification and Evaluation

The Survey Area includes a range of property types from various historical periods. Informed by knowledge of Fresno' historic periods of development and their associated themes and property types, field reconnaissance of the entire Survey Area was conducted. Individual properties that represented outstanding examples of architectural style, period, or type or were known to have important historic associations were identified for further investigation.

After detailed field survey of the identified properties and property groupings, each surveyed property was evaluated for local designation, as well as its eligibility for listing in the California Register of Historical Resources, and the National Register of Historic Places.

Each property has been assigned the appropriate California Historical Resource Status Codes ("Status Code"). These codes are used by the California State Office of Historic Preservation to reflect designations or eligibility for the National Register of Historic Places, the California Register of Historical Resources, and for local designation.[104]

The State Office of Historic Preservation provides the following qualifying statement in its guidance for using the Status Codes:

"the status codes are broad indicators which, in most cases, serve as a starting place for further consideration and evaluations. Because the assigned status code reflects an opinion or action taken at a specific point in time, the assigned status code may not accurately reflect the resource's eligibility for the National Register, California Register, or local listing or designation at some later time. Individuals and agencies attempting to

[104] Note that effective August 2003, these status codes were revised and adopted by the California Office of Historic Preservation. For the complete list of current California Historical Resource Status Codes, see Appendix G.

identify and evaluate historical resources need to consider the basis for evaluation upon which a particular code was assigned, i.e., date of evaluation, the reason and criteria applied for evaluation, the age of the resource at the time of evaluation, and any changes that may have been made to the resource that would impact its integrity."[105]

A list of all status codes established by the California Office of Historic Preservation can be found in Appendix D. The status codes applied by HRG in this survey are as follows:

- *1S*
  Individual property listed in NR by the Keeper. Listed in the CR.
- *3S*
  Appears eligible for NR as an individual property through survey evaluation.
- *3D*
  Appears eligible for NR as a contributor to a NR eligible district through survey evaluation.
- *3B*
  Appears eligible for NR both individually and as a contributor to a NR eligible district through survey evaluation.
- *3CS*
  Appears eligible for CR as an individual property through survey evaluation.
- *3CD*
  Appears eligible for CR as a contributor to a CR eligible district through a survey evaluation.
- *3CB*
  Appears eligible for CR both individually and as a contributor to a CR eligible district through a survey evaluation.
- *5S3*
  Appears to be individually eligible for local listing or designation through survey evaluation.
- *5D3*
  Appears to be a contributor to a district that appears eligible for local listing or designation through survey evaluation.
- *5B*
  Locally significant both individually (listed, eligible, or appears eligible) and as a contributor to a district that is locally listed, designated, determined eligible or appears eligible through survey evaluation.
- *6Z*
  Found ineligible for local designation through survey evaluation.

[105] California State Office of Historic Preservation, *Technical Assistance Bulletin #8* (5-6)

Evaluation of Historic Significance

The evaluation of a property's eligibility for historic designation requires an assessment of two factors: *significance* and *integrity*. The definition of historic significance used by the California Office of Historic Preservation (OHP) in its administration of the California Register is based upon the definition used by the National Park Service for the National Register:

"Historic significance is the importance of a property to the history, architecture, archaeology, engineering, or culture of a community, state, or the nation. It is achieved in several ways: (1) Association with events, activities, or patterns; (2) Association with important persons; (3) Distinctive physical characteristics of design, construction, or form; or (4) Potential to yield important information. Significance is defined by the area of history in which the property made important contributions and by the period of time when these contributions were made."[106]

A number of properties are identified as notable examples of particular building types or architectural styles, or for associations with important development trends in Fresno.

[106] *National Register Bulletin 16A.* (3)

Evaluation of Historic Integrity

The field of historic preservation uses the concept of "integrity" when evaluating the physical character of individual resources.[107] *Historic integrity* is defined as the "authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic period."[108] Integrity is assessed by determining the extent to which a property's historic materials and architectural features remain intact. Integrity is composed of seven aspects:

- ***Location*** *is the place where the historic property was constructed or the place where the historic event occurred.*
- ***Design*** *is the combination of elements that create the form, plan, space, structure and style of a property.*
- ***Setting*** *is the physical environment of a historic property.*
- ***Materials*** *are the physical elements that were combined during a particular period of time and in particular pattern or configuration to form a historic property.*

[107] It is important to distinguish between the condition of a building and its historic integrity. A building may exhibit poor maintenance, damage, and/or decay and still possess historic integrity.

[108] *National Register Bulletin 16A.* (4)

- ***Workmanship*** *is the physical evidence of the crafts of a particular culture or people during a given period of history or prehistory.*
- ***Feeling*** *is a property's expression of the aesthetic or historic sense of a particular period of time.*
- ***Association*** *is the direct link between an important historic event or person and a historic property.*

To retain historic integrity a property must possess several, and usually most, of the seven aspects. The retention of specific aspects of integrity is paramount for a property to convey its significance. Determining which of these aspects are most important to a particular property requires knowing why, where and when the property is significant.

Each evaluated property was assigned an integrity evaluation of "good," "fair," or "poor." Properties with good or fair integrity were then considered as possible candidates for designation as individual resources or as contributors to a potential historic district. Properties with poor integrity that are rare surviving examples of an important property type or period of development were also considered eligible. Properties with poor integrity and no known historic associations were evaluated as ineligible for designation.

Identification of Historic Districts

Standard preservation practice evaluates groups of buildings from similar time periods and historic contexts as *districts*. The National Park Service defines an historic district as "a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development."[109]

A historic district derives its significance as a single unified entity. The National Park Service guidelines continue:

"The identity of a district results from the interrelationship of its resources, which can convey a visual sense of the overall historic environment or be an arrangement of historically or functionally related properties."[110]

For the purposes of this survey, properties that have been found to contribute to the historic identity of a district are referred to as *district contributors*. These resources are considered significant as a part of the district entity, but are not necessarily significant individually.[111] Properties located within the district boundaries

[109] National Park Service, U. S. Department of the Interior. *National Register Bulletin 15. How to Apply the National Register Criteria for Evaluation*. Washington D.C.: 1997. (5)
[110] *National Register Bulletin 15*. (5).
[111] Some properties have been recommended for designation as both individual Landmarks and as district contributors.

that do not contribute to its significance are considered to be *non-contributors*.

Dates of Construction

Knowledge of a building's original date of construction is essential to an evaluation of historic significance and integrity. Of the 300 properties surveyed, HRG was able to locate approximately 165 building permits and/or building records. Many of these did not include an original construction date. Tax Assessor year dates were provided for approximately 250 properties by the City. While the assigned Tax Assessor dates are often analogous with the original construction date they are not considered a consistently reliable source.

In the absence of a comprehensive listing of reliable construction dates from a single data source, Historic Resources Group compiled dates from multiple sources and selected the date that appeared most likely to be the original date of construction. Evaluations of significance and integrity have been based upon this *evaluation date*. Where no reliable information was available, the original construction date was estimated and a circa date assigned.

Limitations of the Survey Evaluations

As is true with all large-scale historic resources surveys, in-depth research of each individual property is not feasible. Evaluations are based on available property information and visual inspection of properties from the public right-of-way. If additional pertinent information comes to light, some evaluations may be revised.

Individually Significant Properties

This survey identifies sixty-five (65) properties that appear to meet the criteria for designation as individual historic landmarks eligible for designation as City of Fresno Historic Resources. Seven of these properties have already been designated by the City as historic resources.[112]

Of the fifty-eight (58) properties that have not been previously designated by the City, eighteen (18) appear to be eligible for listing in the National Register of Historic Places. Fifty-two (52) properties appear to be eligible for listing on the California Register. This number includes the eighteen

[112] Seven of the City's designated historic resources were surveyed as part of a survey of all properties located on the Fulton Mall.

properties found eligible for the National Register.

The list of properties evaluated as individually eligible for historic landmark designation is representative of the following:

- The Railroad and Town Establishment
- Late 19th and Early 20th Century Commercial Development
- Late 19th and Early 20th Century Residential Development
- Immigration and Fresno's Ethnic Communities
- Industrial Development
- New Deal Civic Development
- Mid-Century Downtown Commercial Revitalization
- Mid-Century Downtown Civic Revitalization

A map of properties evaluated as potentially eligible for individual historic landmark designation is shown in Figure 2. A list of eligible properties can be found in Appendix A.

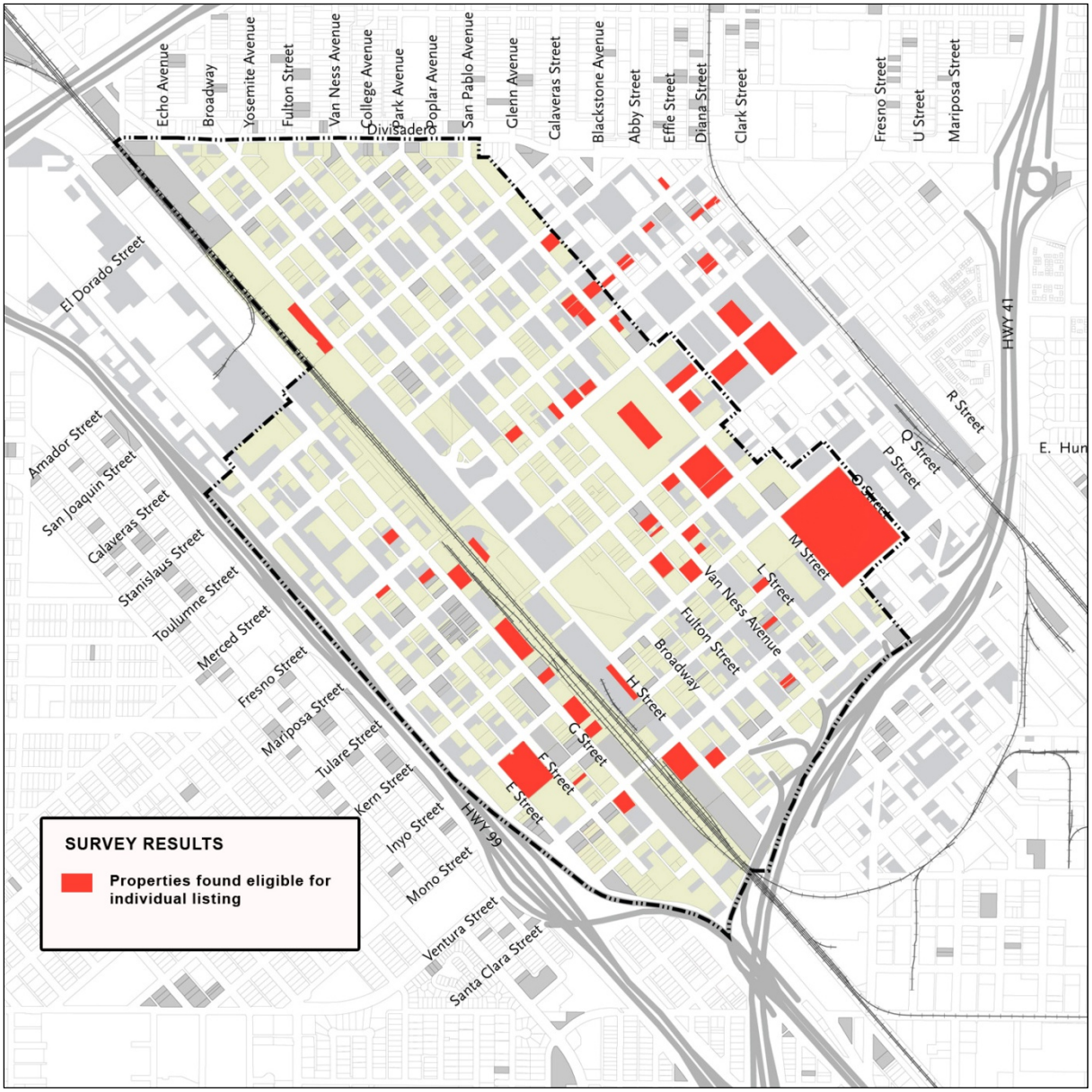


Figure 2: Map of Individually Eligible Properties

REPORT

Downtown Fresno (Fulton Corridor) Historic Resources Survey

HISTORIC RESOURCES GROUP

Historic Districts

In addition to properties potentially individually eligible for historic designation, this survey identified two distinct grouping of properties which warrant consideration for designation as a historic district. The two potential historic districts are described below.

Potential Civic Center Historic District

HRG identified a potential "Civic Center Historic District" that includes Depression Era government buildings, and mid-Century government buildings associated with the New Deal Era and mid-20th Century expansions of the Civic Center, and their associated landscapes and landscape features.

The potential district is generally bounded by Van Ness Avenue, Tulare Street, Fresno Street, P Street and Merced Street. The potential district contains fourteen contributing buildings and one non-contributor. Seven of the contributors have been designated individually as historic resources by the City. This survey identified five contributing buildings from the mid-20th Century that also appear eligible for listing individually.

A map of the Civic Center Historic District is shown in Figure 3. A list of the contributing properties to the Civic Center Historic District can be found in Appendix B.

Analysis of a Potential Fulton Street/Fulton Mall Historic District

The Fulton Mall landscape designed by celebrated modernist landscape architect Garrett Eckbo has been officially determined eligible for listing in the National Register of Historic Places. Buildings fronting the Fulton Mall were surveyed individually and as contributors to a potential historic district. Properties constructed between 1914 and 1970 were considered as potential contributors. This period of significance includes the establishment of Fulton Street as a major regional retail and entertainment corridor in the first half of the 20th Century and its revitalization as the Fulton Mall in the 1960s. The 1970 opening of the Fashion Fair Mall north of Downtown precipitated the Fulton Mall's decline.

Forty-five individual properties were surveyed on the Fulton Mall. Of these, seven have been designated individually as historic resources by the City and one is listed on the National Register. This survey identified three additional properties as eligible for listing individually. Twelve additional properties have retained sufficient integrity to qualify as contributors to a potential district. The remaining 24 properties were evaluated as non-contributors due to lack of integrity or having construction dates outside the period of significance.

Depending on how a potential district is configured, roughly 50% of buildings on the Fulton Mall appeared to meet criteria as contributors to a potential historic district. This percentage is less than what is generally considered adequate for a historic district[113].

Although they do not appear to meet criteria for individual listing, the potential contributing properties are listed here for review by City staff and the community. Given the special importance of Fulton Street to the history of downtown Fresno, the City may want to investigate some type of special planning consideration.

A map showing analysis of the Fulton Mall as a potential historic district is shown in Figure 4. A list of the contributing and non-contributing properties can be found in Appendix C.

[113] Standard preservation practice typically considers a 60% ratio of contributors to be a baseline for a historic district.

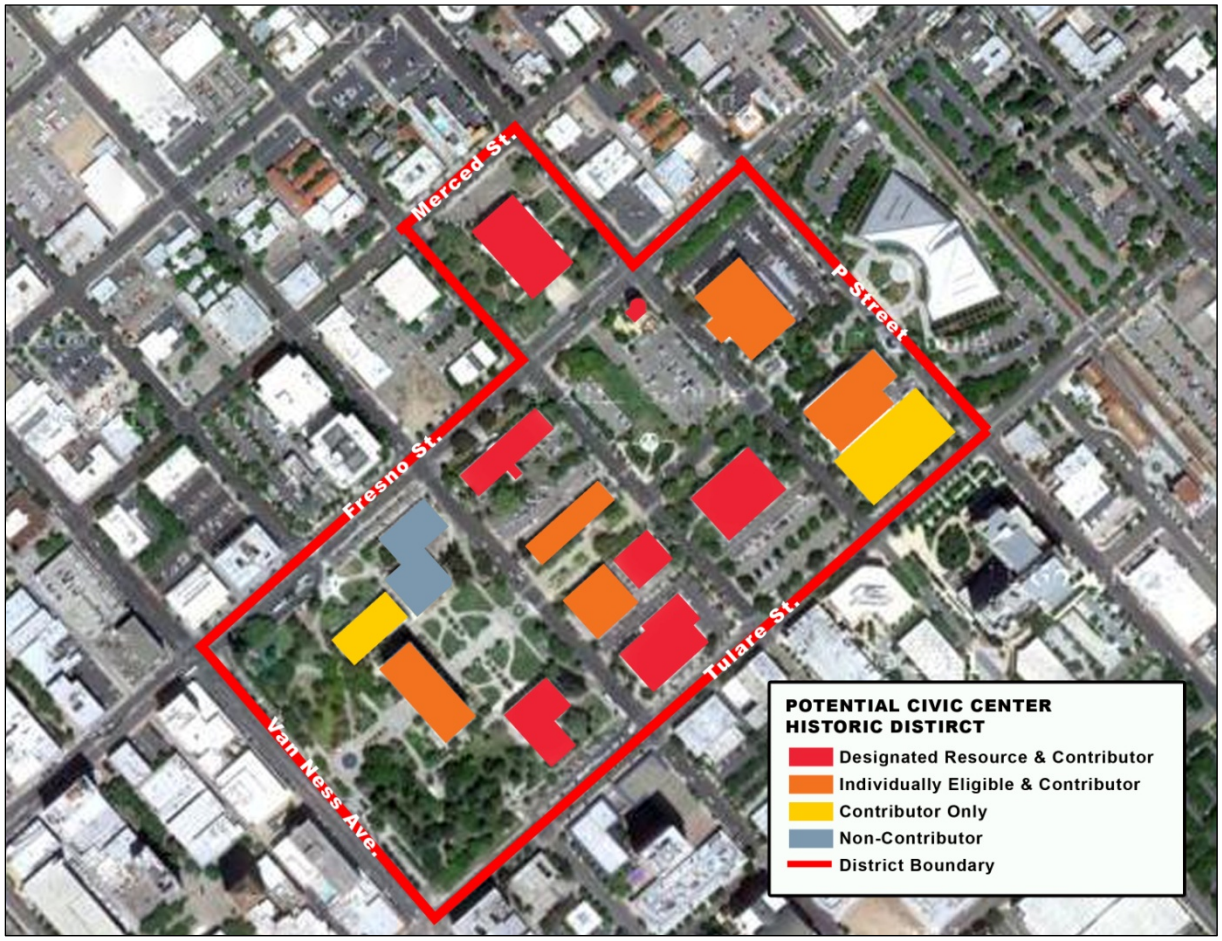


Figure 3: Potential Civic Center Historic District

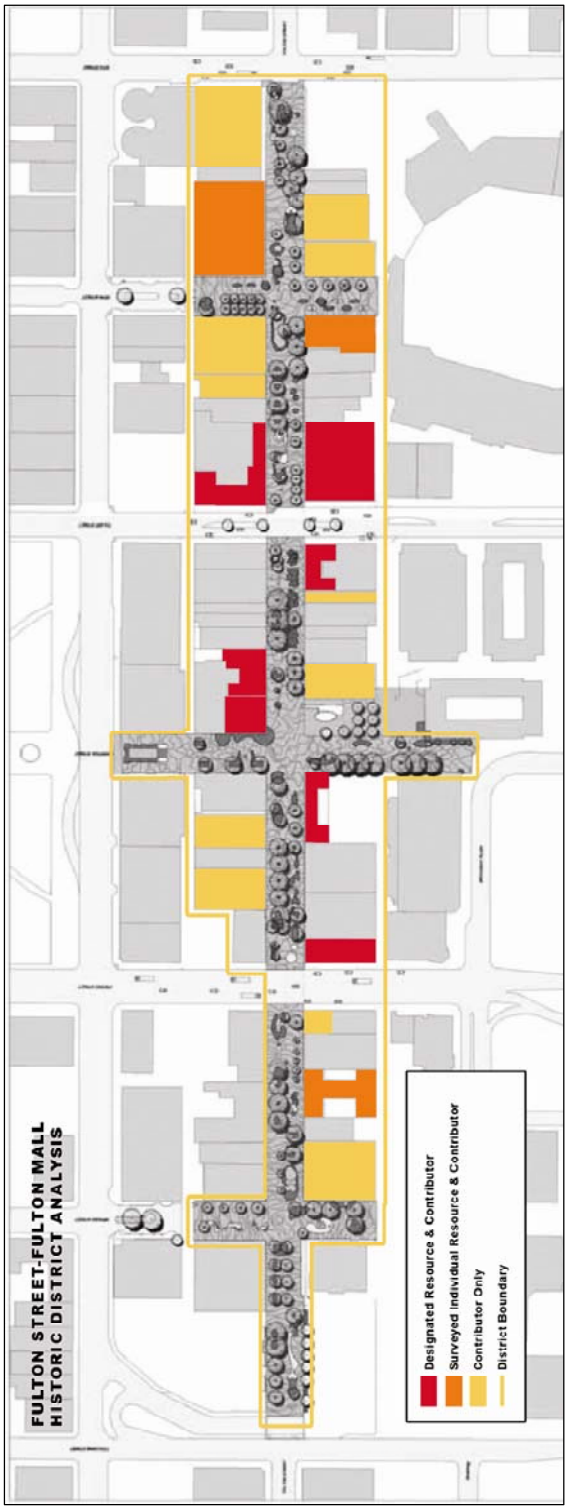


Figure 4: Potential Fulton Street District Analysis

GLOSSARY OF TERMS

The following terms are used throughout this report. They describe established historic preservation concepts that are based in cultural resources law at the Federal, state, and local levels. These concepts have been codified in standards and guidelines developed by the National Park Service, the Department of the Interior, and professional practitioners, including historians, architects, archeologists, and urban planners.

California Historical Resource Status Code is the numerical system adopted by the California Office of Historic Preservation to classify Historic Resources that have been identified through a regulatory process or local government survey in the Statewide Historic Resources Inventory database maintained by the California Office of Historic Preservation.

Character-defining features are the essential physical features that enable a building, structure, or object to convey why it is significant and when it was significant. It is not necessary for a property to retain all of its historic physical features or characteristics. However, the property must retain sufficient physical features to enable it to convey its historic identity and without which the property can no longer be identified.

Contributor is any building, structure, site, or object located within a designated Historic District which adds to the historical integrity or architectural qualities that make the Historic District significant. Contributors to designated Historic Districts are considered Historic Resources.

Designation is the act of recognizing, labeling, or listing a property as being historic. Properties may be designated at the Federal level as a National Historic Landmark or listed in the National Register of Historic Places, at the state level as a California Historical Landmark, California Point of Historical Interest, or listed in the California Register of Historical Resources, or at the local level. Designation formally establishes by law or ordinance that a building or site has significance.

Historic Context is the area or domain within which a property has historic significance. Historic contexts allow for an understanding of how the property is a part of an important historic development or event.

A **Historic District** is a significant concentration, linkage or continuity of sites, buildings, structure or objects united historically or aesthetically by plan or physical development.

Historic Integrity is the ability of a property to convey its significance. It is the authenticity of a property's historic identity as evidenced by the survival of physical characteristics and materials

that existed during the property's historic period.

Historic Resource is any building, structure, object, or site that is listed in or determined eligible for listing in the National Register of Historic Places or the California Register of Historical Resources, either individually or as a contributor to a Historic District; has been designated as a historic resource by the City of Fresno; meets at least one of the Criteria for Designating a Historic Landmark; or is identified as a Contributor to a Historic District.

The **Historic Resources Inventory** is the list of buildings, structures, objects, or sites that are identified as Historic Resources or potential Historic Resources through survey or other evaluation; are included on any list of historic and cultural resources, including, but not limited to, the National Register of Historic Places, the California Register, and the Statewide Historic Resources Inventory (with a California Historic Resource Status Code of 1-5); or are designated Historic Landmarks or Contributors to a Historic District by the City Council.

A **Historic Resources Survey** is the process by which a community's historic resources are identified and documented. A **reconnaissance-level survey** is a cursory look at an area with some general background research. Such a survey is typically used to broadly characterize the types of resources that would be found in an area, in order to guide future survey efforts. An **intensive-level survey** is a close and careful inspection of an area in order to precisely identify all historic resources in an area. Such a survey would include field observation, detailed background research, thorough documentation of all surveyed properties, and is typically accompanied by a historic context statement.

Historic Significance is the reason a property is important to the history, architecture, archaeology, engineering, or culture of a community, state, or the nation. Significance is defined by the area of history in which the property made an important contribution and by the period of time when these contributions were made. Establishing historic significance is necessary to demonstrate that a property has been evaluated within the proper historic context and according to appropriate, legally established criteria, such as those required for listing in the National Register of Historic Places, the California Register of Historical Resources, or a local landmark program.

The **National Register of Historic Places** is the official inventory of sites, buildings, structures objects and districts significant in American history, architecture, archeology and culture and is maintained by the Secretary of the Interior under the authority of the Historic Sites Act of 1935 and the

National Historic Preservation Act of 1966.

Non-contributor is any building, structure, or object located within a designated Historic District which does not add to the historical integrity or architectural qualities that make the Historic District significant. Non-contributors to designated Historic Districts are not considered Historic Resources.

A **Period of Significance** is the span of time during which a property was associated with important events, activities, or persons, or attained the characteristics that qualify it as historic. A resource may have more than one period of significance.
The **Secretary of the Interior's Standards and Guidelines** are the standards used in the preservation, rehabilitation, restoration, or reconstruction of a historic property. "The Standards" delineate accepted treatments for the protection and rehabilitation of historic materials.

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APPENDIX A: PROPERTIES THAT APPEAR ELIGIBLE FOR INDIVIDUAL HISTORIC LANDMARK DESIGNATION

INDIVIDUALLY ELIGIBLE PROPERTIES					
PARCEL	ADDRESS	EVALUATION DATE	HISTORIC NAME or OTHER IDENTIFIER	SIGNIFICANCE	STATUS CODE
46829608	401 BROADWAY	1952	Sheppard Rug Company sign	Good example of mid-20th Century commercial signage.	5S3; 3CS
46708112	646 F	1910 c.	cottage	Rare intact example of early 20th Century cottage.	5S3; 3CS
46706501	1157 F	1923	Hotel D'Italia	Rare intact example of a mixed-use commercial building from the 1920s. Possible association with old Italian neighborhood.	5S3; 3CS
46615203	2135 FRESNO	1950	Crocker Anglo Bank Building	Good example of Mid-Century Modern commercial building.	5S3; 3CS
46825507	802 FULTON	1913/1948/1968	Gottschalks	Excellent example of Late Moderne architecture. Flagship location of important regional retailer Gottschalks.	5S3; 3CS; 3S
46828105	901 FULTON	1961	Walter Smith Store / Luftenburg's	Rare intact example of a mid-20th Century department store in Downtown Fresno.	5S3; 3CS; 3S
46828101	959 FULTON	1924	Radin-Kamp Department Store; J.C. Penny's	Rare intact example of an early 20th Department Store building in Fresno. Representative example of the work of the noted local architecture firm of Felchlin, Shaw & Franklin.	3S; 5S1
46621307	1001 FULTON	1917	Bank of Italy	Excellent example of Renaissance Revival commercial architecture in Fresno. Representative example of the work of the noted local architecture firm of Felchlin, Shaw & Franklin.	1S; 5S1
46627002	1044 FULTON	1918	Mason Building	Excellent example of Renaissance Revival commercial architecture in Fresno. Representative example of the work of noted architect Eugene Mathewson.	5S1; 3CS; 3S
46617212	1060 FULTON	1923	Pacific Southwest Building	Excellent example of Renaissance Revival commercial architecture in Fresno. Representative example of the work of the noted local architecture firm of Felchlin, Shaw & Franklin.	5S1; 3CS; 3S
46621204	1101 FULTON	1914	Helm Building	Excellent example of Renaissance Revival commercial architecture in Fresno. Representative example of	5S1; 3CS; 3S

INDIVIDUALLY ELIGIBLE PROPERTIES					
PARCEL	ADDRESS	EVALUATION DATE	HISTORIC NAME or OTHER IDENTIFIER	SIGNIFICANCE	STATUS CODE
				the work of the noted architect George Kelham.	
46621201	1177 FULTON	1921	Mattei Building/Guarantee Savings and Loan	Excellent example of Classical Revival commercial architecture in Fresno. Representative example of the work of the noted architect Eugene Mathewson. 1961 remodel by noted architectural firm of Robert Stevens Associates.	5S1; 3CS; 3S
46621103T	1221 FULTON	1928	Brix Building	Good example of an early 20th Century commercial building. Representative example of the work of noted local architects Swartz & Ryland.	5S2
46708201	539 G	1940 c.	Kerr Rug Company	Rare example of Streamline Moderne industrial building in Fresno.	5S3; 3CS
46708201	539 G	1940 c.	Kerr Rug Company Sign	Good example of pre-World War II commercial sign.	5S3; 3CS
46704004	704 G	1936/1945	Feed & Seed Warehouse	Rare example of intact pre-WWII industrial building in Fresno.	5S3; 3CS
46704021U	744 G	1915 c.	San Joaquin Materials Co.	Rare example of pre-WWII industrial building.	5S3; 3CS
46704006	840 G	1905 c.	Madary's Brick Warehouse General Storage	Rare example of turn-of-the-century industrial building in Fresno.	5S3; 3CS; 3S
46703004	1068 G	1915c. / 1930	Jensen & Pilegard	Rare example of pre-WWII industrial building.	5S3; 3CS
46706211	1159 G	1920 c.	G Street Zone Substation	Rare example of pre-WWII public infrastructure building.	5S3; 3CS; 3S
46706113	1235 G	1968	Ridge Electric Motor Company	Association with celebrated local artist Stan Bitter.	5S3
46704023ST	735 H	1910 c.	Railroad warehouse	Rare intact example of a railroad warehouse in Fresno.	5S3; 3CS; 3S
46503021U	1603 H	1930 c.	warehouse	Rare intact example of pre-WWII industrial building in Fresno.	5S3; 3CS
46707615	1410 INYO	various	California Dairies, Inc.	Rare operating industrial facility portions of which date from the early 20th Century.	5S3; 3CS
46825318	701 L	1936	California Transit Company	Rare example of an intact early 20th Century industrial building in Fresno.	5S3; 3CS; 3S
46840001T	700 M	1966	Fresno Convention Center; William Soroyan Theater	Good example of late Modern architecture. Work of important local architect Robert W. Stevens.	5S3; 3CS

INDIVIDUALLY ELIGIBLE PROPERTIES					
PARCEL	ADDRESS	EVALUATION DATE	HISTORIC NAME or OTHER IDENTIFIER	SIGNIFICANCE	STATUS CODE
				Associated with mid-20th Century Downtown revitalization.	
46821410T	901 M	1963	parking structure	Part of the former Del Webb Center. Good example of a mid-century mixed-use complex.	5S3; 3CS
46611307	1260 M	1960 c.	commercial office	Example of mid-century commercial office building.	5S3; 3CS
46611513T	1301 M	1965 c.	commercial office	Good example of a mid-century office building	5S3; 3CS
46611503	1325 M	1940	Brix Apartments	Good example of pre-World War II bungalow court.	5S3
46611502	1345 M	1910 c.	cottage	Excellent example of early 20th Century cottage.	5S3; 3CS
46611215T	1350 M	1953	First Methodist Church of Fresno	Good example of mid-century institutional building.	5S3; 3CS; 3S
46612203	2314 MARIPOSA	1950	Fresno County Office of Education	Good example of Mid-Century Modern civic architecture	5S3; 5D3; 3CB; 3B
46612101T	2323 MARIPOSA	1960	Fresno Police Headquarters	Good example of Mid-Century Modern civic architecture.	5S3; 5D3; 3CB; 3B
46609401T	2420 MARIPOSA	1959	Fresno County Free Library	Good example of Mid-Century Modern civic architecture.	5S3; 5D3; 3CB; 3B
46609201T	2550 MARIPOSA	1959	Hugh M. Burns State Building	Good example of Mid-Century Modern civic architecture.	5D3; 3CD; 3D
46611203	1331 N	1930/1950	Royal Court Apartments	Good example of pre-World War II bungalow court.	5S3
46608311	1334 N	1910	Folk Victorian duplex	Rare intact example of a residential building from the first decade of the 20th Century.	5S3; 3CS
46608312	1338 N	1886 c.	George H. Walley Home	Rare intact example of a late 19th Century cottage in Fresno.	5S3; 3CS; 3S
46609114T	1130 O	1966	B.F. Sisk Federal Building	Good example of late modern architecture in Fresno. Representative work of noted local architect Walter Wagner.	5S3; 5D3; 3CB; 3B
46608119	1350 O	1966	Equitable Life Assurance	Good example of a mid-century modern commercial building in Fresno. Representative example of the work of noted local architect Robert W. Stevens.	5S3; 3CS
46608203	1223 P	1940	bungalow court	Good example of pre-World War II bungalow court.	5S3
46608202	1231 P	1941	bungalow court	Good example of pre-World War II bungalow court.	5S3
46605511	1320 P	1913	cottage	Rare intact example of early 20th Century cottage.	5S3; 3CS

INDIVIDUALLY ELIGIBLE PROPERTIES					
PARCEL	ADDRESS	EVALUATION DATE	HISTORIC NAME or OTHER IDENTIFIER	SIGNIFICANCE	STATUS CODE
46605519	1319 Q	1913	cottage	Rare, intact example of an early-20th century residential bungalow.	5S3; 3CS
46829505	1801 SANTA CLARA	1945	industrial building	Rare, intact example of a pre-WWII industrial building.	5S3; 3CS
46611124	2320 STANISLAUS	1946	AC Delco Automobile Service	Good example of Streamline Moderne architecture in Fresno.	5S3; 3CS
46704012S	1626 TULARE	1946	California Packing Corporation	Rare example of intact fruit packing facility portions of which date to the early 20th Century.	5S3; 3CS; 3S
46703032U	1713 TULARE	1917	Pullman Shed	Very rare intact example of a Pullman Car shed.	5S3; 3CS; 3S
46825410	2014 TULARE	1922	T.W. Patterson Building	Excellent example of Renaissance Revival commercial architecture in Fresno. Representative example of the work of the noted local architecture firm of Felchlin, Shaw & Franklin.	5S1; 3CS; 3S
46825111	2150 TULARE	1965	Midland Savings and Loan	Good example of a Mid-Century modern commercial building.	5S3; 3CS; 3S
46821410T	2200 TULARE	1963	Del Webb Center	Good example of mixed-use commercial development from the mid-20th Century.	5S3; 3CS
46605404	2615 TUOLUMNE	1965	Downtown Car Wash	Rare example of Googie commercial architecture in Downtown Fresno.	5S3; 3CS
46826112	636 VAN NESS	1915	Neo-Classical 2-flat	Rare early 20th Century duplex in Fresno.	5S3; 3CS
46826506	517 Van Ness Ave.	1895 c.	Joseph Giardina House	Rare intact example of late 19th Century residential development. Rare brick construction Queen Anne house in Fresno.	5S3/3S
46826505	521 Van Ness Ave.	1895 c.	Giardina Property	Rare intact example of late 19th Century residential development. Rare brick construction Queen Anne house in Fresno.	5S3/3S
46825511T	801 VAN NESS	1968	Spiral Parking Garage	Rare and unique parking structure featuring spiral ramps. Representative example of the work of noted local architects Walter Wagner & Assoc.	5S3; 3CS
46825208T	830 VAN NESS	1960 c.	Robert N. Klein and Associates (ESK Land Company)	Good example of a mid-Century Modern commercial building. Representative work of noted local architect Robert W. Stevens.	5S3; 3CS; 3S

INDIVIDUALLY ELIGIBLE PROPERTIES					
PARCEL	ADDRESS	EVALUATION DATE	HISTORIC NAME or OTHER IDENTIFIER	SIGNIFICANCE	STATUS CODE
46825210	862 VAN NESS	1931	L.C. Wesley Super Garage	Good example of Art Deco architecture in Fresno. Rare intact early 20th Century automobile service and parking building.	5S3; 3CS; 3S
46825405	915 VAN NESS	1935 c.	El Paso Mexican Restaurant	Good example of an early 20th store building in Fresno.	5S3; 3CS
46825403	933 VAN NESS	1962	Fink & Skopp Furnishings	Good example of mid-Century Modern commercial architecture. Representative example of the work of noted local architect Robert W. Stevens.	5S3; 3CS
46616001T	1100 VAN NESS	1965	Fresno County Courthouse	Good example of Mid-Century Modern architecture.	5S3; 5D3; 3CB; 3B
46615210	1206 VAN NESS	1966	Wells Fargo	Good example of a Mid-Century Modern commercial building. Representative work of noted local architect William Hastrup.	5S3; 3CS
46615421	1221 VAN NESS	1966	Bank of the West	Good example of a Mid-Century Modern commercial building. Work of the office of noted architect Welton Beckett.	5S3; 3CS
46822520	2222 VENTURA	1958	Haron's sign	Good example of mid-20th Century commercial sign.	5S3; 3CS

POTENTIAL CIVIC CENTER HISTORIC DISTRICT			
PARCEL	ADDRESS	EVALUATION DATE	HISTORIC NAME or OTHER IDENTIFIER
CONTRIBUTING BUILDINGS			
46616001T	2200 Fresno St.	1969	Fresno Sheriff Office
46612101T	2326 Fresno	1941	Fresno City Hall
46612203	2314 Mariposa	1950	Fresno County Office of Education
46612101T	2323 Mariposa	1960	Fresno Police Headquarters
46612201T	2348 Mariposa	1936	Old Fresno Unified School District Office
46609401T	2420 Mariposa	1959	Fresno County Free Library
46609201T	2550 Mariposa	1959	Hugh M. Burns State Building
46609114T	1130 O Street	1966	B.F. Sisk Federal Building
46608401T	1235 O Street	1935	Fresno Memorial Auditorium
46616001T	2281 Tulare	1935	Fresno County Hall of Records
46612202T	2309 Tulare	1939	U.S. Post Office (Main)
46616001T	1100 Van Ness	1966	Fresno County Courthouse
CONTRIBUTING LANDSCAPE AND CIRCULATION ELEMENTS			
			Courthouse Square
			Mariposa Mall

FULTON STREET DISTRICT ANALYSIS				
PARCEL	ADDRESS	EVALUATION DATE	HISTORIC NAME or OTHER IDENTIFIER	CONTRIBUTING STATUS
46828219	845 Fulton Mall	1969	Kinneys Shoes	C
46825515T	860 Fulton Mall	1965 c.	parking w/retail	C
46828221T	887 Fulton Mall	1961	Berkeley's Apparel	C
46825407	900 Fulton Mall	1963	Woolworth's	C
46828105	901 Fulton Mall	1961	Walter Smith Store	C
46825408	926 Fulton Mall	1965	National Dollar Stores	C
46621306	1017 Fulton Mall	1966	Sams Luggage	C
46621302	1045 Fulton Mall	1969	Rodder's	C
46617112	1118 Fulton Mall	1924	Kress Building	C
46617114	1136 Fulton Mall	1958	Newberry's	C
46621112	1255 Fulton Mall	1940	Bank of America	C
46627002	1044 Fulton Mall	1918	Mason Building	C
46617212	1060 Fulton Mall	1923	Pacific Southwest Building	C
46621204	1101 Fulton Mall	1914	Helm Building	C
46621201	1177 Fulton Mall	1921	Mattei Building	C
46621103T	1221 Fulton Mall	1928	Brix Building	C
46621105	1199 Fulton Mall	1950	Cover Girl; Proctor's Jewelers	C
46825507	802 Fulton Mall	1913/1948/ 1968	Gottschalks	C
46828101	959 Fulton Mall	1924	Radin-Kamp Department Store; J.C. Penny's	C
46621307	1001 Fulton Mall	1917	Bank of Italy	C
46825410	2014 Tulare St.	1922	T.W. Patterson Building	C
46828205	829 Fulton Mall	1945	El Caballero	NC
46828222T	835 Fulton Mall	1965 c.	store	NC

FULTON STREET DISTRICT ANALYSIS				
PARCEL	ADDRESS	EVALUATION DATE	HISTORIC NAME or OTHER IDENTIFIER	CONTRIBUTING STATUS
46828104	917 Fulton Mall	1940	El Patron / Beauty Town	NC
46828103	927 Fulton Mall	1969	Hermanos	NC
46825409	930 Fulton Mall	1940	Galeria Mexico	NC
46828102	931 Fulton Mall	1922	China Express / El Bronco	NC
46617207	1000 Fulton Mall	1917	Patterson Block	NC
46617208	1010-24 Fulton Mall	1917	Patterson Block	NC
46621305	1025 Fulton Mall	1965	Edmonds Jewelers and Silversmiths	NC
46621304	1029 Fulton Mall	1957	Leslie's / Botanica	NC
46617215	1030 Fulton Mall	1967	Optometrist / Priscilla	NC
46621303	1035 Fulton Mall	1950	Gensler Lee / Gallen Kamp's	NC
46617111	1108 Fulton Mall	1970	Payless Shoe Source	NC
46621203	1127 Fulton Mall	1948	Office	NC
46617113	1130 Fulton Mall	1946	B-Maxx	NC
46621216	1141 Fulton Mall	1945	Auto Insurance	NC
46626001	1150 Fulton Mall	1981	Valley Dental	NC
46621217	1155 Fulton Mall	1965 c	Store	NC
46615411	1212 Fulton Mall	1970	Roos-Atkins	NC
46621104T	1215 Fulton Mall	1972	County of Fresno Department of Health	NC
46615412	1226 Fulton Mall	1965 c.	Best Nails, Mayo, Fulton Kabab	NC
46621120	1243 Fulton Mall	1925 c. / new façade 1957	Neil-White & Co. Shoes	NC
46615413	1246 Fulton Mall	1970	Court Appointed Special Associates for Children	NC
46615414	1260 Fulton Mall	1975	Marderosian, Runyon, Cercone, & Lehman	NC
46620656T	1331 Fulton Mall	1990 c.	Housing Authority of the City and County of Fresno	NC

REPORT

City of Fresno
Historic Resources Survey

HISTORIC RESOURCES GROUP

APPENDIX D: CALIFORNIA OFFICE OF HISTORIC PRESERVATION HISTORICAL RESOURCE STATUS CODES

California Historical Resource Status Codes

1	**Properties listed in the National Register (NR) or the California Register (CR)**
1D	Contributor to a district or multiple resource property listed in NR by the Keeper. Listed in the CR.
1S	Individual property listed in NR by the Keeper. Listed in the CR.
1CD	Listed in the CR as a contributor to a district or multiple resource property by the SHRC
1CS	Listed in the CR as individual property by the SHRC.
1CL	Automatically listed in the California Register – Includes State Historical Landmarks 770 and above and Points of Historical Interest nominated after December 1997 and recommended for listing by the SHRC.
2	**Properties determined eligible for listing in the National Register (NR) or the California Register (CR)**
2B	Determined eligible for NR as an individual property and as a contributor to an eligible district in a federal regulatory process. Listed in the CR.
2D	Contributor to a district determined eligible for NR by the Keeper. Listed in the CR.
2D2	Contributor to a district determined eligible for NR by consensus through Section 106 process. Listed in the CR.
2D3	Contributor to a district determined eligible for NR by Part I Tax Certification. Listed in the CR.
2D4	Contributor to a district determined eligible for NR pursuant to Section 106 without review by SHPO. Listed in the CR.
2S	Individual property determined eligible for NR by the Keeper. Listed in the CR.
2S2	Individual property determined eligible for NR by a consensus through Section 106 process. Listed in the CR.
2S3	Individual property determined eligible for NR by Part I Tax Certification. Listed in the CR.
2S4	Individual property determined eligible for NR pursuant to Section 106 without review by SHPO. Listed in the CR.
2CB	Determined eligible for CR as an individual property and as a contributor to an eligible district by the SHRC.
2CD	Contributor to a district determined eligible for listing in the CR by the SHRC.
2CS	Individual property determined eligible for listing in the CR by the SHRC.
3	**Appears eligible for National Register (NR) or California Register (CR) through Survey Evaluation**
3B	Appears eligible for NR both individually and as a contributor to a NR eligible district through survey evaluation.
3D	Appears eligible for NR as a contributor to a NR eligible district through survey evaluation.
3S	Appears eligible for NR as an individual property through survey evaluation.
3CB	Appears eligible for CR both individually and as a contributor to a CR eligible district through a survey evaluation.
3CD	Appears eligible for CR as a contributor to a CR eligible district through a survey evaluation.
3CS	Appears eligible for CR as an individual property through survey evaluation.
4	**Appears eligible for National Register (NR) or California Register (CR) through other evaluation**
4CM	Master List - State Owned Properties – PRC §5024.
5	**Properties Recognized as Historically Significant by Local Government**
5D1	Contributor to a district that is listed or designated locally.
5D2	Contributor to a district that is eligible for local listing or designation.
5D3	Appears to be a contributor to a district that appears eligible for local listing or designation through survey evaluation.
5S1	Individual property that is listed or designated locally.
5S2	Individual property that is eligible for local listing or designation.
5S3	Appears to be individually eligible for local listing or designation through survey evaluation.
5B	Locally significant both individually (listed, eligible, or appears eligible) and as a contributor to a district that is locally listed, designated, determined eligible or appears eligible through survey evaluation.
6	**Not Eligible for Listing or Designation as specified**
6C	Determined ineligible for or removed from California Register by SHRC.
6J	Landmarks or Points of Interest found ineligible for designation by SHRC.
6L	Determined ineligible for local listing or designation through local government review process; may warrant special consideration in local planning.
6T	Determined ineligible for NR through Part I Tax Certification process.
6U	Determined ineligible for NR pursuant to Section 106 without review by SHPO.
6W	Removed from NR by the Keeper.
6X	Determined ineligible for the NR by SHRC or Keeper.
6Y	Determined ineligible for NR by consensus through Section 106 process – Not evaluated for CR or Local Listing.
6Z	Found ineligible for NR, CR or Local designation through survey evaluation.
7	**Not Evaluated for National Register (NR) or California Register (CR) or Needs Revaluation**
7J	Received by OHP for evaluation or action but not yet evaluated.
7K	Resubmitted to OHP for action but not reevaluated.
7L	State Historical Landmarks 1-769 and Points of Historical Interest designated prior to January 1998 – Needs to be reevaluated using current standards.
7M	Submitted to OHP but not evaluated - referred to NPS.
7N	Needs to be reevaluated (Formerly NR Status Code 4)
7N1	Needs to be reevaluated (Formerly NR SC4) – may become eligible for NR w/restoration or when meets other specific conditions.
7R	Identified in Reconnaissance Level Survey: Not evaluated.
7W	Submitted to OHP for action – withdrawn.

12/8/2003

APPENDIX E: DATA KEY FOR PROPERTY DATA TABLE

FIELD	DESCRIPTION
APN #	Assessor's parcel number associated with the property, provided by the City.
Number	Number portion of the primary address for the subject property, provided by the City.
Street	Street name portion of the primary address for the subject property, provided by the City.
Type	Street suffix portion of the primary address for the subject property.
Alternate Address	Any additional addresses for the property (including alternate parcel addresses and street addresses) when different from the primary parcel address.
Construction Date	Date of construction for the property, compiled from multiple sources including existing DPR forms and survey reports, City Historic Resources database; City Historic Resources Map; the State Historic Resources Inventory; online information from the Fresno Historical Society, Mid-Century Modern Fresno; etc. When no other date was available, a circa date was assigned in the field.
Date Source	Source of Construction Date.
Historic Name	Original or historical name(s) used to identify a property, as derived through research or previous documentation.
Current Name	Current property name or building tenant, as observed in the field.
Building Type	Original building type (single-family residence, commercial, etc.)
Architectural Style	Academic or vernacular style of the subject property (Queen Anne, Craftsman, Period Revival, Streamline Moderne, Minimal Traditional, commercial vernacular, etc.).
Architect	Name of the building architect if known.
Previous Survey Area	If the building is located in an area that was previously surveyed, the name of the survey effort is noted. Does not include Ratkovitch or early surveys.
Status Code	Current status code if applicable, taken from the HRI, DPR, or City Historic Resources Database.
Local Designation	Designation number for those properties listed on the City's Local Register.

FIELD	DESCRIPTION
Historic District	Name of potential historic district identified in a previous survey that property contributes to.
DPR Documentation	Indicates the property has been previously documented on DPR forms.
Development Context	Primary development context the property is associated with.
Other Context	Any other contextual association the property is associated with.
Vacant Lot	Indicates a vacant lot at that address or parcel.

Grey rows indicate a previously identified resource that is no longer extant or has been relocated.

APPENDIX F: PROPERTY DATA TABLE

Appendix 3:
Visual Impact Assessment

Visual Impact Assessment

Fulton Mall Reconstruction Project
City of Fresno, California

Prepared for:
City of Fresno
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Contact: Elliott Balch, Downtown Revitalization Manager

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Report Date: November 20, 2013

1. Introduction

This Visual Impact Assessment (VIA) was prepared for the City of Fresno for the proposed Fulton Mall Reconstruction Project. The purpose of this VIA is to document potential visual impacts caused by the proposed project and propose measures to lessen any detrimental impacts that are identified. This VIA was prepared using a process developed by the Federal Highway Administration (FHWA). The visual impacts are demonstrated by identifying visual resources in the project area, measuring the amount of change that would occur as a result of the project, and predicting how the affected public would respond to or perceive those changes. This assessment defines the visual assessment methodology, existing visual environment, and quantitatively evaluates the visual impact.

2. Project Description

The City of Fresno, in cooperation with the California Department of Transportation (Caltrans), proposes to convert the pedestrian-only paths associated with the Fulton Mall into multi-use roadways to reintroduce vehicle traffic into the Downtown Mall Area.

The purpose of the proposed project is to increase mobility and access in the Fulton Mall study area by providing more convenient multi-modal access options on the Mall and its cross streets; to improve visibility of businesses, offices and other amenities in the Fulton Mall study area by improving traffic circulation, thereby encouraging additional economic development in the area; and to increase the Fulton Mall study area's consistency with the requirements and goals of proposed land use plans by making the area more accessible to the public, thereby encouraging greater public use of the area an bolstering future economic development opportunities.

2.1 Project Location

The proposed Fulton Mall Reconstruction project is located in Downtown Fresno (Exhibit 1). Fulton Mall consists of six blocks bounded by Van Ness Avenue to the east, Inyo Street to the south, Broadway/H Street to the west, and Tuolumne Street to the north (Exhibit 2). Tulare Street and Fresno Street divide the Mall into three equal portions. The project site includes the existing 80-foot rights-of-way within Fulton Mall including Fulton between Inyo Street to Tulare Street, Tulare Street and Fresno Street, and Fresno Street and Tuolumne Street. The project also includes the existing 80-foot rights-of-way along (1) Kern between Van Ness Avenue and Home Run Alley, (2) Mariposa between Van Ness Avenue and Broadway, and (3) Merced between Van Ness Avenue and Congo Alley. In addition to the Mall, there are areas adjacent to the new streets within the Mall that would allow transitional streetscape to accommodate the project.

Furthermore, the project includes a parcel at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley for the proposed tot lot.

2.2 Project Description

The City of Fresno (City) proposes to reconstruct Fulton Mall as a complete street by reintroducing vehicle traffic lanes to the existing pedestrian mall. The Mall consists of six (6) linear blocks that were open to traffic prior to 1964 but now do not allow public vehicle access. The Mall is bound by Tuolumne Street to the north and Inyo Street to the south, and includes portions of three cross streets. The total length of the new roadways would be 0.67 mile; a total of 0.74 mile of existing Fulton Mall right-of-way would be affected.

The "Mall" refers specifically to the pedestrian areas between adjoining buildings located on the former City streets of Fulton, Mariposa, Merced, and Kern, which function as an integrated pedestrian Mall. Fresno Street and Tulare Street, which do allow vehicle traffic, run through the Mall and divide it into three roughly equal sections. Mall landscaping elements include fountains, planters, benches, sculptures, electrical systems, irrigation systems, and two "tot lots." The Mall does not include the adjoining buildings or their façades.

The City of Fresno is proposing two build options for the Fulton Mall Reconstruction Project. These two build options propose to reconstruct the Mall using "complete streets" design concepts. Complete streets are those designed to function as shared public space, or as "living streets" - for pedestrians, cyclists, outdoor businesses, and slow-moving, cautiously driven vehicles. Complete streets may include narrow roadways, corner bulb-outs, winding streets, and other traffic calming measures to lower driving speeds; street trees and other landscape elements; wide pedestrian sidewalks and crosswalks; and bicycle accommodations such as dedicated bicycle lanes or wide shoulders. The purpose of incorporating these design concepts into the proposed project is to retain portions of the historic fabric and character of the Mall, maintaining the key elements, feeling and unique experience of a pedestrian mall in downtown Fresno.

This Draft EIR addresses two build options, which are described below.

Project Option 1

Option 1 consists of reopening the Fulton Mall with two-way streets, with one lane of vehicular traffic in each direction alongside bicycle, pedestrian, and potentially other travel modes, along the length of the Fulton Mall and three cross streets: Merced between Congo Alley and Federal Alley, Mariposa between Broadway Plaza and Federal Alley, and Kern between Fulton and Federal Alley. On-street vehicle parking spaces would be reintroduced along the length of the Fulton Mall (including cross streets), mid-block pedestrian crossings would be provided, and

construction of streetscape improvements would optimize the streets for the new blend of travel modes. One 11-foot-wide vehicle travel lane would run in each direction, with a parallel parking lane of 8 feet included on both sides of the streets. Sidewalks would include a typical 14-foot sidewalk on one side of the street and a 28-foot-wide promenade on the other. This promenade is intended to approximate the mall-like pedestrian experience of the original Eckbo Fulton Mall. Like the existing mall, the Option 1 promenade would feature artworks, water features, seating, and trees and would allow for walking and pedestrian-only seating, landscaping, and lighting. Pedestrians would be separated from vehicles. There are existing street rights-of-way adjacent to the new streets within the Mall that would include minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane striping. These improvements would provide transitional streetscape to accommodate the project. Under Option 1, the two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be consolidated into one larger tot lot at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley.

Project Option 2

Option 2 consists of reconnecting the street grid similar to Option 1, but would include rebuilding distinctive elements of the Fulton Mall in five to six specific locations, known as "vignettes," in their exact current size and configuration. The vignettes are intended to preserve existing shade trees and features of the historic Eckbo design, and would include many of the existing elements (sculptures, fountains, pavement pattern, trees, and so on). To accomplish this, the street would have gentle curves that would allow for greater preservation of historic features including fountains, art and existing shade trees. One 11-foot-wide vehicle travel lane would run in each direction and would curve through the vignettes. Outside the vignette areas, the street would straighten, and the landscape would include, where possible, an 8-foot-wide parallel parking lane, as well as a pedestrian-only walking, seating, vegetation, and public art area that varies between 14 and 44 feet wide on each side of the street. Within the vignettes, there would be no parking lane, and the existing Fulton Mall landscape elements would be kept intact as much as possible. The remaining space on each side of the street would be dedicated to pedestrian travel, seating, vegetation, and artwork. There are existing street rights-of-way adjacent to the new streets within the Mall that would include minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane striping. These improvements would provide transitional streetscape to accommodate the project. Under Option 2, the two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be consolidated into one larger tot lot at the

Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley.

3. Existing Visual Environment

3.1 Regional Setting

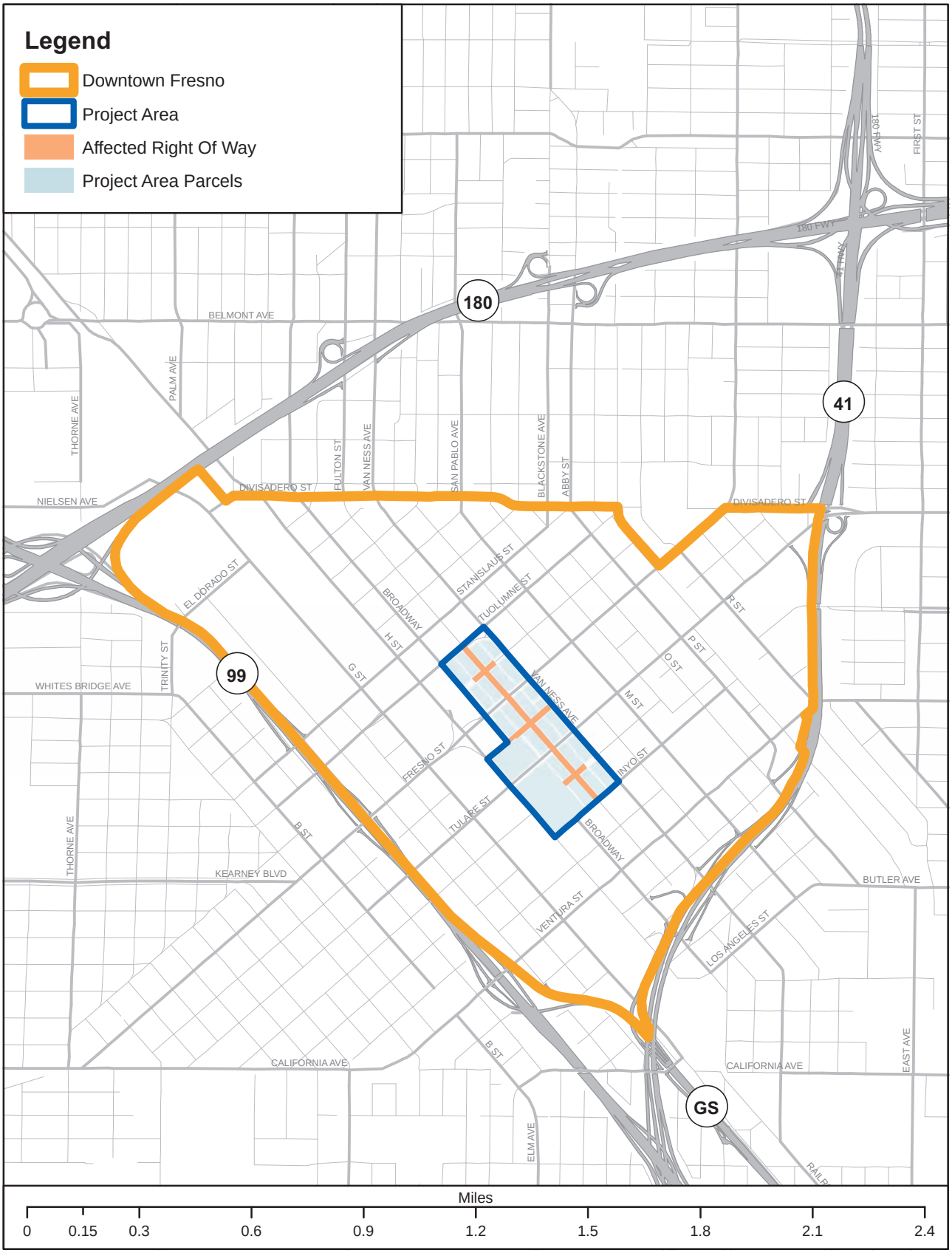
The region is characterized by the relatively flat San Joaquin Valley that rises into the Sierra Nevada Mountains to the northeast and east. The San Joaquin River extends along the north side of the City and County boundary of Fresno and the Madera County boundary. Due to the relatively flat terrain of the valley, views of the high-rise buildings within downtown Fresno can be viewed from great distances in all directions.

In the late 1800s, Fresno began to colonize, and the land use became predominately agricultural. Development began to occur within the downtown area of Fresno subsequent to the construction of the Central Pacific Railroad that extended through the San Joaquin Valley. In the first few decades of the 1900s development continued to occur within Fresno including major high-rise buildings in the downtown area, where the Fulton Mall was later constructed in the early 1960s.

3.2 Project Setting

Distant views from within the Fulton Mall area are limited due to the surrounding high-rise development. Pedestrians who travel within Fulton Mall have very few locations where distant views are available. These distant views are located on the edges of the Mall and typically along existing streets. Within the Mall, pedestrian views are internal and include the various features of the Mall including trees and shrubs, pavement, planters, sculptures, fountains, seating areas, and other artwork.

There are approximately 140 trees and a large number of shrubs and flowers that provide a visual relief to the urban environment within the Mall. However, although not evaluated by an arborist or urban forester, most of the trees do not appear to be well maintained due to the presence of broken or crossing limbs, misshapen trunks, and roots protruding into the concrete sidewalks. However, the mature trees provide shade, which is much needed in the warmer months in Fresno.



NORTH

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Figure 1
Project Vicinity Map

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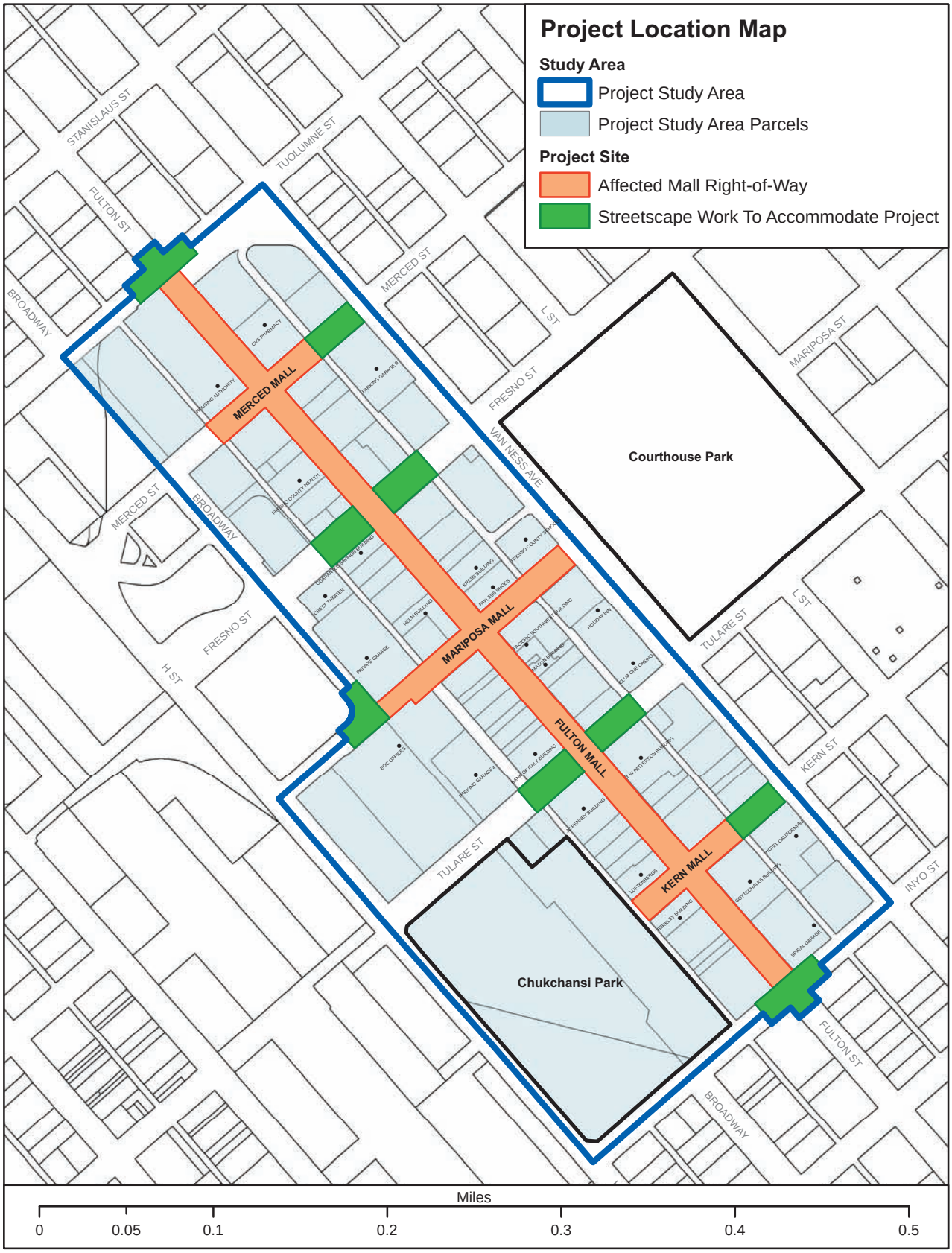

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Figure 2
Project Location Map

Because the streets with vehicular traffic in the immediate vicinity are perpendicular to the mall, views to the storefronts along the public streets that are adjacent to Fulton Mall such as Inyo Street, Tulare Street, Fresno Street, and Tuolumne Street are limited. Limited views of storefronts do not allow motorists or pedestrians traveling along Inyo Street, Tulare, Street, Fresno Street, and Tuolumne Street to orient themselves in relation to specific stores within the Mall that are adjacent to these streets. Opening up the Mall to vehicular traffic would allow motorist to have direct physical and visual access to the shops since the streets would allow access.

The Mall's pavement includes a paving pattern that resembles the contours of the natural landscape. However, the overall appearance of the Mall is that it is minimally maintained; the pavement is dirty, with numerous areas of food stains, discarded chewing gum, cigarette butts, and the pavement is cracked in many locations due. At the time the trees were planted, advanced planting techniques, such as structural pavement, drip irrigation, and root barriers were not prevalent, and therefore, tree roots have cracked the pavement in numerous locations.

Additionally, many planter walls and curbs are cracked, which decrease the quality of the visual environment, and generally give the Mall a visually unattractive appearance. The sculptures and fountains provide unique elements to the Mall; however, some sculptures have been vandalized and others are not prominently displayed or identified.

Additionally, some of the 21 fountains have been vandalized, and 14 of the 21 existing fountains have not been operable for years. Plaster is cracked, and the pumps and/or lighting are inoperable and have become repositories for debris, discarded bits of food, and cigarette butts.

Due to the ground floor vacancies within the Fulton Mall, which is approximately 26 percent, many of the businesses have industrial-looking metal gates that extend across the storefront indicating that the building space is vacant and abandoned. The gates are used to deter vandalism; however, they also detract from the overall visual environment of the Mall.

In addition, there are vacant storefronts that have numerous haphazardly placed flyers, various advertisements, and other posted materials that are attached to their frontage, which further degrades the visual experience of visiting the Mall. Although the 140 trees in the Mall provide a visual amenity, the presence of the inoperable fountains that are used as repositories for trash, in addition to dirty and broken sidewalks, metal security gates and numerous flyers at the vacant storefronts greatly reduce the visual quality of the mall.

3.3 Landscape Assessment Unit

To provide a framework for understanding and disclosing the potential visual effect of project alternatives, the FHWA visual methodology recommends the landscape be divided into sub-units for further analysis. Landscape Assessment Units are based on distinct areas or zones, which have certain common characteristics. Since the proposed Fulton Mall Reconstruction project is located in an urban setting that has similar features throughout the Mall and has limited views beyond the Mall, the project is identified as one Landscape Assessment Unit where views from the Unit as well as views of the Unit are primarily limited to foreground and middle ground views within the malls. There are limited background views from the Mall and these view locations are near the edges of the Mall. This Landscape Assessment Unit is identified as Fulton Mall - Urban/Built. Appendix A includes the Landscape Unit Checklist that identifies the visual resource components of Visual Information and Visual Character for the Fulton Mall - Urban/Built Landscape Assessment Unit. The Visual Information identifies the supply of the visual resource while the Visual Character identifies the visual pattern of the elements and character.

4. Visual Assessment Methodology

This study uses an assessment model developed by the Federal Highway Administration (FHWA) Visual Impact Assessment for Highway Projects. The major components of this process include establishing the visual environment of the project, assessing the visual resources of the project area, and identifying viewer response to those resources. Those components define the existing conditions. Resource change introduced by the project and the associated viewer response is then assessed, providing a basis for determination of potential visual impacts. Assessing visual impacts is a function evaluating the extent of physical change (resources change), and comparing that with the degree of viewer sensitivity (viewer response). A generalized visual impact assessment process is as follows:

Resource Change + Viewer Response = Visual Impact

4.1 Viewer Resource Change

The physical changes caused by the project would be noticeable in terms of form, line, color, and texture, as well as scale, dominance, diversity, and continuity. These inherent physical attributes are visually experienced as an integrated whole, defining the perceived visual character of the landscape. The relationship of these attributes to one another and their setting is assessed in part by analyzing the view's vividness, intactness, and unity as defined in the FHWA methodology guidance. These three visual rating criteria are as follows:

Vividness is the visual power or memorability of the landscape components as they combine in striking and distinctive visual patterns.

Intactness is the visual integrity of the landscape and its freedom from non-typical encroaching elements. If all of the various elements of a landscape seem to "belong" together, there will be a high level of intactness.

Unity is the visual harmony of the landscape considered as a whole. Unity represents the degree to which potentially diverse visual elements maintain a coherent visual pattern.

To assess the degree of resource change caused by the project, the FHWA method recommends a numerical rating process, which compares the visual quality in terms of vividness, intactness, and unity of both the existing and proposed conditions for each project alternative under consideration. Ratings were conducted utilizing photographs and photo-simulations.

Separate Resource Change evaluations were conducted from each of the three Key Observation Points. A numerical rating between 1 and 7 was assigned for the visual quality of the existing conditions from each viewpoint, with 1 having the lowest value and 7 the highest. Photographic simulations were then prepared illustrating the likely appearance of each view after project implementation. Based on the photographic simulation and field reviews, numerical ratings were then assigned to each of the proposed views. The numerical difference, if any, between the existing and proposed conditions quantifies the degree of resource change, which may occur as a result of the proposed project.

The Resource Change evaluation determines which specific criteria contribute most to the existing quality of each view, and if change would occur to that criteria as a result of the project. If a numerical change in visual criteria was identified, this change was analyzed for its potential affect on the existing visual quality.

Ultimately, the degree of resource change, as determined by the Resource Change evaluation, must be combined with the anticipated viewer response in order to understand and determine potential levels of visual impact.

4.2 Viewer Response

To understand and predict viewer response to the appearance of a roadway project, information must be known about the viewers who may see the project and the aspects of the visual environment to which they are likely to respond. The major viewer groups can be differentiated by physical factors that modify perception. For the proposed project, there is a basic distinction of the views from the existing roads that cross Fulton Mall, views of Fulton Mall, the physical

location of each viewer group, the number of people in each group, and the duration of their view. The receptivity of different viewer groups to the visual environment is not equal. This variable receptivity is defined as viewer sensitivity and is strongly related to visual preference. It modifies visual experience directly by means of viewer activity and awareness. Indirectly, sensitivity modifies experience by means of values, opinions, and preconceptions.

Within the project area, the extent and characteristics of potential viewer groups are few. Viewer groups that would see the project include motorists, bicyclists, pedestrians/shoppers, and retail/office workers.

Motorists would have limited views of the project due to short (low) duration of their views as they drive past the connections of Fulton Mall on the existing streets. The general speeds on the existing streets within the project vicinity are 30 miles per hour. Once the motorists park their vehicles, they exit their vehicle and become pedestrians/shoppers, or retail/office workers. Pedestrians/shoppers within Fulton Mall pass through much slower than motorists and have a longer (high) duration of views while retail/office workers within Fulton Mall pass through much slower than motorists and have a longer (moderately high) duration of the views.

Bicyclists would have moderately extended views of the project as they moved through the Mall. This group of viewers will be affected because of their duration of views of the Mall. Bicyclists are currently allowed to ride their bikes within the Mall. With the project, the bicyclists will be allowed to ride along the streets similar to other streets within downtown Fresno. Bike racks are currently provided within the Mall and will be provided with the project. The viewer sensitivity for this group is moderately high.

Pedestrians/Shoppers include visitors who are pedestrians using the Mall to recreate or shop. This group includes those who park their cars on the street or within garage structures and walk to the Mall, walk to the Mall from their residence, or walk to the Mall from public transportation. This group is the primary group of affected viewers because of their long duration of views of the Mall. The viewer sensitivity for this group is moderately high.

Retail/Office Workers include the employers and employees of the retail stores and offices within Fulton Mall. The majority of these users park their cars in the surface or structured parking areas in the vicinity of Fulton Mall or ride public transportation and walk to their destination. As they walk to their destination, they have extended views of Fulton Mall. Since the workers' primary purpose within the Mall is to walk to their place of work, their view sensitivity is considered average.

The viewer response by these groups include the quantity of viewers (i.e., number of viewers), their sensitivity to change, and their duration of their view. A driver passing through the project vicinity at 30 miles per hour would not be as sensitive to changes in the visual environment as a pedestrian walking through the environment. Visual sensitivity means how sensitive users are to changes. A very low, low, and a moderately low rating means that the project would not contrast with the visual quality of the existing environment. An average rating means that the project would have some contrast with the visual quality of the existing environment. A very high, high, and moderately high rating means that the project would contrast with the visual quality of the existing environment. Table 1 provides a summary of the viewer groups and their responses.

Table 1: Viewer Group Response

Viewer Group Response				
Viewer Group	**Quantity**	**Sensitivity**	**Duration**	**Viewer Response**
Motorists	Low	Low	Low	Low
Bicyclists	Low	Moderately High	Moderately High	Moderately High
Pedestrians/Shoppers	Very High	Moderately High	High	High
Retail/Commercial Workers	Low	Moderately Low	Moderately High	Moderately Low

This study considers and identifies these viewer modifiers for each of the three viewpoints. A numerical viewer response rating between 1 and 7 was assigned for each viewpoint, with 1 being the least sensitive anticipated response and 7 being the most sensitive anticipated response. In determining the potential levels of visual impact, the anticipated viewer response is combined with the degree of resource change.

4.3 Photographic Simulations and Project Representations

Photographic simulations illustrate the visual character from each of the Key Observation Points and provide an overview of the visual setting of the project area. For each Key Observation Point, the existing image shows how the view looked at the time of the study, and the proposed simulation represents how that location might appear with the particular alternative in place. The known dimensions of existing onsite elements were used as visual scale references to increase accuracy of the photographic simulations. For the purpose of this study, the new landscaping in the photographic simulations show plant growth at approximately 5 to 7 years after project construction.

This analysis represents the basic location, mass, and scale of the proposed elements. For project features not specifically defined by design at this time, the study assumes a “reasonable worst

case" scenario. Where specifically proposed, landscaping and aesthetic treatments are shown in the photographic simulations.

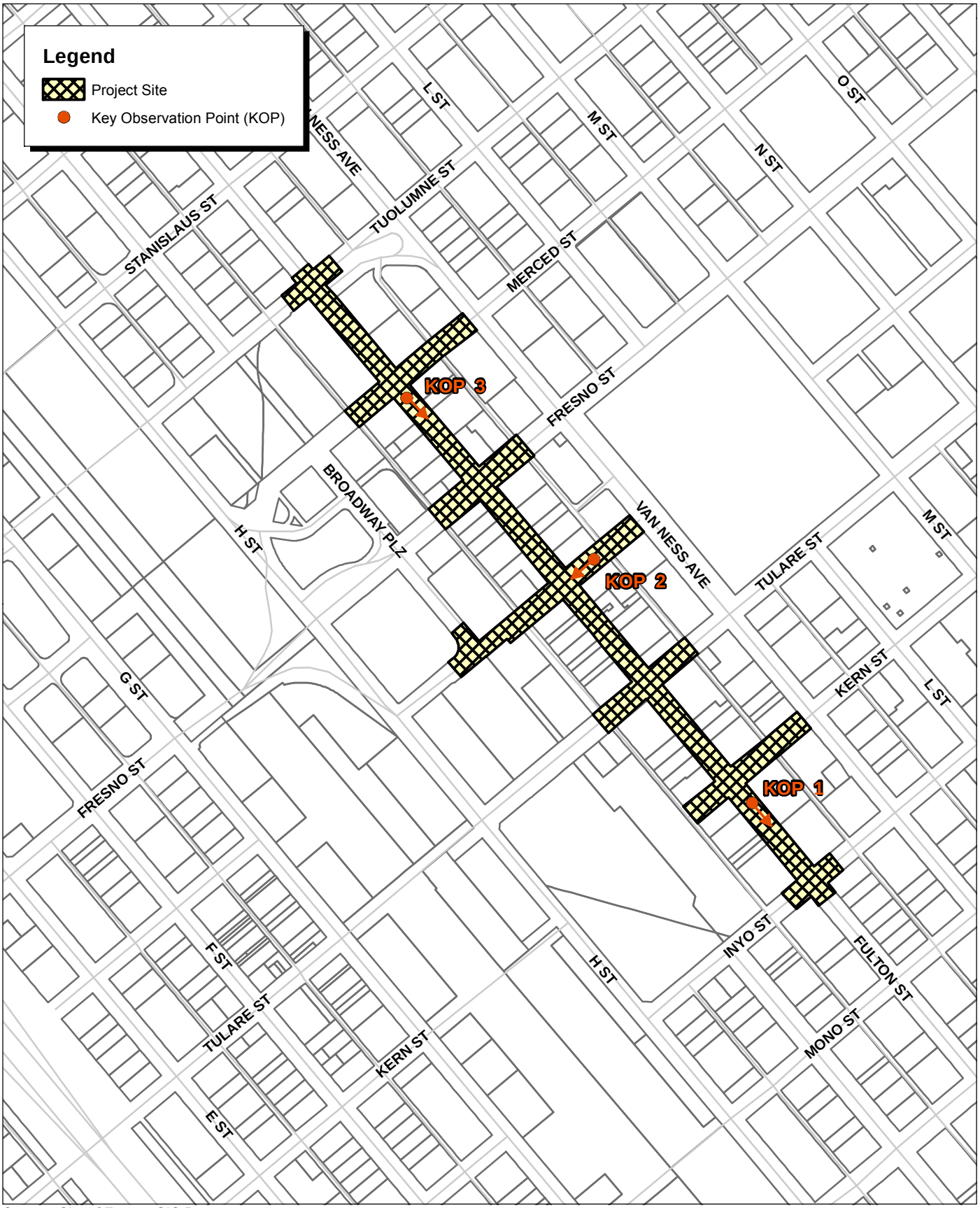
5. Visual Impact Assessment

The following section contains the numerical ratings assigned to the existing and proposed views as seen from each of the Key Observation Points, along with a brief explanation of the rating numbers. Photographs of the existing conditions along with photographic simulations of the project are included to provide a basis for understanding the visual change proposed by the project.

The project is analyzed in terms of the numerical difference in physical change (Visual Quality Evaluation) combined with the expected sensitivities and responses of potential viewer groups (Viewer Response rating). The Visual Quality Evaluation rating (see Appendix B) is combined with the Viewer Response rating, with the results providing the basis for understanding and determining the type and extent of potential visual impacts.

The Visual Impact Rating and analysis is conducted for each of the three Key Observation Points (Figure 3). A separate table is provided for each build alternative (Alternatives 1 and 2). The Resource Change rating has been identified as either a positive or negative numeral, depending on whether the change is a positive or negative one. Viewer Response is always a positive number, which increases as the level of sensitivity and exposure increase. The Viewer Response serves as an amplifier of the resource change number. As a result, the Visual Impact Rating equation is determined by averaging the absolute value of the resource change number with the viewer response rating number, then applying either a positive or negative sign to the averaged number depending on whether the resource change was positive or negative.

Alternative 3 is the No Build Alternative and therefore, a visual evaluation is not warranted because there would be no change to the existing views.



Source: City of Fresno GIS Data.

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NORTH

500 250 0 500 Feet

Figure 3
Key Observation Points

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Figure 4
Existing View at Key Observation Point 1

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VISUAL IMPACT ASSESSMENT

5.1 Key Observation Point 1

Existing Conditions

The existing southern view of Fulton Mall south of Kern Mall is primarily limited to foreground and middle ground views of various visual resources (Figure 4). These resources include mature trees, patterned pavement, artwork, benches, light stands, and flower pots. The landform from this viewpoint is considered to have moderately low vividness due to its relatively flat terrain; however, the irregularly shaped ornamental pine tree in the foreground is considered to have a moderately high vividness due to its unique trunk structure. The manmade features within the pedestrian mall provided in this view are considered to have a low level of vividness because they appear to have an overall low level of maintenance or upkeep, which has resulted in dirty pavements, inoperable and broken concrete fountains, vacant shops, and flyers haphazardly posted at storefronts and lightpoles. The view from this location outside the right-of-way is only applicable to the nominal vegetation in the middle ground near Inyo Street and the buildings that border the Mall. The vegetation and the buildings provide very low to moderately low vividness view from this viewpoint. Overall, the view from this viewpoint of inside and outside of the right-of-way provides low vividness.

This view has some visual encroachments or eyesores including pavement that is dirty, contains chewing gum, and is cracked in various locations. This view also includes flyers in the building windows as well as on the utility poles that are visible in the background view. Overall, the intactness is moderately low.

The unity between natural (trees and vegetation) and manmade as well as the overall unity is considered low due to the low visual harmony that this view provides.

Overall, the visual quality that this view provides is low.

Viewer Response

From Key Observation Point 1, the presence of the artwork, vegetation, and the pavement design provide a unique visual experience compared to some of the other areas within the downtown area. The viewers from this location are currently pedestrians/shoppers, bicyclists, and retail/office workers. Under Alternatives 1 and 2, motorists would be added as a viewer from this location. The pedestrians/shoppers have a relatively lengthy duration of the views. The expected viewer sensitivity rating from this viewpoint is identified as moderately high.

Proposed Condition - Alternative 1

This alternative includes construction of a two-lane street with parallel parking on both sides of the street, and includes approximately 14-foot wide sidewalk on the west side and approximately 28-foot wide sidewalks on the east side with various features (Figure 5). From this viewpoint, the visual features within the sidewalk area would include benches, artwork, trees, water feature, and patterned pavement. This viewpoint also illustrates a mid-block crosswalk. This proposed view provides foreground, middle ground, and background views.

The landform from this viewpoint is considered to have an average level of vividness based on the proposed sidewalk, curb, gutter, and street features. The ornamental trees that are proposed along the road are considered to have moderately high vividness due to their visual pattern. The manmade features within the pedestrian mall provided in this view such as the street, sidewalk pavement, and artwork are considered to provide moderately high vividness while the features outside of the right-of-way such as storefronts as well as the background view of Fulton Street, south of Inyo Street, have average to moderately high vividness. Overall, the view from this viewpoint of inside and outside the right-of-way provides average vividness.

This view has few visual encroachments. Encroachments include the contrast of the sidewalk pavement as well as the parallel parking spaces along Fulton Street. Outside of the right-of-way, the adjacent buildings do not have any visual encroachments while the background view south of Inyo Street includes a few utility poles. The overall intactness from this view is moderately high.

The unity between natural (trees and vegetation) and manmade is considered to be moderately high with the built environment being the dominant view. Overall, the unity is moderately high due to the visual harmony of the view established by the proposed tree pattern.

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Figure 5
Visual Simulation at Key Observation Point 1 for Alternative 1

Overall, the visual quality that this view provides is moderately high. Table 2 provides the quantitative comparison between the existing condition and Alternative 1.

Table 2: Visual Impact Assessment for Key Observation Point 1 - Alternative 1

Resource Change (RC) Evaluation				
Description	**Vividness (V)**	**Intactness (I)**	**Unity (U)**	**(=V+I+U/3)**
Existing	2.56	3.67	2.33	2.85
Proposed Alternative 1	4.56	5.17	5.00	4.91
Resource Change (RC) (Visual Quality Difference)				+2.06

Viewer Response (VR) Rating	
Viewer Response (VR)	5.00

Viewer Impact (VI) Rating	
Resource Change (RC)	2.06
Viewer Response (VR)	5.00
Visual Impact Formula: [(Absolute value of RC) + VR] / 2 With plus or minus sign applied to the result depending on whether the resource change (RC) value is positive or negative.	**+3.53**

As shown in Table 2, the overall existing visual quality at the Key Observation Point 1 would increase with the development of Alternative 1. This increase in visual quality would primarily occur due to the increase in the visual integrity, reduction of visual encroachments (such as dirty and cracked pavement, and flyers in the building windows), and establishment of a visual pattern with the proposed trees. The character of the view would improve with the addition of the proposed street and its features.

Proposed Condition Alternative 2

This alternative includes construction of a two-lane street with vignettes that consists of the street on one side of the right-of-way to provide larger areas for sidewalks, vegetation, and artwork (Figure 6). Portions of the vignettes will include parallel parking on one side of the street. From this viewpoint, the visual features within the non-street portion includes benches, artwork, trees, potted plants, grass near some water features, and patterned pavement. This viewpoint also illustrates a mid-block crosswalk.

This proposed view provides foreground, middle ground, and background views. The landform from this viewpoint is moderately high due to the slight elevation variation of the grass area and the street. The asymmetrically shaped ornamental pine tree in the foreground is considered to have high vividness due to its unique trunk structure and the level of importance of the tree that is created from the establishment of the roadway. The manmade features within the pedestrian mall provided in this view are considered to have very high vividness because the street and sidewalk pavement are clean and retain the patterns of the original mall pavement. The manmade features outside of the right-of-way provide views with moderately high vividness because the building structures will have increased maintenance as shoppers and retail revenues increase and vacancies decrease within the mall. Overall, the view from this viewpoint of inside and outside of the right-of-way provides moderately high vividness.

This view has few visual encroachments or eyesores. These include the limited contrast of the pavement and the mid-block crosswalk along Fulton Street. The overall intactness from this view is considered moderately high.

The unity between natural (trees and vegetation) and manmade is considered to be moderately high and the overall unity is also considered to be moderately high due to the coherent visual pattern that is established with the proposed improvements.

Overall, the visual quality that this view provides is moderately high. Table 3 provides the quantitative comparison between the existing condition and Alternative 2.

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Figure 6
Visual Simulation at Key Observation Point 1 for Alternative 2

Table 3: Visual Impact Assessment for Key Observation Point 1 - Alternative 2

Resource Change (RC) Evaluation				
Description	**Vividness (V)**	**Intactness (I)**	**Unity (U)**	**(=V+I+U/3)**
Existing	2.56	3.67	2.33	2.85
Proposed Alternative 2	5.33	5.33	5.33	5.33
Resource Change (RC) (Visual Quality Difference)				+2.48

Viewer Response (VR) Rating	
Viewer Response (VR)	5.00

Viewer Impact (VI) Rating	
Resource Change (RC)	2.48
Viewer Response (VR)	5.00
Visual Impact Formula: [(Absolute value of RC) + VR] / 2 With plus or minus sign applied to the result depending on whether the resource change (RC) value is positive or negative.	+3.74

As shown in Table 3, the overall existing visual quality at the Key Observation Point 1 would increase with the development of Alternative 2. This increase in visual quality would occur due to a substantial increase in the vividness, intactness, and unity of the view. The presence of the narrow road as well as a similar paving pattern in the sidewalk provides distinct viewing components and could lead the viewers to provide a more focused view of the natural and manmade elements adjacent to the proposed road. The presence of the proposed road will not substantially alter the character of the existing view. The character of the view would improve with the addition of the proposed street and the retention of existing natural and manmade features.

5.2 Key Observation Point 2

Existing Conditions

The existing western view of the intersection of the Fulton Mall and Mariposa Mall from east of Fulton Mall is dominated by the 60-foot “Clock Tower” (Figure 7). The resources included in this view are mature trees, patterned pavement, a bronze sculpture “La Grand Laveuse (Washer Woman)” by world renown Pierre Auguste Renoir, benches, light stands, and flowerpots. The

landform from this viewpoint is considered moderately low vividness due to its relatively flat terrain.

The ornamental trees and vegetation in the foreground and background are considered to have a moderately high vividness due to the amount of vegetation in this view. The manmade features which are dominated by the existing "Clock Tower" has moderately high vividness due to the Clock Tower's unique design and height, but it is weathered and not maintained in good condition. The view from this location outside the right-of-way is only applicable to the area southwest of Fulton Street and Mariposa Street and there are no views outside of the Fulton Mall - Urban/Built Landscape Unit.

The area southwest of Fulton and Mariposa includes a stage located adjacent to an existing building and includes various ornamental trees. This stage is located on a parcel that is currently owned by the City of Fresno and is used for various events throughout the year such as the annual Ice Rink, Fiestas Patrias (Mexican Independence Day) celebration, Cinco de Mayo, and the Catacomb Party music and art festival. From this view location, this area outside of the right-of-way as well as the structures that are adjacent to the mall, including the Pacific Southwest Building constructed in 1925, have moderately high vividness while the vegetation, which does not appear to be well maintained, has moderately low vividness. Overall, the view from this viewpoint of inside and outside of the right-of-way provides moderately low vividness.

This view has visual encroachments or eyesores including posters haphazardly taped on the light poles, dirty and cracked pavement, as well as the random location of the flowerpots that are regularly maintained within the right-of-way. The area outside of the right-of-way includes a trash enclosure that is visually intrusive due to the contrasting color of the trash enclosure with the surrounding vegetation. Overall, this view has an average level of intactness.

The unity between natural (trees and vegetation) and manmade features is considered moderately high within the right-of-way due to the visual pattern. Outside of the right-of-way, the unity is considered average. Overall, this view provides an average unifying view.

Based on the vividness, intactness, and unity qualities of this view, the visual quality that this view provides is average.

Viewer Response

From Key Observation Point 2, the presence of the "Clock Tower," vegetation, pavement design, and the adjacent buildings provide a unique visual experience. The viewers from this location are currently pedestrians/shoppers, bicyclists, and retail/office workers. Under Alternatives 1

and 2, motorists would be added as viewers from this location. The pedestrians/shoppers have a relatively lengthy duration of the views. The expected viewer sensitivity rating from this viewpoint is identified as high.

Proposed Condition Alternative 1

This alternative includes construction of two lane streets along Fulton Street and Mariposa Street with pedestrian bulb-outs and crosswalks at each of the four corners of the intersection (Figure 8). Parallel parking on both sides of Fulton Street and Mariposa Street will be provided. The "Clock Tower" will be refurbished and relocated to the southeast corner of the intersection. Sidewalk widths will range from approximately 14 to 28 feet and have trees, seating, sculptures, and patterned pavement.

The landform from this viewpoint is considered to have low vividness due to its relatively flat terrain. The ornamental trees and vegetation in the foreground, middle ground, and background are considered to have a high vividness due to the number of trees, which provide a leafy canopy. The manmade features include a Clock Tower, sculptures, patterned pavement on the sidewalk, street, and crosswalks and are considered to provide moderately high vividness. The view from this location outside the right-of-way is only applicable to the area southwest of the two malls and there are no views outside of the Fulton Mall - Urban/Built Landscape Unit.

The area southwest of Fulton Street and Mariposa Street includes a stage located adjacent to an existing building and includes various ornamental trees. From this view location, this area outside of the right-of-way as well as the structures that are adjacent to the mall, including the Pacific Southwest Building constructed in 1925, have moderately high vividness while the vegetation has moderately low vividness. Overall, the view from this viewpoint of inside and outside of the right-of-way provides average vividness.

This view has few visual encroachments or eyesores. These eyesores include the contrast of the pavement and the crosswalk as well as the marked parallel parking spaces along Fulton Street and Mariposa Street. The overall intactness from this view is moderately high.

The unity between natural (trees and vegetation) and manmade features is considered to be high within the right-of-way due to the visual integrity of the view and average outside of the right-of-way. The overall unity from this viewpoint is moderately high. Based on the above evaluation, the overall visual quality that this view provides is average. Table 4 provides the quantitative comparison between the existing condition and Alternative 1.

Table 4: Visual Impact Assessment for Key Observation Point 2 - Alternative 1

Resource Change (RC) Evaluation				
Description	**Vividness (V)**	**Intactness (I)**	**Unity (U)**	**(=V+I+U/3)**
Existing	3.84	4.50	4.50	4.28
Proposed Alternative 1	4.00	5.50	5.00	4.83
Resource Change (RC) (Visual Quality Difference)				+0.55

Viewer Response (VR) Rating	
Viewer Response (VR)	6.00

Viewer Impact (VI) Rating	
Resource Change (RC)	+0.55
Viewer Response (VR)	6.00
Visual Impact Formula: [(Absolute value of RC) + VR] / 2 With plus or minus sign applied to the result depending on whether the resource change (RC) value is positive or negative.	+3.28

As shown in Table 4, the overall existing visual quality at the Key Observation Point 2 would increase with the development of Alternative 1. This increase in visual quality would primarily occur due to an increase in the intactness of the view by eliminating the dirty and cracked pavement as well as the unification of the visual pattern of the mall features. The presence of the road does not substantially alter the character of the existing view.

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31680017 • 07/2013 | 7_existing_view_KOP2.cdr

Figure 7
Existing View at Key Observation Point 2

CITY OF FRESNO • FULTON MALL PROJECT
VISUAL IMPACT ASSESSMENT

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31680017 • 11/2013 | 8_visual_sim_KOP2_alt1.cdr

Figure 8
Visual Simulation at Key Observation Point 2 for Alternative 1

Proposed Condition Alternative 2

This alternative includes construction of two lane streets along Fulton and Mariposa with pedestrian bulb-outs and crosswalks at each of the four corners of the intersection similar to Alternative 1 (Figure 9). Perpendicular parking is proposed on one side of Mariposa Street. The "Clock Tower" will be refurbished and relocated to the southeast corner of the intersection. Sidewalks will range from 14 to 28 feet in width with trees, artwork, and patterned pavement.

The landform from this viewpoint is considered to have low vividness due to its relatively flat terrain. The proposed ornamental trees and vegetation within the right-of-way would have high vividness while the trees outside of the right-of-way would have moderately low vividness. The manmade features include the Clock Tower, artwork, pattern pavement on the sidewalk, street, and crosswalks would be considered to provide very high vividness due to the Clock Tower's unique design and height. The manmade features outside of the right-of-way includes the structures adjacent to the mall, including the Pacific Southwest Building constructed in 1925, have moderately high vividness. Overall, the view of inside and outside the right-of-way from this viewpoint has average vividness.

This view has no visual encroachments within the right-of-way. The overall intactness from this view would be high due to the improvement of visual integrity.

The unity between natural (trees and vegetation) and manmade features within the right-of-way is considered to be high because this view provides visual harmony while the unity outside of the right-of-way provides average unity. Overall, the unity is moderately high from this viewpoint.

Based on the above evaluation, the overall visual quality that this view provides is moderately high. Table 5 provides the quantitative comparison between the existing condition and Alternative 2.

Table 5: Visual Impact Assessment for Key Observation Point 2 - Alternative 2

Resource Change (RC) Evaluation				
Description	**Vividness (V)**	**Intactness (I)**	**Unity (U)**	**(=V+I+U/3)**
Existing	3.84	4.50	4.50	4.28
Proposed Alternative 2	4.00	5.50	5.00	4.83
Resource Change (RC) (Visual Quality Difference)				+0.55

Viewer Response (VR) Rating	
Viewer Response (VR)	6.00

Viewer Impact (VI) Rating	
Resource Change (RC)	0.55
Viewer Response (VR)	6.00
Visual Impact Formula: [(Absolute value of RC) + VR] / 2 With plus or minus sign applied to the result depending on whether the resource change (RC) value is positive or negative.	+3.28

As shown in Table 5, the overall existing visual quality at the Key Observation Point 2 would increase with the development of Alternative 2. This increase in visual quality would primarily occur due to the increase in intactness of the view by eliminating the dirty and cracked pavement as well as the unification of the visual pattern of the mall features. The presence of the road does not substantially alter the character of the existing view.

5.3 Key Observation Point 3

Existing Conditions

The existing southern view of Fulton Mall south of Merced Mall is limited to foreground and middle ground views of various visual resources (Figure 10). These resources include the mature trees, shrubs, planters, patterned pavement, artwork, benches, light stands, and flower pots. The landform from this viewpoint has very low vividness due to its relatively flat terrain; however, the ornamental trees in the foreground and middle ground are considered to have moderately high vividness. The manmade features within the pedestrian mall provided in this view are considered to have low vividness because they do not appear to be well maintained and have dirty, stained, and broken or cracked pavement, benches, and planter areas.

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31680017 • 11/2013 | 9_visual_sim_KOP2_alt2.cdr

Figure 9
Visual Simulation at Key Observation Point 2 for Alternative 2

The view from this location outside the right-of-way is only applicable to buildings that border the pedestrian mall. The buildings provide moderately high vividness from this viewpoint due to their unique architecture. Overall, the view from this viewpoint of inside and outside of the right-of-way provides moderately low vividness.

This view has several visual encroachments or eyesores that include posters on light poles, dirty and cracked pavement, and benches and has moderately low intactness. Outside of the right-of-way, there are some visual encroachments from this viewpoint including the dirty and cracked pavement, benches, and planters. This view is considered to have a moderately high intactness. Overall, the intactness of this view is average.

The unity between natural (trees and vegetation) and manmade features is considered moderately low because the features within the mall from this viewpoint do not appear to be well maintained. There is little visual harmony of this view.

Viewer Response

From Key Observation Point 3, the presence of the vegetation, the pavement design, and the adjacent buildings provide a unique visual experience; however, the noticeable stains on the pavement and seating area reduces the quality of the view. The viewers from this location are currently pedestrians/shoppers, bicyclists, and retail/office workers. Under Alternatives 1 and 2, motorists would be added as a viewer from this location. The pedestrians/shoppers have a relatively lengthy duration of the views. The expected viewer sensitivity rating from this viewpoint is identified as average.

Proposed Condition Alternative 1

This alternative includes construction of a two-lane street with parallel parking on both sides of the street, and includes a range of approximately 14 to 28-foot wide sidewalks with various features to improve the shopping experience (Figure 11). From this viewpoint, the visual features within the sidewalk area includes light poles, artwork, trees, and patterned pavement. This viewpoint also illustrates a mid-block crosswalk. This proposed view provides foreground, middle ground, and limited and confined background views.

The landform from this viewpoint is considered to have low vividness due to its relatively flat terrain; however, the ornamental trees that are proposed along the road are considered to have high vividness due to their visual pattern. The features within the pedestrian mall provided in this view are considered to also have high vividness due to the distinctive patterns of the

sidewalk pavement, artwork, and light poles. There are no available views from this location outside the right-of-way and outside the Fulton Mall - Urban/Built Landscape Unit.

Overall, the view from this viewpoint of inside and outside of the right-of-way provides moderately high vividness.

This view has few visual encroachments or eyesores. These eyesores include the contrast of the pavement and the mid-block crosswalk along Fulton Street. The overall intactness from this view is high. The unity between natural (trees and vegetation) and manmade is considered to be moderately high while the overall unity is also considered to be moderately high due to the visual pattern and harmony that is created under this alternative.

Overall, the visual quality that this view provides is moderately high. Table 6 provides the quantitative comparison between the existing condition and Alternative 1.

Table 6: Visual Impact Assessment for Key Observation Point 3 - Alternative 1

Resource Change (RC) Evaluation				
Description	**Vividness (V)**	**Intactness (I)**	**Unity (U)**	**(=V+I+U/3)**
Existing	3.84	4.00	3.50	3.61
Proposed Alternative 1	5.34	6.50	4.50	5.47
Resource Change (RC) (Visual Quality Difference)				+1.19

Viewer Response (VR) Rating	
Viewer Response (VR)	4.00

Viewer Impact (VI) Rating	
Resource Change (RC)	1.19
Viewer Response (VR)	4.00
Visual Impact Formula: [(Absolute value of RC) + VR] / 2 With plus or minus sign applied to the result depending on whether the resource change (RC) value is positive or negative.	+2.60

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Figure 10
Existing View at Key Observation Point 3

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VISUAL IMPACT ASSESSMENT

Michael Brandman Associates

31680017 • 07/2013 | 11_visual_sim_KOP3_alt1.cdr

Figure 11
Visual Simulation at Key Observation Point 3 for Alternative 1

As shown in Table 6, the overall existing visual quality at the Key Observation Point 3 would increase with the development of Alternative 1. This increase in visual quality would occur due to an increase in the vividness, intactness, and unity of the view. Each of these components of the visual quality substantially increase under Alternative 1 due to the provision of distinctive patterns, visual integrity, and visual harmony of the view with Alternative 1. The implementation of Alternative 1 would improve the current view of stained and cracked pavement, seating areas and planters.

Proposed Condition Alternative 2

This alternative includes construction of a two-lane street with vignettes. At this location, the vignette includes the roadway in the middle of the right-of-way and no parallel parking in the vignette area, but parallel parking is provided outside of the vignette area (Figure 12). The vignette allows for a larger area for sidewalks, vegetation, and artwork. From this viewpoint, the visual features within the sidewalk area includes light poles, artwork, trees, potted plants, and patterned pavement.

This proposed view provides foreground, middle ground, and limited and confined background views. The landform from this viewpoint is considered to be low vividness due to its relatively flat terrain; however, the ornamental trees that are proposed along the road are considered to have moderately high vividness due to their visual pattern. The features proposed within the pedestrian mall provided in this view are considered to have high vividness due to the clean pavement and maintained street, sidewalk, lighting fixtures, and artwork. The view outside of the right-of-way includes the structures that are adjacent to the mall. An expected result of opening the mall to vehicular traffic is an increase in customers and retail sales. With an increase in sales, building owners or renters, may use the additional income to improve building exteriors, which would provide the opportunity for the storefronts to have a higher vividness. Overall, the view from this viewpoint of inside and outside of the right-of-way provides high vividness.

This view has few visual encroachments or eyesores under Alternative 2. One eyesore includes the contrast of the patterned pavement and the white stapes that illustrate the separation between the sidewalk and the roadway along Fulton Street (Figure 12). The intactness of the view outside of the right-of-way, which includes the buildings, is considered very high. The overall intactness from this view is high.

The unity between natural (trees and vegetation) and manmade features is considered to be high due to the visual harmony and coherent visual pattern created with the features that are proposed as part of Alternative 2. The overall unity is also considered to be moderately high.

Based on the above evaluation, the overall visual quality that this view provides is moderately high. Table 7 provides the quantitative comparison between the existing condition and Alternative 2.

Table 7: Visual Impact Assessment for Key Observation Point 3 - Alternative 2

Resource Change (RC) Evaluation				
Description	**Vividness (V)**	**Intactness (I)**	**Unity (U)**	**(=V+I+U/3)**
Existing	3.84	4.00	3.50	3.61
Proposed Alternative 2	5.84	6.50	5.00	5.78
Resource Change (RC) (Visual Quality Difference)				+2.17

Viewer Response (VR) Rating	
Viewer Response (VR)	4.00

Viewer Impact (VI) Rating	
Resource Change (RC)	2.17
Viewer Response (VR)	4.00
Visual Impact Formula: [(Absolute value of RC) + VR] / 2 With plus or minus sign applied to the result depending on whether the resource change (RC) value is positive or negative.	+3.09

As shown in Table 7, the overall existing visual quality at the Key Observation Point 3 would increase with the development of Alternative 2. This increase in visual quality would occur due to a substantial increase in the vividness, intactness, and unity of the view. Each of these components of the visual quality substantially increases under Alternative 1 due to the provision of distinctive patterns, visual integrity, and visual harmony of the view with Alternative 2. The implementation of Alternative 2 would improve the current view of dirty, stained, and cracked pavement, benches, and planter areas.

Figure 12
Visual Simulation at Key Observation Point 3 for Alternative 2

Michael Brandman Associates

31680017 • 07/2013 | 12_visual_sim_KOP3_alt2.cdr

5.4 Summary of Visual Impacts

The implementation of Alternatives 1 and 2 will result in the alternation of the visual character of Fulton Mall. The visual quality of the views as well as the response of the viewers were evaluated at three Key Observation Points along the project area. Based on the evaluation provided above, Alternatives 1 and 2 will result in positive visual changes with the reconstruction of Fulton Mall. However, until the proposed newly planted trees reach maturity and provide shade and increased visual appeal, the removal of the mature trees will have a temporary substantial negative visual impact.

Alternatives 1 and 2

Both alternatives will result in the removal of existing mature trees that are located throughout Fulton Mall. It is assumed that approximately 22 mature trees of the existing 140 trees within the Mall will remain under Alternatives 1 and approximately 27 mature trees within the vignette areas would remain under Alternative 2. Removal of trees will cause a temporary substantial negative visual impact. However, under both Alternatives 1 and 2, replacement trees will be planted within the Mall. Alternative 1 will include the replanting of approximately 132 new trees and Alternative 2 will include the replanting of approximately 70 new trees. The replacement trees that will be located within the sidewalk areas will include root barriers that will diminish future uneven pavement around the trees. Replacement trees will include varying sizes that range from 15-gallon to 36-inch box. Advanced planting techniques will ensure the trees will grow quickly to maturity and provide beauty and shade to Mall visitors.

Alternatives 1 and 2 will also result in the loss of the original patterned pavement of the Mall and replace it with an asphalt road in the middle of the Mall and new patterned pavement along the sidewalks as well as the vignette areas in Alternative 2. The new patterned pavement will replicate the original pavement to maintain the original design. The presence of the asphalt road will alter the views within the Mall. This visual alteration will be positive because both alternatives will replace the dirty, stained, and cracked pavement that decreases the visual quality of the Mall.

The planters throughout the Mall area are also assumed to be removed under Alternatives 1 and 2 and new planters will be constructed in the vignette areas under Alternative 2. The new planters will include new irrigation. Many of the existing planter walls and associated curbs are cracked and stained. The removal of the planters under Alternative 1 would improve the visual quality of the Mall. Under Alternative 2, the inclusion of new planters within the vignette areas will also improve the visual quality of the Mall under Alternative 2.

The existing sculptures will be temporarily removed during construction activities under Alternatives 1 and 2. Some of the existing sculptures have been vandalized. Alternative 1 includes refurbishing the 20 existing sculptures and returning three additional sculptures that have been in storage, placing them within the sidewalk areas of Fulton Mall, and prominently identifying them. The refurbishment of the sculptures will improve the visual quality of the Mall under Alternative 1.

Alternative 2 will also include refurbishing the 20 existing sculptures and returning three additional sculptures that have been in storage. Eleven of the 20 sculptures would be returned to approximately the same location as they exist today. The remaining 12 sculptures would be returned to new locations within the Mall. Each of the sculptures would be prominently displayed and identified. The refurbishment of the sculptures will improve the visual quality of the Mall under Alternative 2.

Some of the existing fountains will be removed and others will remain during construction activities under both Alternatives 1 and 2. Fourteen of the existing 21 fountains are currently inoperable due to cracks, inoperable pumps, and/or electrical problems affecting the lighting. Many have become repositories for debris, discarded bits of food, and cigarette butts. Alternative 1 will refurbish or rebuild 16 fountains that are located within Fulton Mall. Since many of the fountains are in disrepair, refurbishing or rebuilding them under Alternative 1 would improve the visual quality of the Mall.

Alternative 2 will refurbish or rebuild 17 of the 21 fountains. Retaining and refurbishing/rebuilding the fountains will improve the visual quality of the Mall under Alternative 2.

Under both Alternatives 1 and 2, long-term maintenance of the fountains will be provided by the City of Fresno. The City currently provides maintenance of the fountains; however, due to the number of inoperable fountains and their age, substantial funding has been needed. Under Alternatives 1 and 2, fewer fountains will be included in Fulton Mall, and the existing maintenance funding will be adequate to maintain the refurbished or rebuilt fountains.

There are various existing lighting fixtures throughout the Mall that are inoperable due to lack of maintenance. After dark, the Mall appears to be almost abandoned, since most of the retail stores throughout the Mall are closed in the evening due to the lack of customers and many of the stores are locked with metal gates to prevent burglaries and the lights are turned off. Therefore, in the evening, the Mall has a lack of proper lighting and the nighttime visual experience is of very low quality. Under Alternatives 1 and 2, the provision of streets within the Mall as well as parking near the retail stores will indirectly increase the number of shoppers in Fulton Mall,

thereby increasing revenues, decreasing vacancies, and it would be expected that increased maintenance dollars would be available for upkeep of the Mall landscaping, lighting, and storefronts. New irrigation lines would be provided for landscaping within the Mall, and new electrical wiring would be provided for the light fixtures proposed in the Mall.

If sufficient nighttime lighting is provided, and stores remain open in the evenings, the opportunity for increased revenue is created. Therefore, the implementation of Alternatives 1 and 2 will substantially improve the nighttime visual quality of Fulton Mall. Although both Alternatives 1 and 2 will improve the visual quality of the Mall, Alternative 2 will result in a greater increase in the visual quality of the mall compared to Alternative 1. See Tables 2 through 7 to compare the overall higher rating at each Key Observation Point for visual quality improvement with Alternative 2. The higher rating for Alternative 2 is because the implementation of this Alternative will include vignettes that allow for the proposed street to narrow and provide wider sidewalk areas to accommodate more existing Mall design elements compared to Alternative 1.

Additionally, the vignettes proposed for Alternative 2 will incorporate a greater amount of the existing patterned pavement within the Mall area compared to Alternative 1 because the patterned pavement would extend onto the surface of the street. The crosswalks within the vignette areas would include offset color concrete strips. The three Key Observation Points that are evaluated above include locations with special treatment areas. The special treatment areas under Alternative 2 are generally expected to provide a substantially greater visual quality than current conditions.

In the areas of Alternative 2 that will include improvements similar to Alternative 1, the visual quality of the views are expected to be increased compared to the existing conditions. The vignette areas of Alternative 2 would have a greater visual quality compared to Alternative 1.

The implementation of Alternative 3 (No Build Alternative) would retain the existing pedestrian Mall in its current state. The existing pavement, planters, sculptures, fountains, seating areas, other artwork, and lighting that are in various states of disrepair are anticipated to continue to degrade due to lack of maintenance and vandalism thus resulting in the further adverse visual quality of existing views within Fulton Mall. Maintaining status quo may indirectly reduce the number of shoppers and retail revenues. A reduction in retail revenue may result in additional retail store vacancies, and continued degradation of the views within the Mall. The mature trees, although not regularly maintained, would remain and continue to provide shade and visual relief from the minimally maintained storefronts along the Mall. Overall, Alternative 3 will continue

to adversely affect the visual environment and with the passage of time, further reduce the quality of the existing views within the Mall.

6. Recommended Mitigation and Minimization Measures

Following are the recommended mitigation and minimization measures to reduce potential visual impacts associated with Alternatives 1 and 2. The first set of mitigation measures is recommended for both Alternatives 1 and 2. One additional measure is recommended for Alternative 1 only and one additional measure is recommended for Alternative 2 only. No mitigation and minimization measures are recommended for the No Build alternative (Alternative 3).

Alternatives 1 and 2

1. All midblock crosswalks within the project area shall use color concrete with pattern pavement that matches the proposed sidewalk.

2. Drainage structures such as inlets within the sidewalk areas and the face of the curbs shall be designed to visibly blend-in with the color and tone of the setting.

3. Replacement trees to be planted shall be of varying sizes that range from 15 gallon to 36-inch box. Each replacement tree shall have root barriers to prevent sidewalk upheaval from roots.

4. Trash receptacles shall blend in with the landscape by including an exterior color that is similar to the patterned pavement of the sidewalk.

5. All 20 sculptures would be removed during construction activities. Prior to returning the sculptures, they shall be refurbished, and then located in prominent viewable areas within the Mall.

Alternative 1

6. Trees that are removed shall be replaced with a new tree at a 1:1 ratio within the Fulton Mall right-of- way. Currently, the City is planning to replant approximately 132 new trees. The replacement trees shall be consistent with the landscape palette and design approved by the Parks Director and the Public Works Director.

Alternative 2

7. The City shall replace approximately 70 trees within the Fulton Mall right-of-way. The replacement trees shall be consistent with the landscape palette and design approved by the Parks Director and the Public Works Director.

7. References

California Department of Transportation. 2013. Standard Environmental Reference. Chapter 27, Visual & Aesthetics Review.

Site Visit. April 2013. FirstCarbon Solutions.

U.S. Department of Transportation, Federal Highway Administration. 1988. Visual Impact Assessment for Highway Projects (FHWA-HI-88-054).

Visual Simulations. July and November 2013. Susanne Bertz-Rosa, Bertz-Rosa Strategy and Creative.

8. Appendices

A - Landscape Unit Checklist

B - Visual Quality Evaluation

Appendix A - Landscape Unit Checklist

Landscape Unit Checklist: Visual Inventory and Analysis

Project Name	Fresno Fulton Mall	**Evaluator**	Houlihan
S.R. Number		**Date**	April 13, 2013
Assessment Unit	Fulton Mall - Urban Built	**Weather**	Clear
L/F District			
L/F Section			
L/F Province			

Visual Information (Perception		Visual Character (Cognition)			
Resource Supply		Pattern Elements		Pattern Character	
3	High Prominence	3	High Prominence	3	High Prominence
2	Moderate Prominence	2	Moderate Prominence	2	Moderate Prominence
1	Present	1	Present	1	Present
0	Absent	0	Absent	0	Absent

Landform

0	Mountains	3	Form	3	Dominance of Landforms
0	Steep Hills/Ridges	3	Line	2	Scale of Landforms
0	Rolling Hills	3	Color	2	Diversity of Landforms
0	Undulating Land	3	Texture	1	Continuity of Landform Pattern
0	Plateaus/Plains				
0	Valleys				
0	Cliffs, Bluffs				
0	Points				
0	Beaches				

Land Cover (Water)

0	Bays/Inlets	0	Form	0	Dominance of Waterforms
0	Rivers	0	Line	0	Scale of Waterforms
0	Streams	0	Color	0	Diversity of Waterforms
0	Lakes	0	Texture	0	Continuity of Waterform Pattern
0	Ponds				
0	Marshes				
0	Waterfalls/Rapids				

Land Cover (Vegetation)

0	Coniferous Woods	2	Form	2	Dominance of Vegetation
0	Deciduous Woods	2	Line	2	Scale of Vegetation
0	Scrubland	2	Color	1	Diversity of Vegetation
0	Grassland	2	Texture	1	Continuity of Vegetation Pattern
0	Pasture/Croplands				
0	Parks/Lawns				
0	Street Trees				
0	Agriculture				

Appendix B - Visual Quality Evaluation

Visual Quality Evaluation - Evaluation Scale
Fulton Mall Reconstruction

The evaluation scale for each of the components of the visual quality criteria is provided below.

Vividness Criteria - This criteria is based on the memorability of the visual impression received from contracting landscape elements as they combine to form a striking and distinctive visual pattern. This criteria includes Landform, Water, Vegetation, and Manmade Development. If one of the criteria is not present, it is considered not applicable.

Vividness Rating (for all criteria)

7	Very High
6	High
5	Moderately High
4	Average
3	Moderately Low
2	Low
1	Very Low

Intactness Criteria - This criteria is based on the integrity of the visual pattern and the extent to which the landscape is free from visual encroachment or eyesores. This criteria includes Absence of Encroachments and Overall Intactness. Following are the basis of the ratings.

Intactness Rating

Absence of Encroachments		Overall Intactness	
7	None	7	Very High
6	Few	6	High
5	Some	5	Moderately High
4	Average	4	Average
3	Several	3	Moderately Low
2	Many	2	Low
1	Very Many	1	Very Low

Unity Criteria - This criteria is based on the degree to which the visual resources of a landscape join together to form a coherent, harmonious visual pattern. This criteria includes Manmade/Natural Unity, which is the unity between manmade and natural elements and Overall Unity. If there are no manmade elements or natural elements associated with a view then the Manmade/Natural Unity criteria is not present, and it is considered not applicable.

<u>Unity Rating (for both criteria)</u>

7	Very High
6	High
5	Moderately High
4	Average
3	Moderately Low
2	Low
1	Very Low

VISUAL QUALITY EVALUATION - VIEW FROM THE ROAD - EXISTING CONDITIONS

VISUAL QUALITY EVALUTION – VIEW FROM THE ROAD

Project Fulton Mall Reconstruction
S.R. No.
V.R.M. Unit _____

Evaluator Mike Houlihan
Date November 20, 2013
Weather Clear

Evaluation Scale: 1-7
1 = Very Low
4 = Average
7 = Very High

Observer Viewpoint	VIEW: ZONE		VISUAL QUALITY: VIVIDNESS: CRITERIA: Landform	Water	Vegetation	Mannade Dev.	Vividness (1–7)	Overall Vividness	FEATURES	INTACTNESS: CRITERIA: Absence of Encroachment	Overall Intact.	Intactness (Av.: 1–7)	Overall Intactness	ENCROACHMENT	UNITY: CRITERIA: Man/Natural	Overall Unity	Unity (Av.: 1–7)	Overall Unity	Visual Quality (V + I + U) ÷ 3 (Overall Average)
1	Inside R.O.W.		3.00	NA	5.00	2.00	3.67	2.56	Mature trees are distinctive	5.00	2.00	3.50	3.67	Chewing gum, cracked pavement, posters on light poles	3.00	3.00	3.00	2.33	2.85
	O/S Row	I/S Unit	NA	NA	NA	3.00	3.00		Buildings	6.00	4.00	5.00		Flyers on windows	NA	2.00	2.00		
	O/S Row	O/S Unit	NA	NA	1.00	1.00	1.00		Vegetation, utility poles	3.00	2.00	2.50		Utility poles	2.00	2.00	2.00		
2	Inside R.O.W.		2.00	NA	5.00	5.00	4.00	3.84	Clock Tower, mature trees	4.00	4.00	4.00	4.50	Dirty and cracked pavement, posters on light poles	5.00	5.00	5.00	4.50	4.28
	O/S Row	I/S Unit	3.00	NA	3.00	5.00	3.67		Mature trees	5.00	5.00	5.00		Trash bin	4.00	4.00	4.00		
	O/S Row	O/S Unit	NA	NA	NA	NA	NA		NA	NA	NA	NA		NA	NA	NA	NA		
3	Inside R.O.W.		1.00	NA	5.00	2.00	2.67	3.84	Mature trees, stained pavement	3.00	3.00	5.00	4.00	Posters on light poles, dirty pavement	3.00	3.00	3.00	3.50	3.78
	O/S Row	I/S Unit	NA	NA	NA	5.00	5.00		Building Architecture	5.00	5.00	5.00		Low exterior maintenance	NA	4.00	4.00		
	O/S Row	O/S Unit	NA	NA	NA	NA	NA		NA	NA	NA	NA		NA	NA	NA	NA		

O/S R.O.W. = Outside R.O.W.
NA = Not Applicable

I/S Unit = Inside Landscape Unit
O/S Unit = Outside Landscape Unit

VISUAL QUALITY EVALUATION - VIEW FROM THE ROAD - PROPOSED ALTERNATIVE 1

VISUAL QUALITY EVALUTION – VIEW FROM THE ROAD

Project Fulton Mall Reconstruction
S.R. No.
V.R.M. Unit _____

Evaluator Mike Houlihan
Date November 20, 2013
Weather Clear

Evaluation Scale: 1-7
1 = Very Low
4 = Average
7 = Very High

Observer Viewpoint	VIEW: ZONE		VISUAL QUALITY: VIVIDNESS: CRITERIA: Landform	Water	Vegetation	Manmade Dev.	Vividness (1–7)	Overall Vividness	FEATURES	INTACTNESS: Absence of Encroachment	Overall Intact.	Intactness (Av.: 1–7)	Overall Intactness	ENCROACHMENT	UNITY: CRITERIA: Man/Natural	Overall Unity	Unity (Av.: 1–7)	Overall Unity	Visual Quality (V + I + U) ÷ 3 (Overall Average)
1	Inside R.O.W.		4.00	NA	5.00	5.00	4.67	4.56	Patterned trees, artwork, patterned pavement	6.00	6.00	6.00	5.17	Contrasting crosswalk	5.00	5.00	5.00	5.00	4.91
	O/S Row	I/S Unit	NA	NA	NA	4.00	4.00		Trees	7.00	5.00	6.00		None	NA	5.00	5.00		
	O/S Row	O/S Unit	NA	NA	5.00	5.00	5.00		Few trees, utility poles	3.00	4.00	3.50		Utility poles	5.00	5.00	5.00		
2	Inside R.O.W.		2.00	NA	6.00	5.00	4.33	4.00	Mature trees, artwork, Clock Tower	6.00	6.00	6.00	5.50	Contrasting crosswalk	6.00	6.00	6.00	5.00	4.83
	O/S Row	I/S Unit	3.00	NA	3.00	5.00	3.67		Mature trees	5.00	5.00	5.00		Trash bin	4.00	4.00	4.00		
	O/S Row	O/S Unit	NA	NA	NA	NA	NA		NA	NA	NA	NA		NA	NA	NA	NA		
3	Inside R.O.W.		2.00	NA	6.00	6.00	4.67	5.34	Trees, patterned pavement, artwork	6.00	6.00	6.00	6.50	Contrasting crosswalk	5.00	5.00	5.00	4.50	5.47
	O/S Row	I/S Unit	NA	NA	NA	6.00	6.00		Building architecture	7.00	7.00	7.00		None	NA	4.00	4.00		
	O/S Row	O/S Unit	NA	NA	NA	NA	NA		NA	NA	NA	NA		NA	NA	NA	NA		

O/S R.O.W. = Outside R.O.W.
NA = Not Applicable

I/S Unit = Inside Landscape Unit
O/S Unit = Outside Landscape Unit

VISUAL QUALITY EVALUATION - VIEW FROM THE ROAD - PROPOSED ALTERNATIVE 2

Project Fulton Mall Reconstruction
S.R. No.
V.R.M. Unit _____

Evaluator Mike Houlihan
Date November 20, 2013
Weather Clear

Evaluation Scale: 1-7
1 = Very Low
4 = Average
7 = Very High

Observer Viewpoint	VIEW: ZONE		VISUAL QUALITY: VIVIDNESS: CRITERIA: Landform	Water	Vegetation	Manmade Dev.	Vividness (1–7)	Overall Vividness	FEATURES	INTACTNESS: CRITERIA: Absence of Encroachment	Overall Intact.	Intactness (Av.: 1–7)	Overall Intactness	ENCROACHMENT	UNITY: CRITERIA: Man/Natural	Overall Unity	Unity (Av.: 1–7)	Overall Unity	Visual Quality (V + I + U) ÷ 3 (Overall Average)
1	Inside R.O.W.		5.00	NA	6.00	7.00	6.00	5.33	Accentuates the features	6.00	6.00	6.00	5.33	Contrasting crosswalk	6.00	6.00	6.00	5.33	5.33
	O/S Row	I/S Unit	NA	NA	NA	5.00	5.00		Buildings	7.00	6.00	6.50		None	NA	5.0	5.0		
	O/S Row	O/S Unit	NA	NA	5.00	5.00	5.00		Vegetation, utility poles	3.00	4.00	3.50		Utility poles	5.00	5.00	5.00		
2	Inside R.O.W.		2.00	NA	6.00	5.00	4.33	4.00	Clock tower, mature trees, artwork	6.00	6.00	6.00	5.50	Contrasting crosswalk	6.00	6.00	6.00	5.00	4.83
	O/S Row	I/S Unit	3.0	NA	3.0	5.00	3.67		Mature trees	5.00	5.00	5.00		Trash bin	4.00	4.00	4.00		
	O/S Row	O/S Unit	NA	NA	NA	NA	NA		NA	NA	NA	NA		NA	NA	NA	NA		
3	Inside R.O.W.		2.0	NA	6.00	6.00	4.60	5.84	Mature trees, artwork	6.00	6.00	6.00	6.50	Contrasting curb divider	6.00	6.00	6.00	5.00	5.78
	O/S Row	I/S Unit	NA	NA	NA	7.00	7.00		Building architecture	7.00	7.00	7.00		None	NA	4.00	4.00		
	O/S Row	O/S Unit	NA	NA	NA	NA	NA		NA	NA	NA	NA		NA	NA	NA	NA		

O/S R.O.W. = Outside R.O.W.

I/S Unit = Inside Landscape Unit
O/S Unit = Outside Landscape Unit

Appendix 4:
Air Quality Report

Air Quality Analysis Report
Fulton Mall Reconstruction Project
City of Fresno, California

Prepared for:
City of Fresno
2600 Fresno Street
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559.621.8366

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Report Date: November 19, 2013

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ACRONYMS AND ABBREVIATIONS

µm	micrometer
AADT	annual average daily trips
ADT	average daily trips
ARB	California Air Resources Control Board
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CCAA	California Clean Air Act
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DMG	California Department of Conservation, Division of Mines and Geology
DPM	diesel particulate matter
EA/FONSI	environmental assessment/finding of no significant impact
EIS	environmental impact statement
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FSTIP	Federal Statewide Transportation Improvements Plan
FTA	Federal Transportation Agency
FTIP	Federal Transportation Improvement Program
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
IPCC	Intergovernmental Panel on Climate Change
LOS	level of service
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
$MTCO_2e$	metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
MSAT	Mobile Source Air Toxics
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Protection Act
NHTSA	National Highway Traffic Safety Administration
NOA	Naturally Occurring Asbestos
NO_X	nitrogen oxides
OPR	Governor's Office of Planning and Research
PES	Preliminary Environmental Study
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter

ppm	parts per million
ROG	reactive organic gases
RTP	Regional Transportation Plan
SER	Standard Environmental Reference
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SIP	State Implementation Plans
STIP	State Transportation Improvement Program
TIP	Transportation Improvement Program
TAC	toxic air contaminants
U.S.	United States
VMT	vehicle miles traveled
VOC	volatile organic compounds

SECTION 1: INTRODUCTION AND PROJECT DESCRIPTION

1.1 - Purpose and Methods of Analysis

This assessment was conducted within the context of the National Environmental Protection Act (NEPA), the California Environmental Quality Act (CEQA) and the Federal project-level conformity analysis requirements. The methodology follows the California Department of Transportation (Caltrans) Standard Environmental Reference (SER), specifically Chapter 11 (Air Quality), the San Joaquin Valley Air Pollution Control District's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) and Rule 9120 (Transportation Conformity), and the Transportation Project-Level Carbon Monoxide Protocol (UCD 1997).

1.2 - Purpose and Need of Project

The purpose of the proposed project is to increase mobility and access in the Fulton Mall study area by providing more convenient multi-modal access options on the Mall and its cross streets; to improve visibility of businesses, offices and other amenities in the Fulton Mall study area by improving traffic circulation, thereby encouraging additional economic development in the area; and to increase the Fulton Mall study area's consistency with the requirements and goals of proposed land use plans by making the area more accessible to the public, thereby encouraging greater public use of the area an bolstering future economic development opportunities.

1.3 - Project Location and Description

The proposed Fulton Mall Reconstruction project is located in Downtown Fresno (Exhibit 1). Fulton Mall consists of six blocks bounded by Van Ness Avenue to the east, Inyo Street to the south, Broadway/H Street to the west, and Tuolumne Street to the north (Exhibit 2). Tulare Street and Fresno Street divide the Mall into three equal portions. The project site includes the existing 80-foot rights-of-way within Fulton Mall including Fulton between Inyo Street to Tulare Street, Tulare Street and Fresno Street, and Fresno Street and Tuolumne Street. The project also includes the existing 80-foot rights-of-way along (1) Kern between Van Ness Avenue and Home Run Alley, (2) Mariposa between Van Ness Avenue and Broadway, and (3) Merced between Van Ness Avenue and Congo Alley. In addition to the Mall, there are areas adjacent to the new streets within the Mall that would allow transitional streetscape to accommodate the project (Exhibit 2). Furthermore, the project includes a parcel at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley for the proposed tot lot.

The City of Fresno (City) proposes to reconstruct Fulton Mall as a complete street by reintroducing vehicle traffic lanes to the existing pedestrian mall. The Mall consists of six linear blocks that were open to traffic prior to 1964 but now do not allow public vehicle access. The Mall is bounded by Tuolumne Street to the north and Inyo Street to the south, and includes portions of three cross streets.

The total length of the Mall and, therefore new roadways, would be 0.67 mile; a total of 0.74 mile of existing Fulton Mall right-of-way would be affected.

The "Mall" refers specifically to the pedestrian areas between adjoining buildings located on the former City streets of Fulton, Mariposa, Merced, and Kern, which function as an integrated pedestrian Mall. Fresno Street and Tulare Street, which do allow vehicle traffic, run through the Mall and divide it into three roughly equal sections. Mall landscaping elements include fountains, planters, benches, sculptures, electrical systems, irrigation systems, and two "tot lots." The Mall does not include the adjoining buildings or their facades.

The City of Fresno is proposing two build options (alternatives) for the Fulton Mall Reconstruction Project. These two build options propose to reconstruct the Mall using "complete streets" design concepts. Complete streets are those designed to function as shared public space, or as "living streets" - for pedestrians, cyclists, outdoor businesses, and slow-moving, cautiously driven vehicles. Complete streets may include narrow roadways, corner bulb-outs, winding streets, and other traffic calming measures to lower driving speeds; street trees and other landscape elements; wide pedestrian sidewalks and crosswalks; and bicycle accommodations such as dedicated bicycle lanes or wide shoulders. The purpose of incorporating these design concepts into the proposed project is to retain portions of the historic fabric and character of the Mall, maintaining the key elements, feeling and unique experience of a pedestrian mall in downtown Fresno.

This Draft EIR addresses two build options, which are described below.

Project Option 1 (Alternative 1)

Option 1 consists of reopening the Fulton Mall with two-way streets, with one lane of vehicular traffic in each direction alongside bicycle, pedestrian, and potentially other travel modes, along the length of the Fulton Mall and three cross streets: Merced between Congo Alley and Federal Alley, Mariposa between Broadway Plaza and Federal Alley, and Kern between Fulton and Federal Alley. On-street vehicle parking spaces would be reintroduced along the length of the Fulton Mall (including cross streets), mid-block pedestrian crossings would be provided, and construction of streetscape improvements would optimize the streets for the new blend of travel modes. One 11-foot-wide vehicle travel lane would run in each direction, with a parallel parking lane of 8 feet included on both sides of the streets. Sidewalks would include a typical 14-foot sidewalk on one side of the street and a 28-foot-wide promenade on the other. This promenade is intended to approximate the mall-like pedestrian experience of the original Eckbo Fulton Mall. Like the existing mall, the Option 1 promenade would feature artworks, water features, seating, and trees and would allow for walking and pedestrian-only seating, landscaping, and lighting. Pedestrians would be separated from vehicles. There are existing street rights-of-way adjacent to the new streets within the Mall that would include minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane striping. These improvements would provide transitional streetscape to accommodate the

project. Under Option 1, the two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be consolidated into one larger tot lot at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley.

Project Option 2 (Alternative 2)

Option 2 consists of reconnecting the street grid similar to Option 1, but would include rebuilding distinctive elements of the Fulton Mall in five to six specific locations, known as "vignettes," in their exact current size and configuration. The vignettes are intended to preserve existing shade trees and features of the historic Eckbo design, and would include many of the existing elements (sculptures, fountains, pavement pattern, trees, and so on). To accomplish this, the street would have gentle curves that would allow for greater preservation of historic features including fountains, art and existing shade trees. One 11-foot-wide vehicle travel lane would run in each direction and would curve through the vignettes. Outside the vignette areas, the street would straighten, and the landscape would include, where possible, an 8-foot-wide parallel parking lane, as well as a pedestrian-only walking, seating, vegetation, and public art area that varies between 14 and 44 feet wide on each side of the street. Within the vignettes, there would be no parking lane, and the existing Fulton Mall landscape elements would be kept intact as much as possible. The remaining space on each side of the street would be dedicated to pedestrian travel, seating, vegetation, and artwork. There are existing street rights-of-way adjacent to the new streets within the Mall that would include minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane striping. These improvements would provide transitional streetscape to accommodate the project. Under Option 2, the two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be consolidated into one larger tot lot at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley.

No Build Alternative

New streets would not be constructed and the Mall would remain as it now exists

The two build options (alternatives) and the no build alternative are evaluated for construction activity to occur in 2014. The alternatives are evaluated for year 2015 and 2035. The main difference between Option 1 and Option 2 is the inclusion of vignettes in Option 2. In addition, Option 1 would have a parallel parking lane of 8 feet on both sides of the street, and Option 2 would have no parking lanes within the vignettes and 8-foot parallel parking lanes outside the vignettes.

The roadway volumes and traffic reassignment information Transportation Impact Report (TIS) for project, prepared by Fehr and Peers, was utilized for this document (Fehr and Peers, 2013). As disclosed in the TIS, the study conducted a daily traffic evaluation that looked at the change in daily traffic volumes, and did not conduct a detailed roadway segment Level of Service (LOS) analysis.

The project does not propose any additional traffic generating land uses. The alternatives are not expected to affect traffic volumes. Since the Build Alternatives propose narrow, two-way vehicular streets, it is anticipated that the reintroduced roadways associated with these alternatives would serve existing traffic by providing access to existing businesses along the pedestrian malls, but would not induce additional travel upon opening (Fehr and Peers, 2013).

Table 1 contains the annual average daily trips for each study roadway segment in the project area in the existing, or 'Baseline' scenario, both with and without the Build Alternatives. Table 2 contains the annual average daily trips for each study roadway segment in the project area in the cumulative Year 2035 scenario, both with and without Build Alternatives. Table 3 contains the annual average daily trips for the study roadways under Alternatives 1 and 2 (Build Alternatives) and Alternative 3 (No Build).

As shown in Table 1, Table 2, and Table 3, the Build Alternatives would appear to result in slightly more Average Daily Trips than the No Build scenario. Per the Transportation Impact Report:

> … it is anticipated that the reintroduced roadways associated with these alternatives would serve existing traffic by providing access to existing businesses along the pedestrian malls, but would not induce additional travel upon opening.

And

> The Open to Traffic alternatives may cause some shifts in local traffic patterns by opening the existing Fulton Mall and its cross streets to vehicle traffic. However, since these alternatives would create narrow, two-way vehicular streets, these new roadways would primarily carry local trips to access adjacent businesses. Therefore, these changes in traffic patters would be localized to roadways in the project study area.

The apparent increase is not a trip increase from Build Scenarios, but is a result of reassignment of existing trips through the project area. All trips would be existing in the project area under the Build and No Build Alternatives. Under the Build Alternatives, existing trips within the project area would be rerouted from existing travel paths through the project segments. Therefore, the apparent increase on roadway segments identified in Table 1, Table 2, and Table 3 result from a decrease of trips on other project area roadways due to the reassignment of existing trips. Alternative 1 and Alternative 2 (Build Alternatives) would not increase the number of trips on the project area roadways compared to Alternative 3 (No Build Alternative). Table 4 contains the City of Fresno's defined LOS based on the average vehicle delay (in seconds per vehicle).

Table 1: Daily Roadway Segment Traffic Volumes Baseline and Baseline Plus Build Alternatives

Roadway Segment	Annual Average Daily Trips	
	Baseline (No Build) Conditions	Baseline Plus Build Alternatives
1. Broadway: North of Stanislaus St.	2,588	2,580
2. Fulton Street: North of Stanislaus St.	2,731	2,800
3. Van Ness Avenue: North of Stanislaus St.	6,339	6,270
4. Fulton Mall: Tuolumne St. to Inyo St.[1]	N/A	210
5. Van Ness Avenue: Fresno St. to Tulare St.	9,991	10,020
6. Van Ness Avenue: Tulare St. to Inyo St.	9,728	9,740
7. Van Ness Avenue: Inyo St. to Ventura Ave.	7,586	7,580
8. Stanislaus Street: M Street to Van Ness Ave.	4,360	4,340
9. Stanislaus Street: Broadway to E Street	6,996	7,010
10. Tuolumne Street: E Street to Broadway	5,586	5,600
11. Tuolumne Street: Van Ness Ave. to M Street	4,299	4,290
12. Fresno Street: Broadway to Van Ness Ave.	14,444	14,380
13. Fresno Street: Van Ness Ave. to M Street	12,150	12,080
14. Tulare Street: H Street to Van Ness Ave.	9,304	9,280
15. Inyo Street: H Street to Van Ness Ave.	3,301	3,300
16. Ventura Avenue: Van Ness Ave. to M Street	11,838	11,910
Total ADT	111,241	111,390

NA = Not Applicable
No Build is Alternative 3
Build Alternatives are Alternative 1 and Alternative 2
1. Fulton Street is a pedestrian mall between Tuolumne St. and Inyo St. under Baseline Conditions and Baseline Plus Project: Pedestrian Mall alternative.
Source: Fehr and Peers, 2013.

Table 2: Daily Roadway Segment Traffic Volumes Cumulative and Cumulative Plus Build Alternatives

Roadway Segment	Annual Average Daily Trips	
	Cumulative (No Build) Conditions	Cumulative Plus Build Alternatives
1. Broadway: North of Stanislaus St.	13,930	13,810
2. Fulton Street: North of Stanislaus St.	6,310	6,360
3. Van Ness Avenue: North of Stanislaus St.	11,300	11,710
4. Fulton Mall: Tuolumne St. to Inyo St.[1]	N/A	2,310
5. Van Ness Avenue: Fresno St. to Tulare St.	14,280	13,950
6. Van Ness Avenue: Tulare St. to Inyo St.	13,750	13,950
7. Van Ness Avenue: Inyo St. to Ventura Ave.	13,530	13,640
8. Stanislaus Street: M Street to Van Ness Ave.	14,190	14,030
9. Stanislaus Street: Broadway to E Street	22,110	22,010
10. Tuolumne Street: E Street to Broadway	5,570	5,990
11. Tuolumne Street: Van Ness Ave. to M Street	5,290	5,210
12. Fresno Street: Broadway to Van Ness Ave.	18,420	18,480
13. Fresno Street: Van Ness Ave. to M Street	20,200	20,050
14. Tulare Street: H Street to Van Ness Ave.	18,780	18,980
15. Inyo Street: H Street to Van Ness Ave.	6,150	6,120
16. Ventura Avenue: Van Ness Ave. to M Street	24,880	24,570
Total ADT	208,690	211,170

NA = Not Applicable
No Build is Alternative 3
Build Alternatives are Alternative 1 and Alternative 2
1. Fulton Street is a pedestrian mall between Tuolumne St. and Inyo St. under Baseline Conditions and Baseline Plus Project: Pedestrian Mall alternative.
Source: Fehr and Peers, 2013.

Table 3: Annual Average Daily Trips for Project Segment

Year	Annual Average Daily Trips		
	Alternative I (Build Alternative)	Alternative II (Build Alternative)	Alternative III (No Project/No Build Alternative)
2010	NA	NA	NA
2015	210	210	NA
2035	2,310	2,310	NA

NA = Not Applicable
Source: Fehr and Peers, 2013.

Table 4: Level of Service Criteria

Level of Service	Average Vehicle Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10.0	≤ 10.0
B	10.1 - 20.0	10.1 - 15.0
C	20.1 - 35.0	15.1 - 25.0
D	35.1 - 55.0	25.1 - 35.0
E	55.1 - 80.0	35.1 - 50.0
F	>80	>50
Source: Fehr and Peers, 2013.		

Table 5 contains the LOS for Project-affected intersections in 2015, in the morning and evening peak hours (the most impacted timeframes) for Alternatives 1 and 2 (Build Alternatives) and Alternative 3 (No Build). As shown in Table 5, the build alternatives not change the LOS for the study area intersections under the 2015 Scenario.

Table 5: Intersection Capacity Level of Service, Peak Hour 2015

Intersection	Delay (seconds)- Level of Service					
	Alternative 1 (Build Alternative)		Alternative 2 (Build Alternative)		Alternative 3 (No Project/No Build Alternative)	
	AM	PM	AM	PM	AM	PM
1. Stanislaus St / Van Ness Ave	11-B	13-B	11-B	13-B	11-B	13-B
2. Stanislaus St / Fulton St	12-B	11-B	12-B	11-B	11-B	11-B
3. Stanislaus St / Broadway	10-A	10-B	10-A	10-B	10-A	10-B
4. Tuolumne St / Broadway	18-B	17-B	18-B	17-B	18-B	17-B
5. Tuolumne St /Fulton St	12-B	11-B	12-B	11-B	12-B	11-B
6. Tuolumne St /Van Ness Ave	12-B	13-B	12-B	13-B	12-B	13-B
7. Fresno St / H St	NA	NA	NA	NA	NA	NA
8. Fresno St /Fulton St	4-A	3-A	4-A	3-A	NA	NA
9. Fresno St /Van Ness Ave	35-C	**37-D**	35-C	**37-D**	35-C	35-C
10. Tulare St / H St	12-B	11-B	12-B	11-B	12-B	11-B
11. Tulare St /Fulton St	4-A	4-A	4-A	4-A	NA	NA
12. Tulare St /Van Ness Ave	23-C	26-C	23-C	26-C	23-C	21-C
13. Inyo St / H Street	12-B	11-B	12-B	11-B	13-B	12-B
14. Inyo St /Fulton St	9-A	9-A	9-A	9-A	10-A	10-A

Intersection	Delay (seconds)- Level of Service					
	Alternative 1 (Build Alternative)		Alternative 2 (Build Alternative)		Alternative 3 (No Project/No Build Alternative)	
	AM	PM	AM	PM	AM	PM
15. Inyo St /Van Ness Ave	13-B	11-B	13-B	11-B	13-B	11-B
16. Ventura Ave / H St	**33-D**	19-C	**33-D**	19-C	**34-D**	**18-D**
17. Ventura Ave / Broadway	20-C	25-C	20-C	25-C	20-C	25-C
18. Ventura Ave / Van Ness Ave	25-C	21-C	25-C	21-C	25-C	21-C

Notes:
LOS D or worse are bolded for easy identification.
Source: Fehr and Peers, 2013.

Table 6 contains the LOS for Project-affected intersections in 2035, in the morning and evening peak hours (the most impacted timeframes) for Alternatives 1 and 2 (Build Alternatives) and Alternative 3 (No Build). As shown in Table 5, the Build Alternatives would improve the LOS for the study area intersections under the 2035 Scenario.

Table 6: Intersection Capacity Level of Service, Peak Hour Cumulative 2035 Scenario

Intersection	Delay (seconds)- Level of Service					
	Alternative 1 (Build Alternative)		Alternative 2 (Build Alternative)		Alternative 3 (No Project/No Build Alternative)	
	AM	PM	AM	PM	AM	PM
1. Stanislaus St / Van Ness Ave	29-C	52-C	29-C	52-C	28-C	**53-D**
2. Stanislaus St / Fulton St	18-B	17-B	18-B	17-B	18-B	16-B
3. Stanislaus St / Broadway	**51-D**	**>150-F**	**51-D**	**>150-F**	**50-D**	**>150-F**
4. Tuolumne St / Broadway	**41-D**	**>150-F**	**41-D**	**>150-F**	**46-D**	**>150-F**
5. Tuolumne St /Fulton St	23-C	28-C	23-C	28-C	22-C	19-B
6. Tuolumne St /Van Ness Ave	**35-D**	**39-D**	**35-D**	**39-D**	**38-D**	**40-D**
7. Fresno St / H St	**77-E**	**92-F**	**77-E**	**92-F**	**84-F**	**102-F**
8. Fresno St /Fulton St	19-B	13-B	19-B	13-B	NA	NA
9. Fresno St /Van Ness Ave	**48-D**	**48-D**	**48-D**	**48-D**	**49-D**	**62-E**
10. Tulare St / H St	15-B	22-C	15-B	22-C	14-B	27-C
11. Tulare St /Fulton St	14-B	15-B	14-B	15-B	NA	NA
12. Tulare St /Van Ness Ave	**42-D**	33-C	**42-D**	33-C	**38-D**	35-C
13. Inyo St / H Street	20-B	14-B	20-B	14-B	12-B	23-C
14. Inyo St /Fulton St	9-A	10-B	9-A	10-B	11-B	9-A

Intersection	Delay (seconds)- Level of Service					
	Alternative 1 (Build Alternative)		Alternative 2 (Build Alternative)		Alternative 3 (No Project/No Build Alternative)	
	AM	PM	AM	PM	AM	PM
15. Inyo St /Van Ness Ave	14-B	13-B	14-B	13-B	13-B	13-B
16. Ventura Ave / H St	**>150-F**	**>150-F**	**>150-F**	**>150-F**	**>150-F**	**>150-F**
17. Ventura Ave / Broadway	17-B	19-B	17-B	19-B	15-B	18-B
18. Ventura Ave / Van Ness Ave	29-C	31-C	29-C	31-C	29-C	32-C

Notes:
LOS D or worse are bolded for easy identification.
Source: Fehr and Peers, 2013.

1.4 - Summary of Analysis Results

This section describes the results of analysis contained in this report; specifically, this section provides the Project's air quality impacts relative to criteria established by California Environmental Quality Act, the San Joaquin Valley Air Pollution Control District's (SJVAPCD) guidance, as well the transportation conformity requirements under the federal Clean Air Act.

1.4.1 - Transportation Conformity Impacts

For transportation projects, there are two levels of conformity—regional and project-level.

Regional Conformity

- The Project is located in an area with a conforming regional transportation plan and transportation improvement plan, and is contained within those plans. The project is found to be in regional conformity.

Project Level Conformity

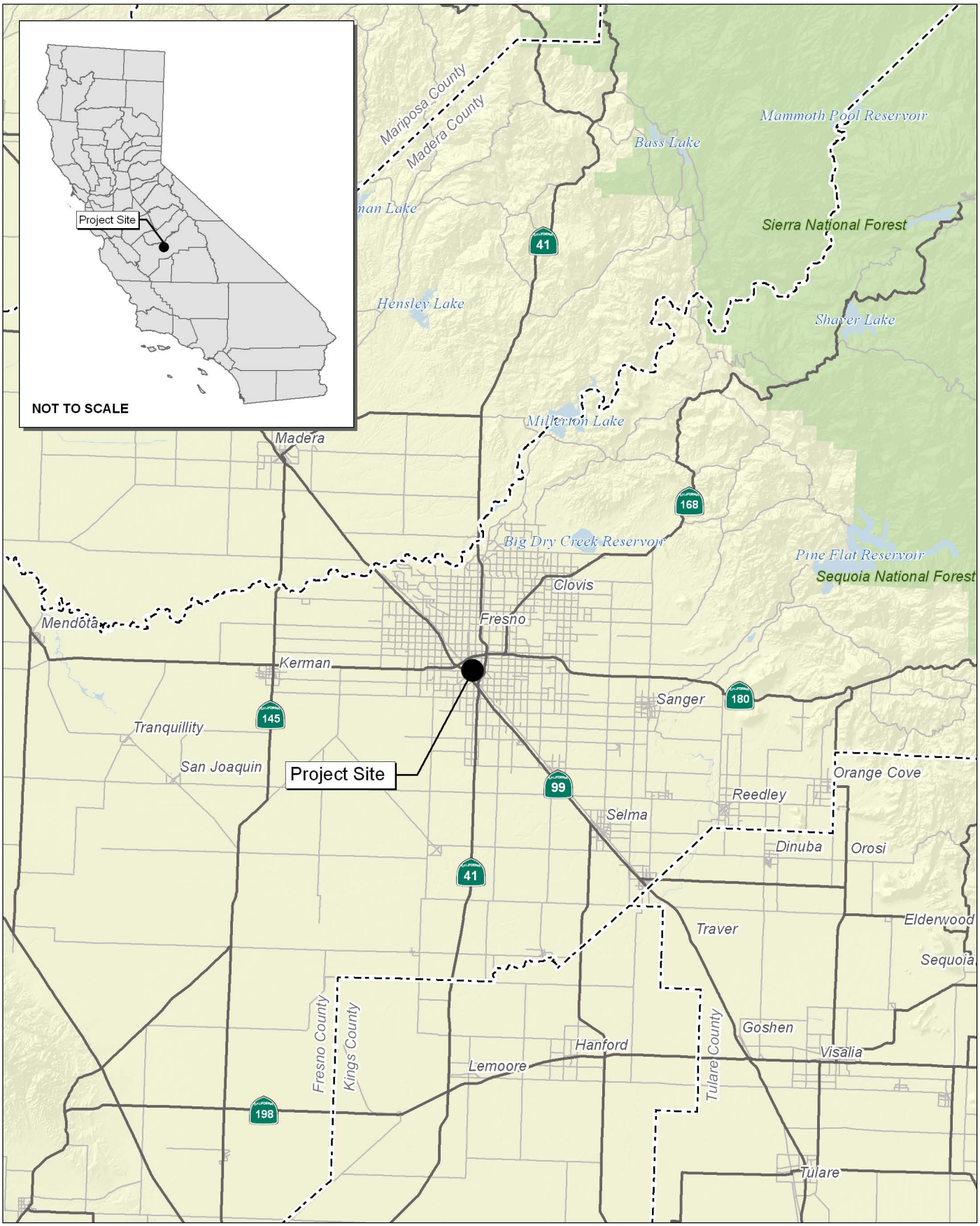
- The project area is in attainment/maintenance for the federal CO standard. A CO hot-spot analysis demonstrates that the project would not generate a CO hotspot.
- The project area is in attainment/maintenance for the federal PM_{10} standards. Therefore, a qualitative PM_{10} hot-spot is required. On July 30, 2013, Caltrans circulated the project analysis was submitted to the Interagency Consultation Partners via an Interagency Consultation Memo. The Interagency Consultation Memo requested concurrence that the project was not a project of air quality concern (POAQC). The FHWA provided concurrence that the project is not a POAQC on August 5, 2013. The Interagency Consultation Memo and FHWA's concurrence letter are provided in Appendix B. As such, a quantified PM_{10} hot-spot analysis is not required.

1.4.2 - NEPA Impacts

The FHWA's 1987 technical advisory contains guidance for air quality impacts assessment for an EIS, but does not specify the content requirements for an EA/FONSI. The guidance states that information should be presented, as appropriate, for two scales: the 'mesoscale' or regional level for ozone, hydrocarbons and nitrogen oxide; and the 'microscale' or localized level for carbon monoxide. This document contains regional conformity (mesoscale) as well estimates the project-generated emissions in respect to the SJVAPCD's significance criteria for regional pollutants, and localized or 'hot-spot' CO analysis (microscale). Therefore, this document appropriately addresses the NEPA considerations as presented by the FHWA.

1.4.3 - Project-level Air Quality Impacts

- The Project is not in an area likely to contain naturally occurring asbestos (NOA); therefore, there is little potential for NOA impacts during construction.
- The Project's construction would not generate quantities of criteria air pollutants or ozone precursors that exceed the San Joaquin Valley Air Pollution Control District's thresholds of significance. Mitigation measures for construction-generated fugitive dust and construction exhaust emissions is added to minimize potential impacts.
- The Project would not generate long-term construction impacts.
- The Project contains low potential for Mobile Source Air Toxics (MSAT) effects.
- The project would not generate localized CO impacts from project operation.
- The Project's construction-generated greenhouse gas emissions would be limited in scope and temporary, and would occur prior to 2020. In addition, the project would not generate an increase in operational emissions of greenhouse gases.
- The Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.



Source: Census 2000 Data, The CaSIL, MBA GIS 2013.

Michael Brandman Associates

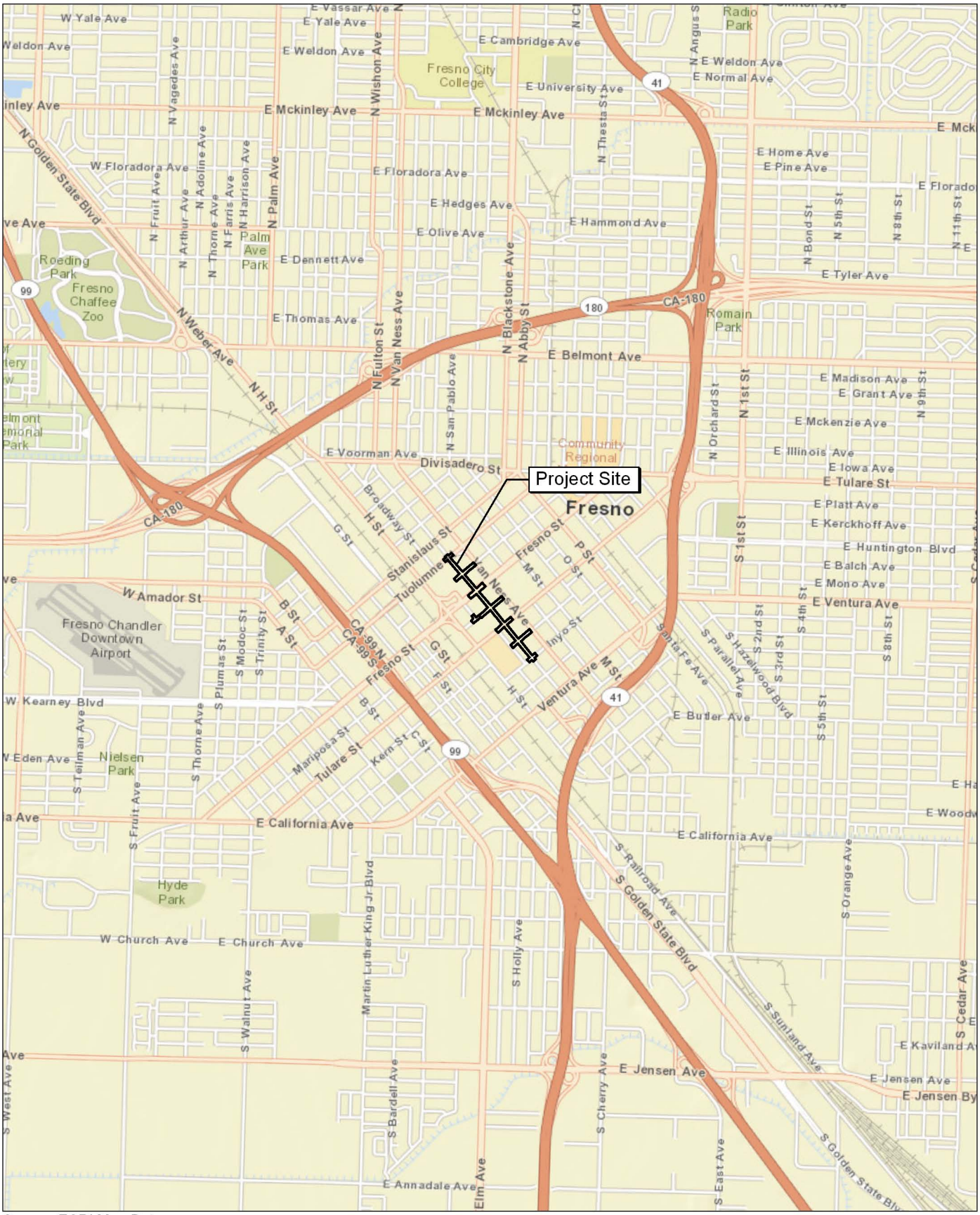
NORTH

10 5 0 10 Miles

Exhibit 1
Regional Location Map

31680017 • 07/2013 | 1_regional.mxd

CITY OF FRESNO • FULTON MALL PROJECT
AIR QUALITY REPORT



Source: ESRI Map Data.

Michael Brandman Associates

NORTH

3,000 1,500 0 3,000 Feet

Exhibit 2
Project Location Map

31680020 • 11/2013 | 2_project_loc.mxd

CITY OF FRESNO • FULTON MALL PROJECT
AIR QUALITY REPORT

SECTION 2: REGULATORY SETTING

Air pollutants are regulated at the national, State, and air basin level; each agency has a different degree of control. The United States Environmental Protection Agency (EPA) regulates at the national level. The California Air Resources Board (ARB) regulates at the state level. The San Joaquin Valley Air Pollution Control District (SJVAPCD) regulates at the regional level.

2.1 - Criteria Pollutants

2.1.1 - Federal and State

The EPA is responsible for global, international, national, and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans (SIP), provides research and guidance for air pollution programs, and sets National Ambient Air Quality Standards (NAAQS), also known as federal standards. There are NAAQS for six common air pollutants, called criteria air pollutants, which were identified from provisions of the Clean Air Act (CAA) of 1970. The criteria pollutants are:

- Ozone
- Particulate matter (PM_{10} and $PM_{2.5}$)
- Nitrogen dioxide
- Carbon monoxide (CO)
- Lead
- Sulfur dioxide

The NAAQS were set to protect public health, including that of sensitive individuals; thus, the standards continue to change as more medical research is available regarding the health effects of the criteria pollutants.

The SIP for the State of California is administered by ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. A SIP is prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain NAAQS. The SIP incorporates individual federal attainment plans for regional air districts. Federal attainment plans prepared by each air district are sent to ARB to be approved and incorporated into the California SIP. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms.

ARB also administers California Ambient Air Quality Standards (CAAQS) for the ten air pollutants designated in the California Clean Air Act (CCAA). The ten state air pollutants are the six criteria pollutants listed above as well as visibility reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The national and state ambient air quality standards are summarized in Table 7.

Table 7: National and California Ambient Air Quality Standards

Air Pollutant	Averaging Time	California Standard	National Standard
Ozone	1-hour	0.09 ppm	—
	8-hour	0.070 ppm	0.075 ppm
Particulate matter (PM_{10})	24-hour	50 µg/m^3	150 µg/m^3
	Mean	20 µg/m^3	—
Particulate matter ($PM_{2.5}$)	24-hour	—	35 µg/m^3
	Mean	12 µg/m^3	12.0 µg/m^3
Carbon monoxide (CO)	1-hour	20 ppm	35 ppm
	8-hour	9.0 ppm	9 ppm
Nitrogen dioxide (NO_2)	1-hour	0.18 ppm	100 ppb
	Mean	0.030 ppm	0.053 ppm
Sulfur dioxide (SO_2)	1-hour	0.25 ppm	75 ppb
	24-hour	0.04 ppm	0.14 ppm[1]
	3-hour	—	0.5 ppm
	Mean	—	0.030 ppm[1]
Lead	30-day	1.5 µg/m^3	—
	Quarter	—	1.5 µg/m^3
	Rolling 3-month average	—	0.15 µg/m^3
Visibility Reducing Particulates	8-hour	See footnote 2	—
Hydrogen sulfide	1-hour	0.03 ppm	—
Sulfates	24-hour	25 µg/m^3	—
Vinyl chloride[3]	24-hour	0.010 ppm	—

Notes:

[1] Standard is for certain areas. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[2] In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

[3] The ARB has identified vinyl chloride as toxic air contaminant (TAC) with no threshold level of exposure for adverse health effects. Therefore, the vinyl chloride the standard is not a threshold but is the minimum detectable limit. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Abbreviations:

ppb= parts per billion (concentration) ppm = parts per million (concentration) 30-day = 30-day average
µg/m^3 = micrograms per cubic meter Mean = Annual Arithmetic Mean Quarter = Calendar year quarter

Source: ARB, 2013.

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the Federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

In addition to attainment designations, the EPA and ARB further classify ozone and PM nonattainment areas based on the severity of the air pollution monitoring, based on the deviation from the respective standard. Federal ozone nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Federal PM_{10} areas are further classified as serious or moderate. ARB classifies 1-hour ozone nonattainment areas as marginal, moderate, serious, severe, or extreme.

Federal Regulations and Guidance

NEPA

NEPA establishes national environmental policy and goals for the protection, maintenance, and enhancement of the environment and provides a process for implementing these goals within the federal agencies. Section 102 requires federal agencies to incorporate environmental considerations in their planning and decision-making through a systematic interdisciplinary approach.

The NEPA process consists of an evaluation of the environmental effects of a federal undertaking including its alternatives. There are three levels of analysis: categorical exclusion determination; preparation of an environmental assessment/finding of no significant impact (EA/FONSI); and preparation of an environmental impact statement (EIS). Each federal agency promulgates or adopts its own guidance for preparation and content of NEPA documents. The FHWA's Technical Advisory T6640.8A, Guidance for Preparing and Processing Environmental And Section 4(F) Documents, was published in 1987, and provides the overarching guidance for environmental document analysis and contents for projects that require a FHWA approval. As stated by the advisory, the material is not regulatory, but was developed to provide guidance for uniformity and consistency in the format, contents and processing of various environmental studies and documents pursuant to NEPA.

The FHWA's 1987 technical advisory contains guidance for air quality impacts assessment for an EIS, but does not specify the content requirements for an EA/FONSI. The guidance states that information should be presented, as appropriate, for two scales: the 'mesoscale' or regional level for ozone, hydrocarbons and nitrogen oxide; and the 'microscale' or localized level for carbon monoxide. This document contains regional conformity (mesoscale) as well estimates the project-generated emissions in respect to the SJVAPCD's significance criteria for regional pollutants, and localized or

'hot-spot' CO analysis (microscale). Therefore, this document appropriately addresses the NEPA considerations as presented by the FHWA.

Transportation Conformity

Transportation Conformity is a process set up under the CAA to ensure that transportation planning, transportation improvement programs, and projects are consistent with the plans to achieve and maintain NAAQS. Specific requirements are set by EPA regulations in 40 CFR 93, EPA and U.S. Department of Transportation guidance documents, and local regulations and procedures set up by Metropolitan Planning Organizations and Air Pollution Control Districts.

The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) must be able to find that the Federal Transportation Improvement Program (FTIP) conforms to the adopted State Implementation Plan and that priority has been given to timely implementation of the transportation control measures found in the SIP. The projects in the TIP should also not further exacerbate the existing air quality problems

Table 1 of 40 CFR 93.109 contains the conformity required from transportation plans, federal transportation improvement plans, and projects. The Project is subject to the following conformity criteria:

Project (From a Conforming Plan and TIP)

- §93.114 Currently conforming plan and FTIP
- §93.115 Project from a conforming plan and FTIP
- §93.116 CO, PM_{10} and $PM_{2.5}$ hot-spots
- §93.117 PM_{10} and $PM_{2.5}$ control measures

Regional Conformity

The Federal CAA requires that all transportation plans and programs pass the air quality conformity test. This process involves forecasting future emissions of air pollution to determine whether the amount of future pollution resulting from the plan or program would be within the allowable limit for motor vehicle emissions.

Transportation conformity must be determined for all federal nonattainment pollutants classified as regional pollutants. In the San Joaquin Valley Air Basin (SJVAB), those pollutants are ozone and $PM_{2.5}$; the SJVAB is in attainment/maintenance of federal PM_{10} standards. Transportation projects also generate CO, which is considered a localized pollutant. CO micro-scale modeling is required to determine whether a transportation project would cause or contribute to localized violations of federal CO standards.

Regional conformity must be determined based on a full study at least every 3 years. In California, it is determined at least every two years when the state-required regional transportation plan (RTP) updates are done. In addition, a new federal transportation improvement program (FTIP) is required

every four years, for which a conformity determination is required. Amendments to both the RTP and FTIP between mandated conformity analyses also must have conformity demonstrated, including a full-scale revision of the regional analysis if regionally significant projects are added, deleted, or significantly modified.

Regional conformity is demonstrated by showing that the project is included in a conforming RTP and FTIP with substantially the same design concept and scope that was used for the regional conformity analysis.

Project-Level Conformity

Project level conformity is demonstrated by showing that it will not cause a localized exceedance of CO and/or PM standards, and that it will not interfere with "timely implementation" of transportation control measures called out in the state implementation plan.

In March 2006, EPA issued amendments to the Transportation Conformity Rule (40 CFR 93) to address localized impacts of particulate matter: "$PM_{2.5}$ and PM_{10} Hot-Spot Analyses in Project-level Transportation Conformity Determinations for the New $PM_{2.5}$ and Existing PM_{10} National Ambient Air Quality Standards" (71 FR 12468). This amendment requires the assessment of localized air quality impacts in PM_{10} and $PM_{2.5}$ federal nonattainment and maintenance areas for federally funded or approved transportation projects of air quality concern. An assessment of localized impacts (i.e., "hot-spot analysis") examines potential air quality impacts on a scale smaller than an entire nonattainment or maintenance area. A hot-spot analysis is a means of demonstrating that a transportation project meets CAA conformity requirements to support state and local air quality goals. EPA further amended 40 CFR 93 in March 2012. The final rule primarily restructures two sections of the conformity rule, 40 CFR 93.109 and 93.119, so that the existing rule requirements clearly apply to areas designated for future new or revised NAAQS, thus reducing the need to amend the transportation conformity rule merely to reference specific new NAAQS.

The Project is located in an area that is in attainment/maintenance of federal CO and PM_{10} standards. Therefore, hot-spot analysis for CO and PM_{10} are required under the Transportation Conformity Rule.

California Regulations and Guidance

Caltrans

The California Department of Transportation (Caltrans) has prepared multiple guidance documents to assist in air quality and transportation conformity analyses. A primary source of guidance is the Standard Environmental Reference (SER), which is an on-line guidance document to assist state and location agency staff to plan, prepare, submit and evaluate environmental documents for transportation projects. SER Chapter 11 contains specific guidance for air quality analysis, as well as references to state and federal analysis requirements and links to other resource documents.

Toxic Air Contaminant Regulations

ARB's Toxic Air Contaminant (TAC) program traces its beginning to the criteria pollutant program in the 1960s. For many years, the criteria pollutant control program has been effective at reducing TACs, since many volatile organic compounds and PM constituents are also TACs. During the 1980s, the public's concern over toxic chemicals heightened. As a result, citizens demanded protection and control over the release of toxic chemicals into the air. In response to public concerns, the California legislature enacted the Toxic Air Contaminant Identification and Control Act governing the release of TACs into the air. This law charges ARB with the responsibility for identifying substances as TACs, setting priorities for control, adopting control strategies, and promoting alternative processes. ARB has designated almost 200 compounds as TACs. Additionally, ARB has implemented control strategies for a number of compounds that pose high health risk and show potential for effective control.

In July 2001, ARB approved an Air Toxic Control Measure for construction, grading, quarrying and surface mining operations to minimize NOA emissions. The regulation requires application of best management practices to control fugitive dust in areas known to have NOA, as well as requiring notification to the local air district prior to commencement of ground-disturbing activities.

ARB approved a regulatory measure to reduce emissions of toxics and criteria pollutants by limiting idling of heavy-duty diesel vehicles. The driver of any vehicle subject to this section (1) shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location and (2) shall not idle a diesel-fueled auxiliary power system for more than 5 minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle if it has a sleeper berth and the truck is located within 100 feet of a restricted area (homes and schools).

ARB's Land Use Handbook

ARB adopted the Air Quality and Land Use Handbook: A Community Health Perspective (Land Use Handbook) in 2005. The Land Use Handbook provides information and guidance on siting sensitive receptors in relation to sources of TACs. The sources of TACs identified in the Land Use Handbook are high-traffic freeways and roads, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and large gasoline dispensing facilities. If a project involves siting a sensitive receptor or source of TAC discussed in the Land Use Handbook, siting mitigation may be added to avoid potential land use conflicts, thereby reducing the potential for health impacts to the sensitive receptors (ARB 2005). The Project would not construct a source of TACs or a location of sensitive receptors.

2.1.2 - San Joaquin Valley Air Pollution Control District

The Project is within the San Joaquin Valley Air Basin, which is under the jurisdiction of the San Joaquin Valley Air District (SJVAPCD). The SJVAPCD is responsible for controlling emissions, primarily from stationary sources. The SJVAPCD maintains an air quality monitoring stations throughout Fresno County. The SJVAPCD, in coordination with the Council of Governments and

Association of Governments (including Fresno COG), is also responsible for developing, updating, and implementing the Air Quality Attainment Plan for the area. In 2002, the SJVAPCD adopted the Guide for Assessing and Mitigating Air Quality Impacts, which details the recommended environmental setting, impacts discussions, and significance thresholds to be applied to projects in the SJVAB.

Attainment Status

The current attainment designations for the SJVAB are shown in Table 8. The area is designated as nonattainment for the California and federal ozone standards, and the California PM_{10} standard.

Table 8: San Joaquin Valley Air Basin Attainment Status

Pollutant	California Status	Federal Status
Ozone	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Maintenance
Nitrogen Dioxide	Attainment/Unclassified	Attainment/Unclassified
Sulfur Dioxide	Attainment/Unclassified	Attainment/Unclassified
Source: SJVAPCD 2013		

Air Quality Attainment Plans

Ozone Plans

As an extreme nonattainment area for the 1-hour ozone national standard, the SJVAPCD adopted the Extreme Ozone Attainment Demonstration Plan in 2004. On March 8, 2010, the EPA approved the Extreme Ozone Attainment Demonstration Plan for 1-hour ozone. Although effective June 15, 2005, the EPA revoked the 1-hour standard, the control requirements remain in effect to ensure progress toward meeting the new, more stringent 8-hour ozone standard that has replaced the 1-hour standard. The Plan contains commitments to reduce a precursor of ozone, NO_x, including NO_x reductions from indirect sources.

The 2007 Ozone Plan contains measures to reduce ozone and particulate matter precursor emissions to bring the Basin into attainment with the federal 8-hour ozone standard. The 2007 Ozone Plan calls for a 75-percent reduction of NO_x and a 25-percent reduction of ROG. The plan, with a “dual path” strategy, demonstrates attainment of the federal 8-hour ozone standard. The SJVAPCD Governing Board adopted the 2007 Ozone Plan on April 30, 2007. The ARB approved the plan on June 14, 2007.

Particulate Matter Plans

The SJVAPCD adopted the 2007 PM_{10} Maintenance Plan in September 2007 to assure the San Joaquin Valley's continued attainment of the EPA's PM_{10} standard. The EPA designated the valley as an attainment/maintenance area for PM_{10}.

The 2008 $PM_{2.5}$ Plan builds upon the strategy adopted in the 2007 Ozone Plan to bring the Basin into attainment of the 1997 national standards for $PM_{2.5}$. The EPA has identified NO_x and sulfur dioxide as precursors that must be addressed in air quality plans for the 1997 $PM_{2.5}$ standards. The 2008 $PM_{2.5}$ Plan is a continuation of the SJVAPCD's strategy to improve the air quality in the Basin. The SJVAPCD adopted the 2012 $PM_{2.5}$ Plan in December 2012. This plan addresses EPA's most recent 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$.

Rules and Regulations

The SJVAPCD administers rules and regulations to obtain and maintain attainment of the State and federal air quality standards. The rules and regulations that apply to this Project include, but are not limited to, the following:

- Rule 4002 - National Emission Standards for Hazardous Air Pollutants.
- Rule 4102 - Nuisance. The purpose of this rule is to protect the health and safety of the public, and applies to any source operation that emits or may emit air contaminants or other materials.
- Rule 4641 - Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. The purpose of this rule is to limit ROG emissions from asphalt paving and maintenance operations. If asphalt paving will be used, then the paving operations will be subject to Rule 4641.
- Regulation VIII - Fugitive PM_{10} Prohibitions. Rules 8011-8081 are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and trackout, etc.
- Rule 9120 Transportation Conformity. This rule incorporates the requirements of the federal Transportation Conformity Rule into the SJVAPCD's rulebook.

Rule 9510 (ISR)

Rule 9510 - Indirect Source Review (ISR) reduces the impact of oxides of nitrogen (NO_x) and PM_{10} emissions from growth in the Air Basin. A master Air Impact Assessment application must be submitted to begin rule compliance.

Compliance with Rule 9510 reduces the emissions impact of the project land uses through incorporation of onsite measures as well as payment of an offsite fee that funds emission reduction projects in the Air Basin. The emissions analysis for Rule 9510 is highly detailed and is dependent

on the exact use design that is expected to be constructed or installed. The required amounts of emission reductions required by Rule 9510 for transportation projects that exceed 2 tons per year of NO_X or PM_{10} emissions during construction are as follows:

Construction Exhaust: 20 percent of the total NO_x emissions, and
45 percent of the total PM_{10} emissions.

2.1.3 - Fresno Council of Governments

Fresno Council of Governments (Fresno COG) is the Metropolitan Planning Organization (MPO) for Fresno County, and is a voluntary association of local governments consisting of:

- City of Clovis
- City of Coalinga
- City of Firebaugh
- City of Fowler
- City of Fresno
- City of Huron
- City of Kerman
- City of Kingsburg
- City of Mendota
- City of Orange Cove
- City of Parlier
- City of Reedley
- City of San Joaquin
- City of Sanger
- City of Selma
- County of Fresno

As the designated MPO, Fresno COG is mandated by the federal government to research and draw up plans for transportation, growth management, hazardous waste management, and air quality. Additional mandates exist at the state level.

Regional Transportation Plan (RTP)

Transportation control measures provided by Fresno COG include those contained in the Regional Transportation Plans (RTP), the most current version of which is the 2011 RTP. The 2011 RTP has control measures to reduce emissions from on-road sources by incorporating strategies such as high occupancy vehicle interventions, transit, and information-based technology interventions. The measures implemented by ARB and Fresno COG affect the Project indirectly by regulating the vehicles that the residents may use and regulating public transportation.

The project is included in the 2011 RTP through 2011 RTP Amendment #2 as Project ID FRE500768. Excerpts from the 2011 RTP Amendment #2 with the project information is provided in Appendix A.

Fresno COG is currently circulating the 2014 RTP for informal and early public review and comment. The 2014 RTP, also called the Regional Transportation Plan 2040, charts a 25-year course to the year

2040. The 2014 RTP addresses greenhouse gas emission reductions and other air emissions with a goal of sustainable planning.

Federal Transportation Improvement Plan

The FTIP is a compilation of project lists from the State Transportation Improvement Program (STIP), urbanized and non-urbanized areas, and other programs using federal funding. The 2013 FTIP is composed of two parts. The first is a priority list of projects and project segments to be carried out in a four-year period. The second is a financial plan that demonstrates how the TIP can be implemented. The project was included in the 2013 FTIP Appendix F, Regional Transportation Plan Project Listing 2011 through 2035, as RTP ID FRE500768. The project was also included in 2013 FTIP Amendment #1, dated August 2012, as Project ID FRE130069. Excerpts from the 2013 FTIP and 2013 FTIP Amendment #1 with the project information is provided in Appendix A.

Federal Statewide Transportation Improvement Plan

The Federal Statewide Transportation Improvements Plan (FSTIP) covers a four-year period from 2012/2013 through 2015/2016, which includes the listings of proposed transportation projects in the rural non MPO areas of the state, and incorporates by reference projects listed in the MPO's 2013 FTIPs. Fresno COG submitted their board-approved 2013 FTIP to Caltrans, including 2013 FTIP Amendment #1 made August 2012. The FSTIP was transmitted from Caltrans to FHWA on November 5, 2012.

Transportation Conformity

The FHWA and FTA completed review of the conformity determination for the 2011 RTP and found that the document conforms to the applicable state implementation plan in accordance with the provisions of 40 CFR Parts 51 and 93. The FHWA and FTA issued the determination on December 14, 2010. The FHWA and FTA issued a determination of conformity for the 2011 RTP Amendment #2 on December 14, 2012. The transportation conformity determinations are provided in Appendix A.

The FHWA and FTA completed review of California's 2013 FSTIP, and approved the document as proposed. The FHWA and FTA determined the 2013 FSTIP conforms to the SIP on December 14, 2012. The 2013 FSTIP incorporated by reference those projects included in the 2012/2013 Federal Transportation Improvement Programs (FTIP) adopted by the MPOs in California. This conformity determination includes Fresno COG 2013 FTIP Amendment #1, which lists the project

2.1.4 - Pollutants of Concern

As described above, the Project area is designated nonattainment for the federal and State ozone and $PM_{2.5}$ standards. Because the area exceeds these health-based ambient air quality standards, ozone is the main criteria pollutants of concern for the Project area. The Project area is in attainment/ maintenance of the federal PM_{10} standards, but is nonattainment for the state's PM_{10} standard. In

addition, asbestos and MSAT are generally a concern for construction projects. Other pollutants of concern are TACs and greenhouse gases.

The Project, as a 0.74-mile road reconstruction project, is not considered a source of potentially significant quantities of nitrogen dioxide, sulfur dioxide, lead, hydrogen sulfide, sulfates, or vinyl chloride; therefore, those pollutants are not included as "pollutants of concern" for the Project and are not included in the impact analysis.

The emissions sources and potential health effects of the pollutants of concern are described below. The discussions of properties and health effects below are based on sources including the Environmental Protection Agency and the California Air Resources Board.

Ozone

Ozone is not emitted directly into the air, but is a regional pollutant formed by a photochemical reaction in the atmosphere. Ozone precursors, which include reactive organic gases (ROG) and NO_X, react in the atmosphere in the presence of sunlight to form ozone. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. Often, the effects of emitted ROG and NO_X are felt a distance downwind of the emission sources. Ozone is subsequently considered a regional pollutant. Ground-level ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials.

Ozone can irritate lung airways and cause inflammation much like sunburn. Other symptoms include wheezing, coughing, pain when taking a deep breath, and breathing difficulties during exercise or outdoor activities. People with respiratory problems are most vulnerable, but even healthy people who are active outdoors can be affected when ozone levels are high. Chronic ozone exposure can induce morphological (tissue) changes throughout the respiratory tract, particularly at the junction of the conducting airways and the gas exchange zone in the deep lung. Anyone who spends time outdoors in the summer is at risk, particularly children and other people who are more active outdoors. Even at very low levels, ground-level ozone triggers a variety of health problems, including aggravated asthma, reduced lung capacity, and increased susceptibility to such respiratory illnesses as pneumonia and bronchitis.

Ozone also damages vegetation and ecosystems. It leads to reduced agricultural crop and commercial forest yields; reduced growth and survivability of tree seedlings; and increased susceptibility to diseases, pests, and other stresses such as harsh weather. In addition, ozone causes damage to buildings, rubber, and some plastics.

Nitrogen Oxides

During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides or NO_X. This occurs primarily in motor vehicle internal combustion engines and fossil fuel-fired electric utility

facilities and industrial boilers. The pollutant NO_X is a concern because it is an ozone precursor, which means that it helps form ozone. When NO_X and ROG are released in the atmosphere, they can chemically react with one another in the presence of sunlight and heat to form ozone. NO_X can also be a precursor to PM_{10} and $PM_{2.5}$.

Because NO_X and ROG are ozone precursors, the health effects associated with ozone (as discussed above) are also indirect health effects associated with significant levels of NO_X and ROG emissions.

Reactive Organic Gases and Volatile Organic Compounds

ROG, also known as volatile organic compounds (VOC) are defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participate in atmospheric photochemical reactions. ROG consist of nonmethane hydrocarbons and oxygenated hydrocarbons. Hydrocarbons are organic compounds that contain only hydrogen and carbon atoms. Nonmethane hydrocarbons are hydrocarbons that do not contain the unreactive hydrocarbon methane. Oxygenated hydrocarbons are hydrocarbons with oxygenated functional groups attached.

There are no state or national ambient air quality standards for ROG because they are not classified as criteria pollutants. They are regulated, however, because a reduction in ROG emissions reduces certain chemical reactions that contribute to the formulation of ozone. ROG also are transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} levels and lower visibility.

Particulate Matter (PM_{10} and $PM_{2.5}$)

PM is the term for a mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye. Others are so small they can only be detected using an electron microscope.

Particle pollution includes “inhalable coarse particles,” with diameters larger than 2.5 micrometers and smaller than 10 micrometers and “fine particles,” with diameters that are 2.5 micrometers and smaller. For reference, $PM_{2.5}$ is approximately one-thirtieth the size of the average human hair.

These particles come in many sizes and shapes and can be made up of hundreds of different chemicals. Some particles, known as primary particles, are emitted directly from a source, such as construction sites, unpaved roads, fields, smokestacks, or fires. Others form in complicated reactions in the atmosphere from chemicals such as sulfur dioxides and nitrogen oxides that are emitted from power plants, industrial activity, and automobiles. These particles, known as secondary particles, make up most of the fine particle pollution in the United States.

Particle exposure can lead to a variety of health effects. For example, numerous studies link particle levels to increased hospital admissions and emergency room visits—and even to death from heart or lung diseases. Both long- and short-term particle exposures have been linked to health problems. Long-term exposures, such as those experienced by people living for many years in areas with high

particle levels, have been associated with problems such as reduced lung function, the development of chronic bronchitis, and even premature death. Short-term exposures to particles (hours or days) can aggravate lung disease, causing asthma attacks and acute bronchitis, and may increase susceptibility to respiratory infections. In people with heart disease, short-term exposures have been linked to heart attacks and arrhythmias. Healthy children and adults have not been reported to suffer serious effects from short-term exposures, although they may experience temporary minor irritation when particle levels are elevated.

Carbon Monoxide

CO is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. Higher levels of CO generally occur in areas with heavy traffic congestion.

CO is a public health concern because it combines readily with hemoglobin, reducing the amount of oxygen transported in the bloodstream. High levels of CO can affect even healthy people. At extremely high levels, CO is poisonous and can cause death.

Motor vehicles are the dominant source of CO emissions in most areas. CO is described as having only a local influence because it dissipates quickly. High CO levels develop primarily during winter, when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Because CO is a product of incomplete combustion, motor vehicles exhibit increased CO emission rates at low air temperatures. High CO concentrations occur in areas of limited geographic size, sometimes referred to as hot spots.

Toxic Air Contaminants

In addition to the above-listed criteria pollutants, toxic air contaminants (TACs), also known as hazardous air pollutants, are another group of pollutants of concern. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts are not expected to occur. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the state and federal governments have set ambient air quality standards.

According to the California Almanac of Emissions and Air Quality, the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being diesel particulate matter (DPM) from diesel-fueled engines (ARB 2009). Asbestos is a concern for construction projects. However, City of Fresno does not contain known potential for naturally occurring asbestos (NOA). In addition, the project would not include demolition of any buildings,

bridges or facilities that may have asbestos containing materials (ACM). Therefore, NOA and ACM are not a concern for the Project, and is not discussed in this section.

Mobile Source Air Toxics

MSAT are a subset of the 188 air toxics defined by the CAA. The MSATs are compounds emitted from highway vehicles and non-road equipment. Of the 21 identified MSAT compounds, the EPA has listed seven as "priority" MSATs: benzene, formaldehyde, DPM/diesel exhaust organic gases, acrolein, 1,3-butadiene, naphthalene, and polycyclic organic matter.

Diesel Particulate Matter

The ARB identified the PM emissions from diesel-fueled engines as a TAC in August 1998 under California's TAC program. The State of California, after a 10-year research program, determined in 1998 that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic (long-term) health risk. The California Office of Environmental Health Hazard Assessment recommends using a 70-year exposure duration for determining residential cancer risks. DPM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled vehicles contribute approximately 40 percent of the statewide total, with an additional 57 percent attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units.

2.2 - Climate Change and Greenhouse Gases

2.2.1 - Federal

Although climate change and greenhouse gas reduction is a concern at the federal level; currently there are no regulations or legislation that have been enacted specifically addressing greenhouse gas emissions reductions and climate change at the project level for transportation projects. Neither the United States Environmental Protection Agency (EPA) nor Federal Highway Administration (FHWA) has promulgated explicit guidance or methodology to conduct project-level greenhouse gas analysis. As stated on FHWA's climate change website (http://www.fhwa.dot.gov/hep/climate/index.htm), climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the

strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours traveled.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and Executive Order 13514- Federal Leadership in Environmental, Energy and Economic Performance.

Executive Order 13514 is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also direct federal agencies to participate in the interagency Climate Change Adaptation Task Force, which is engaged in developing a U.S. strategy for adaptation to climate change.

On April 2, 2007, in Massachusetts v. EPA, 549 U.S. 497 (2007), the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act and that the EPA has the authority to regulate greenhouse gases. The Court held that the EPA Administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

On December 7, 2009, the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)--in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the EPA's Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles, which was published on September 15, 2009. On May 7, 2010 the final Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards was published in the Federal Register.

EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced greenhouse gas emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing

the first-ever greenhouse gas regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle greenhouse gas regulations. These steps were outlined by President Obama in a memorandum on May 21, 2010.

The final combined EPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards will cut greenhouse gas emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On January 24, 2011, the EPA along with the U.S. Department of Transportation and the State of California announced a single timeframe for proposing fuel economy and greenhouse gas standards for model years 2017-2025 cars and light-trucks. Proposing the new standards in the same timeframe (September 1, 2011) signals continued collaboration that could lead to an extension of the current National Clean Car Program.

Council on Environmental Quality. On February 18, 2010, the Council on Environmental Quality (CEQ) provided a draft guidance memorandum for public consideration and comment on the ways in which federal agencies can improve their consideration of the effects of greenhouse gas emissions and climate change in evaluations of proposals for federal actions under NEPA (CEQ 2010).

CEQ proposes to advise federal agencies to consider, in scoping their NEPA analyses, whether analysis of the direct and indirect greenhouse gas emissions from their proposed actions may provide meaningful information to decision makers and the public. Specifically, if a proposed action would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of carbon dioxide equivalent greenhouse gas emissions on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public. For long-term actions that have annual direct emissions of less than 25,000 metric tons of carbon dioxide equivalent, CEQ encourages federal agencies to consider whether the action's long-term emissions should receive similar analysis. CEQ does not propose this as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of greenhouse gas emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of greenhouse gases.

2.2.2 - State

There have been significant legislative and regulatory activities that affect climate change and greenhouse gases in California. Legislative and regulatory activities pertinent to transportation are discussed below.

Assembly Bill 1493 (AB 1493), Pavley. Vehicular Emissions: Greenhouse Gases (AB 1493), 2002: requires the ARB to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year. In June 2009, the EPA Administrator granted a Clean Air Act waiver of preemption to California. This waiver allowed California to implement its own greenhouse gas emission standards for motor vehicles beginning with model year 2009. California agencies will be working with Federal agencies to conduct joint rulemaking to reduce greenhouse gas emissions for passenger cars model years 2017-2025.

Executive Order S-3-05: (signed on June 1, 2005, by Governor Arnold Schwarzenegger) the goal of this Executive Order is to reduce California's greenhouse gas emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

AB32 (AB 32), the Global Warming Solutions Act of 2006: AB 32 sets the same overall greenhouse gas emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that ARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the State's Climate Action Team.

Executive Order S-01-07: Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this Executive Order, the carbon intensity of California's transportation fuels is to be reduced by at least ten percent by 2020.

Senate Bill 97 (Chapter 185, 2007): required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. The Amendments became effective on March 18, 2010.

Senate Bill 375: SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 contains the following:

- Requires MPOs to include sustainable community strategies in their regional transportation plans for reducing greenhouse gas emissions,
- Aligns planning for transportation and housing, and
- Creates specified incentives for the implementation of the strategies. Concerning CEQA, SB 375, section 21159.28 states that CEQA findings determinations for certain projects are not required to reference, describe, or discuss growth inducing impacts or any project-specific or cumulative impacts from cars and light-duty truck trips generated by a project on global warming or the regional transportation network if the project:

- Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the ARB accepts as achieving the greenhouse gas emission reduction targets;
- Is consistent with that strategy (in designation, density, building intensity, and applicable policies); and
- Incorporates the mitigation measures required by an applicable prior environmental document.

Caltrans

Caltrans continues to be actively involved on the Governor's Climate Action Team as ARB works to implement the Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including $100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in greenhouse gas emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together are expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain CO_2 reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements.

Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high-density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by EPA and ARB. Lastly, the use of alternative fuels is also being considered; Caltrans is participating in funding for alternative fuel research at the UC Davis.

Table 9 summarizes Caltrans and statewide efforts that Caltrans is implementing in order to reduce greenhouse gas emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Table 9: Caltrans Climate Change / CO_2 Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Uses	Intergovernmental Review (IGR)	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	.07	2.17
Mainstream Energy & Greenhouse Gas into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, ARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.045 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, ARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

Acronyms:
$MMTCO_2e$ = Million metric tons of carbon dioxide equivalent
Source: Caltrans 2006.

2.2.3 - Local Agencies

San Joaquin Valley Air Pollution Control District

On December 17, 2009, the SJVAPCD Governing Board adopted "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA" and the policy: "District Policy - Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency." The SJVAPCD concluded that the existing science is inadequate to support quantification of the impacts that project-specific greenhouse gas emissions have on global climatic change. The SJVAPCD found that the effects of project-specific emissions to be cumulative, and without mitigation, their incremental contribution to global climatic change could be considered cumulatively considerable. The SJVAPCD found that this cumulative impact is best addressed by requiring all projects to reduce their greenhouse gas emissions, whether through project design elements or mitigation.

The SJVAPCD's approach is intended to streamline the process of determining if project-specific greenhouse gas emissions would have a significant effect. Projects exempt from the requirements of CEQA, and projects complying with an approved plan or mitigation program would be determined to have a less than significant cumulative impact. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources and have a certified Final CEQA document.

For non-exempt projects, those projects for which there is no applicable approved plan or program, or those projects not complying with an approved plan or program, the lead agency would evaluate the project against a performance-based standards and would require the adoption of design elements, known as a Best Performance Standard, to reduce greenhouse gas emissions. The Best Performance Standards have not yet fully been established, though they must be designed to effect a 29-percent reduction when compared with the "business-as-usual" projections identified in ARB's AB 32 Scoping Plan.

"Business-as-usual" is the emissions occurring in 2020 if the average baseline emissions during the 2002-2004 period were grown to 2020 levels, without control. These standards thus would carry with them pre-quantified emissions reductions, eliminating the need for project specific quantification. Therefore, projects incorporating Best Performance Standards would not require specific quantification of greenhouse gas emissions, and automatically would be determined to have a less than significant cumulative impact for greenhouse gas emissions.

For stationary source permitting projects, Best Performance Standards means, "The most stringent of the identified alternatives for control of greenhouse gas emissions, including type of equipment, design of equipment and operational and maintenance practices, which are achieved-in-practice for the identified service, operation, or emissions unit class." The SJVAPCD has identified Best Performance Standards for the following sources: boilers; dryers and dehydrators; oil and gas

extraction, storage, transportation, and refining operations; cogeneration; gasoline dispensing facilities; volatile organic compound control technology; and steam generators.

For development projects, Best Performance Standards means, "Any combination of identified greenhouse gas emission reduction measures, including project design elements and land use decisions that reduce project specific greenhouse gas emission reductions by at least 29 percent compared with business as usual."

Projects not incorporating Best Performance Standards would require quantification of greenhouse gas emissions and demonstration that business-as-usual greenhouse gas emissions have been reduced or mitigated by 29 percent. Quantification of greenhouse gas emissions would be required for all projects for which the lead agency has determined that an environmental impact report is required, regardless of whether the project incorporates Best Performance Standards.

Fresno Council of Governments

Fresno COG is currently working on the 2014 Regional Transportation Plan Sustainable Communities Strategy (SCS), which addresses greenhouse gas emissions reductions and other air emissions. SCS regional plans consider long-term housing, transportation and land use needs, and are being coordinated by the 8 San Joaquin Valley Air Basin MPOs.

City of Fresno

The City is working with a consultant to prepare a Climate Action Plan for municipal and community-wide sources. Although the City has made progress in the preparation of the Climate Action Plan, a draft plan has not been released as of the date of this document.

2.2.4 - Pollutants of concern

Gases that trap heat in the atmosphere are greenhouse gases, analogous to the way a greenhouse retains heat. The accumulation of greenhouse gases in the atmosphere regulates the earth's temperature. However, human activities have increased the amount of greenhouse gases in the atmosphere. Some greenhouse gases can remain in the atmosphere for hundreds of years. The following greenhouse gases are defined under Assembly Bill 32 but are not expected to be generated by the Project: chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Individual greenhouse gas compounds have varying global warming potential and atmospheric lifetimes. The global warming potential of a greenhouse gas is a measure of how much a given mass of a greenhouse gas is estimated to contribute to global warming. To describe how much global warming a given type and amount of greenhouse gas may cause, use is made of a metric called the carbon dioxide equivalent.

The calculation of the carbon dioxide equivalent is a consistent methodology for comparing greenhouse gas emissions since it normalizes various greenhouse gas emissions to a consistent reference gas, carbon dioxide. Carbon dioxide, the reference gas for global warming potential, has a

global warming potential of one. For example, methane's warming potential of 21 indicates that methane has a 21 times greater warming affect than carbon dioxide on a molecule per molecule basis. A carbon dioxide equivalent is the mass emissions of an individual greenhouse gas multiplied by its global warming potential. The following is a brief description of the most common greenhouse gases that may be emitted by the Project.

Carbon dioxide. Carbon dioxide (CO_2) is an odorless, colorless natural greenhouse gas. CO_2 is emitted from natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, gasoline, and wood. As discussed above, CO_2 has a global warming potential of 1.

Methane. Methane is a flammable greenhouse gas. A natural source of methane is from the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and ruminants such as cattle. Methane has a global warming potential of 21.

Nitrous oxide. Nitrous oxide, also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. Nitrous oxide is a highly potent greenhouse gas with a global warming potential of 310.

SECTION 3: PHYSICAL SETTING

The Project is located in the City of Fresno, in Fresno County, in the San Joaquin Valley Air Basin (Air Basin). The Air Basin consists of Kings Madera, San Joaquin, Merced, Stanislaus, and Fresno counties; as well as a portion of Kern County. The local agency with jurisdiction over air quality in the Basin is the San Joaquin Valley Air Pollution Control District (SJVAPCD). Regional and local air quality is impacted by topography, dominant airflows, atmospheric inversions, location, and season.

3.1.1 - Regional Air Quality

The information in this section is primarily from the SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts and the accompanying Technical Document (San Joaquin Valley Air Pollution Control District 2002).

The Air Basin has an "inland Mediterranean" climate and is characterized by long, hot, dry summers and short, foggy winters. Sunlight can be a catalyst in the formation of some air pollutants (such as ozone); the Air Basin averages over 260 sunny days per year.

The Air Basin is generally shaped like a bowl. It is open in the north and is surrounded by mountain ranges on all other sides. The Sierra Nevada mountains are along the eastern boundary (8,000 to 14,000 feet in elevation), the Coast Ranges are along the western boundary (3,000 feet in elevation), and the Tehachapi Mountains are along the southern boundary (6,000 to 8,000 feet in elevation).

Dominant Airflow

Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the Air Basin form natural horizontal barriers to the dispersion of air contaminants. The wind generally flows south-southeast through the valley, through the Tehachapi Pass and into the Southeast Desert Air Basin portion of Kern County. As the wind moves through the Air Basin, it mixes with the air pollution generated locally, generally transporting air pollutants from the north to the south in the summer and in a reverse flow in the winter.

Inversions

Generally, the temperature of air decreases with height, creating a gradient from warmer air near the ground to cooler air at elevation. This gradient of cooler air over warm air is known as the environmental lapse rate. Inversions occur when warm air sits over cooler air, trapping the cooler air near the ground. These inversions trap pollutants from dispersing vertically, and the mountains surrounding the San Joaquin Valley trap the pollutants from dispersing horizontally. Strong temperature inversions occur throughout the Air Basin in the summer, fall, and winter. Daytime temperature inversions occur at elevations of 2,000 to 2,500 feet above the San Joaquin Valley floor during the summer and at 500 to 1,000 feet during the winter.

The result is a relatively high concentration of air pollution in the valley during inversion episodes. These inversions cause haziness, which in addition to moisture may include suspended dust, a variety of chemical aerosols emitted from vehicles, particulates from wood stoves, and other pollutants. In the winter, these conditions can lead to CO "hot-spots" along heavily traveled roads and at busy intersections. During summer's longer daylight hours, stagnant air, high temperatures, and plentiful sunshine provide the conditions and energy for the photochemical reaction between ROG and NO_x, which results in the formation of ozone.

Location and Season

Because of the prevailing daytime winds and time-delayed nature of ozone, concentrations are highest in the southern portion of the Air Basin, such as around Bakersfield. Summers are often periods of hazy visibility and occasionally unhealthful air, while winter air quality impacts tend to be localized and can consist of (but are not exclusive to) odors from agricultural operations; soot or smoke around residential, agricultural, and hazard-reduction wood burning; or dust near mineral resource recovery operations.

Emissions Inventory

Background

An emissions inventory is an account of the amount of air pollution generated by various emissions sources. To estimate the sources and quantities of pollution, ARB, in cooperation with local air districts, other government agencies, and industry, maintains an inventory of California emission sources. Sources are subdivided into the four major emission categories: mobile, stationary, area-wide, and natural sources.

Mobile sources include on-road sources and off-road mobile sources. The on-road emissions inventory, which includes automobiles, motorcycles, and trucks, is based on an estimation of population, activity, and emissions of the on-road motor vehicles used in California. The off-road emissions inventory is based on an estimate of the population, activity, and emissions of various off-road equipment, including recreational vehicles, farm and construction equipment, lawn and garden equipment, forklifts, locomotives, commercial marine ships, and marine pleasure craft.

Stationary sources are large, fixed sources of air pollution, such as power plants, refineries, and manufacturing facilities. Stationary sources also include aggregated point sources. These include many small point sources, or facilities, that are not inventoried individually but are estimated as a group and reported as a single-source category. Examples include gas stations and dry cleaners. Each of the local air districts estimates the emissions for the majority of stationary sources within its jurisdiction. Stationary source emissions are based on estimates made by facility operators and local air districts. Emissions from specific facilities can be identified by name and location.

Area-wide sources include source categories associated with human activity that take place over a wide geographic area. Emissions from area-wide sources may be either from small, individual

sources, such as residential fireplaces, or from widely distributed sources that cannot be tied to a single location, such as consumer products, and dust from unpaved roads or farming operations (such as tilling).

Natural, or non-anthropogenic, sources include source categories with naturally occurring emissions such as geogenic (e.g., petroleum seeps), wildfires, and biogenic emissions from plants.

Emissions Inventory

The 2008 emissions inventory for the Fresno County portion of the Air Basin is available in ARB's 2009 Almanac Emission Projection Data. In the Project area, mobile emissions are the primary source of local pollution, accounting for approximately 63 percent of CO, 79 percent of oxides of nitrogen (NO_x), and 21 percent of reactive organic gases (ROG). For PM_{10} and $PM_{2.5}$, the majority of emissions are generated by area sources. Table 10 summarizes the estimated 2008 emissions for the main pollutants of concern in the area.

Table 10: 2008 Inventory Fresno County

Emission Category	Tons per Day				
	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$
Stationary Sources	16.7	8.9	16.6	4.2	2.9
Area-wide Sources	36.3	110.3	6.9	72.0	21.7
Mobile Sources	30.6	232.0	88.9	4.4	3.7
Natural Sources	63.9	14.6	0.5	1.5	1.3
Total	147.4	365.9	112.9	82.1	29.5
Source: ARB 2013.					

3.1.2 - Local Air Quality

Climate and Meteorology

The Fresno meteorological station is located in the Project vicinity. Weather data from this station shows an annual average temperatures in the area from an average monthly high of 98.3 degrees Fahrenheit (ºF) in June to an average monthly low of 37.3 ºF in December and January. The average annual rainfall in the Project area, as recorded between 1948 and 2013, is 10.89 inches (WRCC 2013).

Air Quality

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the Project area. The SJVAPCD operates an air monitoring station on Drummond Street, located south of East Jenson Avenue Bypass between Maple Avenue and Chestnut Avenue, approximately 3.2 miles southeast of the Project. The Drummond Street ambient air monitoring station (Drummond Station) measures 1 hour and 8-hour ozone, daily PM_{10}, 8-hour CO, and 1-hour NO_2. As CO is a highly localized pollutant, the data from the Drummond station would not be applicable to the Project area.

The North 1st Street and Garland Avenue monitoring stations measure PM2.5 and are located approximately 3.5 miles northeast of the project site. The North 1st Street monitoring station was recently closed and replaced by the Garland Avenue monitoring station. Table 11 summarizes 2010 through 2012 published monitoring data from ARB's Aerometric Data Analysis and Management System (iADAM) for the Drummond Station, North 1st Station and Garland Avenue Station. The PM2.5 measurements for 2010 and 2011 are from the North 1st Station, and the 2012 measurement is from the Garland Station. .

Table 11: Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Metric	Year		
			2010	2011	2012
Ozone	1 Hour	Max 1 Hour (ppm)	0.108	0.129	0.127
		Days > CAAQS (0.09 ppm)	5	27	9
	8 Hour	Max 8 Hour (ppm)[1]	0.092	0.105	0.108
		Days > CAAQS (0.07 ppm)	24	73	75
		Days > NAAQS (0.075 ppm)	13	52	46
Particulate matter (PM_{10})	24 Hour	Federal Annual Average (µg/m^3)	26.9	31.4	42.9
		Max 24 Hour (µg/m^3)	66.5	91.3	114.3
		Est. Days > CAAQS (50 µg/m^3)	*	72.0	*
		Est. Days > NAAQS (150 µg/m^3)	*	0.0	*
Fine particulate matter ($PM_{2.5}$)	Annual	Annual Average (µg/m^3)	13.0	15.4	14.0
	24 Hour	Max 24 Hour (µg/m^3)[2]	62.0	78.5	88.8
		Est. Days > National Standard (35 µg/m^3)	21.7	39.0	29.4
Carbon monoxide (CO)	8 Hour	Max 8 Hour (ppm)	1.45	1.73	*
		Days > State Standard (9.0 ppm)	0	0	0
		Days > National Standard (9 ppm)	0	0	0
Nitrogen dioxide (NO_2)	Annual	Annual Average (ppm)	*	0.013	*
	1 Hour	Max 1 Hour (ppm)	0.062	0.069	*
		Days > State Standard (0.18 ppm)	0	0	0

Abbreviations:
> = exceed ppm = parts per million µg/m^3 = micrograms per cubic meter
* = Insufficient/No Data Max = maximum Est. = Estimated
CAAQS = California ambient air quality standards
NAAQS = National ambient air quality standards
[1] From the California Measurement
[2] Federal Annual Average
Source: ARB 2013.

Local Sources of Air Pollution

The adjacent land uses are dominated by commercial, retail development, and government facilities which generate mobile and area source emissions. State Route 99 is located approximately 0.4 mile west of the Project's western terminus. State Route 41 is located approximately 0.3 mile south and southeast of the project's southern terminus.

Sensitive Receptors

Those individuals who are sensitive to air pollution include children, the elderly, and persons with pre-existing respiratory or cardiovascular illness. The SJVAPCD considers a sensitive receptor to be a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. There are three apartment buildings in the vicinity of the project. The residential locations the Masten Towers, Hotel Californian, and the Pacific Southwest Building.

- **Masten Towers** is located at the northeast corner of Fresno Street and Broadway Street includes 200 units with one bedroom and studio apartments. Ten percent of the apartments (20 units) accommodate persons with physical disabilities (Masten Towers 2013).
- The **Hotel Californian** is at the southwest corner of Kern Street and Van Ness Avenue has 217 rooms. Currently, the building provides housing for low-income seniors (Balch 2013).
- The **Pacific Southwest Building** is located at the southeast corner of Mariposa Mall and Fulton Mall accommodates approximately 12 people in 8 units. Currently, the housing is provided to above moderate income persons. Residential units are located on the 10th floor and greater (Balch 2013).

3.1.3 - Greenhouse Gas Emissions and Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gases, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization's in 1988, has led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of greenhouse gases related to human activity that include carbon dioxide (CO_2), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 -tetrafluoroethane), and HFC-152a (difluoroethane)..

Transportation sources (passenger cars, light duty trucks, other trucks, buses and motorcycles) in the state of California make up the largest source (second to electricity generation) of greenhouse gas emitting sources. Conversely, the main source of greenhouse gas emissions in the United States (U.S.) is electricity generation followed by transportation. The dominant greenhouse gas emitted is CO_2, mostly from fossil fuel combustion.

There are four primary strategies for reducing greenhouse gas emissions from transportation sources: 1) improve system and operation efficiencies, 2) reduce growth of vehicle miles traveled (VMT) 3) transition to lower greenhouse gas fuels and 4) improve vehicle technologies. To be most effective all four should be pursued collectively. The following regulatory setting section outlines state and federal efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

Potential Environmental Effects

Worldwide, average temperatures are likely to increase by 1.8 degrees Celsius (°C) to 4°C, or approximately 3 °F to 7°F by the end of the 21st century (IPCC 2007). However, a global temperature increase does not translate to a uniform increase in temperature in all locations on the earth. Regional climate changes are dependent on multiple variables, such as topography. One region of the Earth may experience increased temperature, increased incidents of drought and similar warming effects, whereas another region may experience a relative cooling. According to the Intergovernmental Panel on Climate Change's Working Group II Report, climate change impacts to North America may include diminishing snowpack, increasing evaporation, exacerbated shoreline erosion, exacerbated inundation from sea level rising, increased risk and frequency of wildfire, increased risk of insect outbreaks, increased experiences of heat waves, and rearrangement of ecosystems, as species and ecosystem zones shift northward and to higher elevations (IPCC 2007).

For California, climate change has the potential to incur/exacerbate the following environmental impacts (CAT 2006):

- Reduced precipitation;
- Changes to precipitation and runoff patterns;
- Reduced snowfall (precipitation occurring as rain instead of snow);
- Earlier snowmelt;
- Decreased snowpack;
- Increased agricultural demand for water;
- Intrusion of seawater into coastal aquifers;
- Increased agricultural growing season;
- Increased growth rates of weeds, insect pests and pathogens;
- Inundation of low-lying coastal areas by sea level rise;
- Increased incidents and severity of wildfire events; and,
- Expansion of the range and increased frequency of pest outbreaks.

Although certain environmental effects are widely accepted to be a potential hazard to certain locations, such as rising sea level for low-laying coastal areas, it is currently infeasible to predict all environmental effects of climate change on any one location.

SECTION 4: IMPACT ANALYSIS

4.1 - Transportation Conformity Impacts

4.1.1 - Regional Conformity

To determine if a project is exempt from regional conformity, 40 CFR 93.127 contains a list of projects that are except from regional emissions analyses. The Project is not exempt from regional emissions analysis. Therefore, the Project's consistency with the applicable Regional Transportation Plan (RTP) and Federal Transportation Improvement Program (FTIP) is provided below.

Regional Transportation Plan

The Project was included in the regional emissions analysis conducted by Fresno COG for the conforming 2011 Regional Transportation Plan (2011 RTP), under the RTP ID FRE500768, as identified in the 2011 RTP Amendment #2. The description of RTP ID FRE500768 in the RTP projects list is:

> In the City of Fresno, at 4 locations; reintroduce 2-lane undivided complete streets.
>
> 1) Fulton Mall between Tuolumne and Inyo Streets
> 2) Merced Mall from Congo Alley to Federal Alley
> 3) Mariposa Mall from Broadway Street to Federal Alley
> 4) Kern Mall from Fulton Mall to Federal Alley

FHWA determined the 2011 RTP to conform to the SIP on December 14, 2010. This analysis found that the 2011 RTP and, therefore, the individual projects contained in the 2011 RTP, are conforming projects, and will have air quality impacts consistent with those identified in the state implementation plans for achieving the NAAQS. The FHWA's conformity determination letter is contained in Appendix A.

The 2011 RTP Amendment #2 was adopted by Fresno COG and the 2011 RTP Amendment #2 conformity was approved by FHWA on December 14, 2012. The Project's design concept and scope have not changed significantly from what was analyzed in the 2011 RTP Amendment #2. Therefore, the Project is consistent with Amendment #2 of the 2011 RTP. The relevant page of Amendment #2 modeling list and the FHWA's conformity determination are provided in Appendix A.

Federal Transportation Improvement Program

The Project is also included as project FRE130069 in the 2013 Federal Transportation Improvement Program (2013 FTIP) prepared by Fresno COG. The description of FRE13069 in the FTIP projects list is:

In the City of Fresno, at 4 locations; reintroduce 2-lane undivided complete streets.

1) Fulton Mall between Tuolumne and Inyo Streets
2) Merced Mall from Congo Alley to Federal Alley
3) Mariposa Mall from Broadway Street to Federal Alley
4) Kern Mall from Fulton Mall to Federal Alley

The Project is also listed in the 2013 FTIP Amendment #1 as project FRE130069, with the following project description and narrative:

Project Description. Fulton Mall and Mariposa Mall Street Reconstruction

Narrative. New Project TCSPPP: ► Add funds in 12/13 in ENG for $1,000

The Project's open to the public year is consistent with (within the same regional emission analysis period as) the construction completion date identified in the FTIP and the RTP. The FTIP gives priority to eligible Transportation Control Measures (TCMs) identified in the SIP and provides sufficient funds to provide for their implementation.

FHWA determined the 2013 FSTIP, including the MPO 2013 FTIPs and related 2013 FTIP Amendments, to conform to the SIP on December 14, 2012. The FHWA's conformity determination letter is contained in Appendix A. As with the RTP, the FTIP may be amended with new projects or revisions to project descriptions, costs or schedule. The FTIP's amendments include Amendments 1 through 6. Amendments were adopted by Fresno COG on various dates between August 2012 and May 2013, with FHWA December 2012 approval includes approval of 2013 FTIP Amendment 1, which was adopted in August 2012. The Project is included in the 2013 FTIP projects, including Amendment 1. The relevant page from the 2013 FTIP projects list is provided in Appendix A.

Conclusion

Therefore, because the Project is contained in the 2011 RTP and 2013 FTIP, because both plans have been determined to be in conformity, and because the Project's design concept and scope have not changed significantly from what was analyzed in the plans, the Project is consistent with regional conformity. Additional regional conformity analysis is not required.

4.1.2 - Project-Level Conformity

PM_{10} and $PM_{2.5}$

As discussed in 40 CFR 93.102(b), *Geographically applicability*, the provisions of Subpart A (Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. or the Federal transit Laws) apply in nonattainment and maintenance areas for transportation criteria pollutants for which the area is designated nonattainment or has a maintenance plan. As described in the Regulatory Setting, the

Project area is in attainment or unclassified for the federal PM_{10} standards. Therefore, PM_{10} hot-spot analysis is not required. However, a $PM_{2.5}$ hot-spot analysis is required. As stated by 40 CFR §93.123:

> (b) PM10 and PM2.5 hot-spot analyses.
>
> (1) The hot-spot demonstration required by §93.116 must be based on quantitative analysis methods for the following types of projects:
>
> (i) New highway projects that have a significant number of diesel vehicles, and expanded highway projects that have a significant increase in the number of diesel vehicles;
>
> (ii) Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;
>
> (iii) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;
>
> (iv) Expanded bus and rail terminals and transfer points that significantly increase the single location; and
>
> (v) Projects in or affecting locations, areas, or categories of sites which are identified in the PM10 or PM2.5 applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.
>
> (2) Where quantitative analysis methods are not available, the demonstration required by §93.116 for projects described in paragraph (b)(1) of this section must be based on a qualitative consideration of local factors.
>
> (3) DOT, in consultation with EPA, may also choose to make a categorical hot-spot finding that §93.116 is met without further hot-spot analysis for any project described in paragraph (b)(1) of this section based on appropriate modeling. DOT, in consultation with EPA, may also consider the current air quality circumstances of a given PM2.5 or PM10 nonattainment or maintenance area in categorical hot-spot findings for applicable FHWA or FTA projects.
>
> (4) The requirements for quantitative analysis contained in this paragraph (b) will not take effect until EPA releases modeling guidance on this subject and announces in the Federal Register that these requirements are in effect.

Furthermore, the $PM_{2.5}$ hot-spot analysis requirement of 40 CFR 93.116(a) contains the statement:

> … This criterion is satisfied without a hot-spot analysis in PM_{10} and $PM_{2.5}$ nonattainment and maintenance areas for FHWA/FTA projects that are not identified in §93.123(b)(1).

The EPA and the FHWA issued joint guidance on how to perform qualitative hot-spot analyses in $PM_{2.5}$ and PM_{10} nonattainment and maintenance areas. This guidance provides information for State and local agencies to meet the $PM_{2.5}$ and PM_{10} hot-spot analysis requirements established in the March 10, 2006, final transportation conformity rule (71 FR 12468). The 2006 guidance supersedes FHWA's September 12, 2001, "Guidance for Qualitative Project-Level: Hot-spot Analysis in PM10 Nonattainment and Maintenance Areas" (Qualitative $PM_{2.5}$ and PM_{10} Guidance).

The Qualitative $PM_{2.5}$ and PM_{10} Guidance states that the guidance is to be used to complete qualitative $PM_{2.5}$ hot-spot analyses only for "projects of air quality concern" (POAQC) as defined in 40 CFR 93.123(b)(1). Specifically:

> For all $PM_{2.5}$ 5 areas, this guidance would be used to complete qualitative $PM_{2.5}$ hot-spot analyses only for "projects of air quality concern" as defined in the final rule by 40 CFR 93.123(b)(1). The final rule specifies that projects of air quality concern are certain highway and transit projects that involve significant levels of diesel traffic, or any other project that is identified by the $PM_{2.5}$ SIP as a localized air quality concern.
>
> A qualitative $PM_{2.5}$ hot-spot analysis is not required for projects that are not an air quality concern. For these types of projects, state and local project sponsors should briefly document in their project-level conformity determinations that Clean Air Act and 40 CFR 93.116 requirements were met without a hot-spot analysis, since such projects have been found to not be of air quality concern under 40 CFR 93.123(b)(1).

The project would be reintroducing a 2-lane surface streets in the City of Fresno; the project is not a new or expanded highway project. In addition, the project would not involve trip-generating land uses or otherwise involve a significant number of diesel vehicles. Therefore, the project would not affect intersections at a LOS D, E, or F with a significant number of diesel vehicles. The project does not include a new or expanded bus or rail terminal or transfer points. Finally, the project site is not in the 2012 $PM_{2.5}$ Plan as a site of violation or possible violation. Therefore, the project does not meet the criteria listed in §93.123(b)(1) which identifies "projects of air quality concern" that must prepare a hot-spot analysis.

An Interagency Consultation Memo was circulated by Caltrans on July 30, 2013, requesting concurrence that the project was not a POAQC. The FHWA provided concurrence that the project is not a POAQC on August 5, 2013. The Interagency Consultation Memo and FHWA's concurrence letter are provided in Appendix B. As such, a quantified PM2.5 hot-spot analysis is not required. As specified in 40 CFR 93.116(a) and the Qualitative $PM_{2.5}$ and PM_{10} Guidance, the requirement is satisfied without further qualitative hot-spot analysis. The project would not cause or contribute to any new localized $PM_{2.5}$ violations, increase the frequency or severity of any existing $PM_{2.5}$ violations, or delay timely attainment of the $PM_{2.5}$ NAAQS or any required interim emission reductions or other milestones in the $PM_{2.5}$ nonattainment area.

CO Hot-spot

A CO hot spot is a localized concentration of CO that is above the state or national 1-hour or 8-hour CO ambient air standards. Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles.

The Air Basin is in maintenance of the federal CO standards, therefore a CO analysis is not required for the conformity analysis.

4.2 - Project-Level Air Quality Impacts

4.2.1 - CO Hot-spot

This analysis utilizes the Transportation Project-Level Carbon Monoxide Protocol (CO Protocol) to determine if the Project would significantly contribute to a localized exceedance of the state or national CO ambient air standards, starting with Section 3 (Determination of Project Requirements), of the CO Protocol. The Protocol is the standard method for project-level CO analysis by Caltrans. The steps of analysis listed below are available in Figure 1 (Requirements for New Projects) of the CO Protocol (UCD 1997). In addition, a copy of the CO Protocol's Figure 1, highlighted to illustrate the Project's analysis, is provided in Appendix C. As shown below, the project would not result in a CO hot-spot; therefore, project-generated impacts to CO, a Clean Air Act criteria pollutant, would be minimal.

Protocol Question 1: 3.1.1. Is this project exempt from **all** emissions analyses? (see Table 1)

Project Answer 1: No.

Protocol Question 2: 3.1.2. Is project exempt from regional emissions analyses? (see Table 2)

Project Answer 2: No.

Protocol Question 3: 3.1.3. Is project defined as regionally significant?

40 CFR 93.101 defines 'regionally significant' as:

> A transportation project (other than an exempt project) that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel.

Project Answer 3: Yes. The project is not identified in the 2013 FTIP as a regionally significant project. The project would not involve access to and from an area outside the region, to major activity centers in the region, major planned development, or transportation terminals. The project alignment is not a principal arterial highway or fixed guideway transit facility.

The project as proposed would be classified as a "collector" roadway under the City of Fresno's current General Plan (2025 General Plan), as well as the draft Fresno General Plan Update. However, the project would reintroduce a 2-lane collector roadway in the Primary Center of the City.

Protocol Question 4: 3.1.4. Is project in a federal attainment area? (classified as attainment of all transportation-related criteria pollutants, which are ozone, CO, NO_2, PM_{10} and $PM_{2.5}$)

Project Answer 4: No. The Project area is designated nonattainment of the federal 8-hour ozone standard and the federal $PM_{2.5}$ standard. The Project area is designated attainment for all other transportation-related criteria pollutants.

Protocol Instruction: Continue on to next page Box 3.1.5.

Protocol Question 5: 3.1.5. Is there a currently conforming RTP and TIP?

Project Answer 5: Yes. FHWA determined the 2013 Federal Statewide Transportation Improvement Program (2013 FSTIP), including the 2013 FTIPs and related FTIP amendments, to conform to the SIP on December 14, 2012. The Project is included in the 2013 FTIP projects, Amendments 1. In addition, the Project was included in the conformity modeling list for Amendment #2 of the 2011 RTP, which as approved by FHWA on December 14, 2012. See Appendix A for conformity documentation.

Protocol Question 6: 3.1.6. Is the project included in the regional emissions analysis supporting the currently conforming RTP and TIP?

Project Answer 6: Yes. The Project is included in the 2011 RTP and 2013 FTIP as project FRE500768 and FRE130069, respectively. See Appendix A.

Protocol Question 7: 3.1.7. Has project design concept and/or scope changed significantly from that in the regional analysis?

Project Answer 7: No.

Protocol Instruction: 3.1.9. Examine local impacts. Proceed to Section 4.

The following questions are from Section 4 of the CO protocol. The steps of analysis listed below are available in Figure 3 (Local CO Analysis) of the CO Protocol. In addition, a copy of the CO Protocol's Figure 3, highlighted to illustrate the project's analysis, is provided in Appendix C.

Protocol Question 8: Is the project in a CO nonattainment area?

Project Answer 8: No.

Protocol Question 9: Was the area redesignated as "attainment" after the 1990 Clean Air Act? (see Section 4.1.2)

Project Answer 9: No.

Protocol Instruction: Proceed to Level 7.

Protocol Question 10: Does the project worsen air quality? (see Section 4.7.1)

Per Section 4.7.1 of the CO Protocol, there are three criteria to use to determine whether a project is likely to worsen air quality for the area substantially affected by the project. Those criteria are provided below:

Protocol Criterion 1: The project significantly increases the percentage of vehicles operating in cold start mode.

Protocol Criterion 2: The project significantly increases traffic volumes. Increases in traffic volumes in excess of 5 percent should be considered potentially significant. Increasing the traffic volume by less than 5 percent may still be potentially significant if there is also a reduction in average speeds.

Protocol Criterion 3: The project worsens traffic flow. For uninterrupted roadway segments, a reduction in average speeds (within a range of 3 to 50 mph) should be regarded as worsening traffic flow. For intersection segments, a reduction in average speed or an increase in average delay should be considered as worsening traffic flow.

Project Answer 10: Yes. According to the CO Protocol, only projects that are likely to worsen air quality necessitate further analysis. The Project answers to the Question 5 criteria are provided below:

Answer Criterion 1: The Project would not increase the percentage of vehicles operating in cold start mode. As shown in the Traffic Impact Analysis and in Table 3 of this document, the Project (identified in the Traffic Impact Analysis as Build Alternatives) would result in reassignment of

existing daily trips through the area above the no build scenario (identified as in the Traffic Impact Analysis No Build Alternative). Although the table appears to show a minor (0.1 percent in 2015 and 1.2 percent in 2035) increase in trips through the project area, there is not a trip increase from Build Scenarios but a reassignment of existing trips through the project area. Alternative 1 and Alternative 2 would not increase the number of trips on the project area roadways compared to Alternative 3.

Answer Criterion 2: The Project would not increase traffic volumes. As shown in the Traffic Impact Analysis and in Table 3 of this document, the Project (identified in the Traffic Impact Analysis as Build Alternatives) would not increase daily trips above the no build scenario (identified as in the Traffic Impact Analysis No Build Alternative). Although the table appears to show a minor (0.1 percent in 2015 and 1.2 percent in 2035) increase in trips through the project area, there is not a trip increase from Build Scenarios but a reassignment of existing trips through the project area. Alternative 1 and Alternative 2 would not increase the number of trips on the project area roadways compared to Alternative 3. Therefore, the Project would not result in a substantial increase in the peak-hour trips above the No Build Scenario.

Answer Criterion 3: As identified in Table 5, the Build Alternatives would result in a minor 2-second increase in delay at the Fresno Street/Van Ness Avenue intersection in year 2015, which would result in a change of LOS from C to D. In addition, the Build Alternatives would reduce the LOS at the Tuolumne Street/Fulton Street intersection from B to C in year 2035 (see Table 6). The project would result in an improvement of intersection operation at multiple intersections, including: Tuolumne Street/Van Ness Avenue, Tulare Street/Fulton Street, Ventura Avenue/ H Street (PM Hour) in 2015; Fresno Street/ H Street (AM Hour) Tulare Street /Fulton Street, Inyo Street/ H Street (PM Hour) in 2035.

Because further analysis is warranted, a microscalae emissions analysis was prepared for the Build Alternatives. This analysis follows guidelines recommended by the CO Protocol (University of California, Davis 1997) and the SJVAPCD. According to the CO Protocol, intersections with Level of Service (LOS) E or F require detailed analysis. Using the CALINE4 model, potential CO hot spots were analyzed at the following intersections:

- Intersection 9 Fresno Street/Van Ness Avenue, Baseline Plus Project Conditions, PM Peak Hour

- Intersection 16 Ventura Avenue /H Street, Cumulative Plus Project Conditions, PM Peak Hour

There are several inputs to the CALINE4 model. One input is the traffic volumes, which is from the project-specific traffic report. The traffic volumes with the project were used for the buildout scenario as well as emission factors generated using the EMFAC2007 model for the year 2015 and 2035.

As shown in Table 12, the estimated 1-hour and 8-hour average CO concentrations at build-out in combination with background concentrations are below the state and federal standards. No CO hot spots are anticipated because of reassigned traffic emissions by the project in combination with other anticipated development in the area. Therefore, the mobile emissions of CO from the project are not anticipated to contribute substantially to an existing or projected air quality violation of CO.

Table 12: Localized Carbon Monoxide Concentrations

Intersection	Peak Hour	Estimated CO Concentration (ppm)		Significant Impact?
		1 Hour	8 Hour	
9) Fresno Street/Van Ness Avenue, Baseline Plus Project Conditions	PM	3.0	2.1	No
16) Ventura Avenue /H Street, Cumulative Plus Project Conditions	PM	2.8	1.9	No

Notes:
The 1-hour concentration is the CALINE4 output (see Appendix D for model output) plus the 1-hour background concentration of 2.47 ppm (Calculated by dividing the 8-hour measurement from Table 11 by the persistence factor of 0.7).
The 8 hour project increment was calculated by multiplying the 1 hour CALINE4 output by 0.7 (persistence factor), then adding the 8 hour background concentration of 1.73 ppm (from Table 11).
A significant impact would occur if the estimated CO concentration is over the 1-hour state standard of 20 ppm or the 8-hour state/federal standard of 9 ppm.

4.2.2 - Construction-Generated Criteria Pollutants

Thresholds

The San Joaquin Valley Air Pollution Control (SJVAPCD) provides recommended significance thresholds in their Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI). The SJVAPCD's thresholds are provided in Table 13. The SJVAPCD's thresholds are utilized for the majority of CEQA impact analysis, as requested by the CEQA Lead Agency.

Table 13: Significant Emissions Thresholds

Pollutant	Annual Threshold (tons)
Oxides of nitrogen (NO_x)	10
Reactive organic gases (ROG)	10
Particulate matter (PM_{10})	15
Particulate matter ($PM_{2.5}$)	15
Note: Source: SJVAPCD 2002	

Construction Emissions

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of activity, and the prevailing weather conditions. The methodology developed for the purposes of this quantitative air quality analysis was based on information available at the time of analysis; actual equipment and activity intensity at the time of construction may vary from those analyzed in this document. However, it is anticipated that the level of activity analyzed is representative of activities that will occur during construction. The main sources of air pollutants associated with the Project include off-road construction equipment exhaust, worker trips, and fugitive PM_{10} and $PM_{2.5}$ emissions. The annual emissions for project demolition activity were estimated using CalEEMod. The annual emissions for project construction were estimated using the Roadway Construction Emissions Model, version 7, developed by Sacramento Metropolitan Air Quality Management District. The assumed construction phase durations are shown in Table 14 and Table 15.

Table 14: Construction Duration - Fulton Mall

Phase	Duration		
	Weeks	Working Days	Months
Demolition	3 weeks	15 days	0.75 months
Soil Excavation and Export	6 weeks	30 days	1.5 months
Storm Drain Replacement	12 weeks	60 days	3 months
Curb and Gutter	6 weeks	30 days	1.5 months
Asphalt and Rock	6 weeks	30 days	1.5 months
Sidewalk	12 weeks	60 days	3 months

Table 15: Construction Duration - Cross Malls

Phase	Duration		
	Weeks	Working Days	Months
Demolition	2 weeks	10 days	0.5 months
Soil Excavation and Export	3.75 weeks	19 days	0.94 months
Storm Drain Replacement	6 weeks	30 days	1.5 months
Curb and Gutter	3 weeks	15 days	0.75 months
Asphalt and Rock	3 weeks	15 days	0.75 months
Sidewalk	5 weeks	25 days	1.25 months

Based on the roadway widths and lengths to be improved, as discussed in the Project description, and the Project layout, the emissions analysis assumed the following construction activity. The construction activity also includes minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane striping adjacent to the ends of the existing Mall rights-of-way. These minor improvements would provide transitional streetscape to accommodate the project.

Fulton Street

- Approximately 2,747 feet of length (0.52 mile) would be paved,
- Approximately 5.0 acres would be disturbed during the course of the Fulton Street construction,
- A maximum of 0.1 acre would be disturbed on any one day,
- Project construction would begin in 2014,
- Demolition would result in 6,867 tons of material removed; 18 tons per truck, 382 one-way trips for materials hauling; average 8-miles per one-way trip for a total of 6,112 truck trip miles
- Soils Excavation
  - Option 1 soils excavation would result in 4,477 cubic yards (cyd) of materials; 16 cyd per truck at 8 miles per one-way trip for a total of 4,480 soils hauling truck miles.
  - Option 2 soils excavation would result in 4,070 cyd of materials; 16 cyd per truck at 8 miles per one-way trip for a total of 4,070 soils hauling truck miles.
- Storm Drain replacement would result in 2,440 cyd of onsite materials movement with no export or import,
- Curb and Gutter would result in 286 cyd of soils removal, at 8 cyd per truck and 8 miles per one-way trip for a total of 288 on-road hauling miles,
- Asphalt and Rock

  Rock

- Option 1 asphalt and rock would result in emplacement of 3,000 cyd (5,264 tons) of rock; 20 tons per truck at 8 miles per one-way trip for 4,208 miles of rock hauling trips.
- Option 2 asphalt and rock would result in emplacement of 2,727 cyd (4,785 tons) of rock; 20 tons per truck at 8 miles per one-way trip for 3,840 miles of rock hauling trips.

Asphalt

- Option 1 asphalt and rock would result in emplacement of 1,522 cyd (2,979 tons) of asphalt; 22 tons per truck at 8 miles per one-way trip for 2,160 miles of asphalt hauling trips.
- Option 2 asphalt and rock would result in emplacement of 1,384 cyd (2,708 tons) of asphalt; 22 tons per truck at 8 miles per one-way trip for 1,968 miles of asphalt hauling trips.

- Sidewalks
  - Option 1 sidewalks would result in 1,394 cyd of concrete emplacement; 8 cyd per truck at 8 miles per one-way trip for a total of 2,784 concrete hauling truck miles.
  - Option 2 sidewalks would result in 1,549 cyd of concrete emplacement; 8 cyd per truck at 8 miles per one-way trip for a total of 3,104 concrete hauling truck miles.

Cross Malls

- Approximately 1,410 feet of length (0.27 mile) would be paved,
- Approximately 2.6 acres would be disturbed during the course of the Cross Malls street construction,
- A maximum of 0.1 acre would be disturbed on any one day,
- Project construction would begin in 2014,
- Demolition
  - Mariposa Mall demolition would result in 25,335 cubic yards (1,900 tons) of materials removed; 18 tons per truck at 8 miles per one-way trip for a total of 1,696 materials hauling truck miles.
  - Kern and Merced Malls demolition would result in 47,004cubic yards (3,525 tons) of materials removed; 18 tons per truck at 8 miles per one-way trip for a total of 3,136 materials hauling truck miles.
- Soils Excavation
  - Mariposa Mall soils excavation would result in 1,239 cubic yards (cyd) of materials; 16 cyd per truck at 8 miles per one-way trip for a total of 1,232 soils hauling truck miles.
  - Kern and Merced Streets soils excavation would result in 991 cubic yards (cyd) of materials; 16 cyd per truck at 8 miles per one-way trip for a total of 992 soils hauling truck miles.
- Storm Drain replacement would result in 1,253 cyd of onsite materials movement with no export or import,

- Curb and Gutter would result in 141 cyd of soils removal, at 8 cyd per truck and 8 miles per one-way trip for a total of 144 on-road hauling miles,
- Asphalt and Rock

  Rock
  - Mariposa Mall asphalt and rock would result in emplacement of 830 cyd (1,456 tons) of rock; 20 tons per truck at 8 miles per one-way trip for 1,168 miles of rock hauling trips.
  - Kern and Merced Streets asphalt and rock would result in emplacement of 664 cyd (1,166) of rock; 20 tons per truck at 8 miles per one-way trip for 944 miles of rock hauling trips.

  Asphalt
  - Mariposa Mall asphalt and rock would result in emplacement of 421 cyd (824 tons) of asphalt; 22 tons per truck at 8 miles per one-way trip for 592 miles of asphalt hauling trips.
  - Kern and Merced Streets asphalt and rock would result in emplacement of 337 cyd (660 tons) of asphalt; 22 tons per truck at 8 miles per one-way trip for 480 miles of asphalt hauling trips.
- Sidewalks would result in 918 cyd of concrete emplacement; 8 cyd per truck at 8 miles per one-way trip for a total of 1,840 concrete hauling truck miles.

Demolition activity was estimated using CalEEMod. For the purposes of modeling the on-road hauling emission for soils export, rock import, asphalt import, and concrete export, for the non-demolition phases in the Roadway Construction Emissions Model, a summary of hauling miles was prepared. Summaries of hauling miles for Fulton Mall Alternative 1, Fulton Mall Alternative 2, and the Cross Malls construction are provided in Table 16, Table 17, and Table 18, respectively. The CalEEMod and Roadway Construction Emissions Model output is provided in Appendix E.

Table 16: Hauling Miles- Fulton Mall Alternative 1

Phase	Hauling Parameter		
	Round Trip Length (Miles)	Total Round Trips	Total Miles
Soil Excavation and Export	16	280	4,480
Curb and Gutter	16	18	288
Rock	16	263	4,208
Asphalt	16	135	2,160
Sidewalk	16	174	2,784
Total	-	870	13,920

Table 17: Hauling Miles- Fulton Mall Alternative 2

Phase	Hauling Parameter		
	Round Trip Length (Miles)	Total Round Trips	Total Miles
Soil Excavation and Export	16	254	4,070
Curb and Gutter	16	18	288
Rock	16	240	3,840
Asphalt	16	123	1,968
Sidewalk	16	196	3,140
Total	-	832	13,306

Table 18: Hauling Miles - Cross Malls

Phase	Hauling Parameter		
	Round Trip Length (Miles)	Total Round Trips	Total Miles
Soil Excavation and Export - Mariposa	16	77	1,232
Soil Excavation and Export - Kern and Merced	16	62	992
Curb and Gutter	16	9	144
Rock - Mariposa	16	73	1,168
Rock - Kern and Merced	16	59	944
Asphalt - Mariposa	16	37	592
Asphalt - Kern and Merced	16	30	480
Sidewalks	16	155	1,840
Total	-	462	7,392

Results

The Project's construction emissions (equipment exhaust and dust generation) during construction are compared with the SJVAPCD's significance thresholds and are summarized in Table 19. As shown in Table 19, unmitigated emissions during construction do not exceed the daily or annual significance thresholds. However, the following mitigation is added to minimize the project's potential impacts from fugitive dust and equipment exhaust emissions:

Table 19: Annual Construction Emissions (Alternative 1)

Activity	Emissions (tons per day)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Fulton Mall Demolition	0.07	0.57	0.15	0.04
Fulton Mall Soils Excavation, Storm Drain Replacement Curb and Gutter, Rock and Asphalt, Sidewalks	0.60	5.30	0.40	0.30
Subtotal Fulton Mall	*0.67*	*5.87*	*0.55*	*0.34*
Cross Malls Demolition	0.05	0.39	0.10	0.03
Cross Malls Soils Excavation, Storm Drain Replacement Curb and Gutter, Rock and Asphalt, Sidewalks	0.30	2.70	0.20	0.10
Subtotal Cross Mall	*0.35*	*3.09*	*0.30*	*0.13*
Total Project Construction	1.02	8.96	0.85	0.47
SJVAPCD Threshold	10	10	10	15
Exceed Threshold?	No	No	No	No
Source: MBA 2013, Appendix E				

Table 20: Annual Construction Emissions (Alternative 2)

Activity	Emissions (tons per day)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Fulton Mall Demolition	0.07	0.57	0.15	0.04
Fulton Mall Soils Excavation, Storm Drain Replacement Curb and Gutter, Rock and Asphalt, Sidewalks	0.60	5.30	0.40	0.30
Subtotal Fulton Mall	*0.67*	*5.87*	*0.55*	*0.34*
Cross Malls Demolition	0.05	0.39	0.10	0.03
Cross Malls Soils Excavation, Storm Drain Replacement Curb and Gutter, Rock and Asphalt, Sidewalks	0.30	2.70	0.20	0.10
Subtotal Cross Mall	*0.35*	*3.09*	*0.30*	*0.13*
Total Project Construction	1.02	8.96	0.85	0.47
SJVAPCD Threshold	10	10	10	15
Exceed Threshold?	No	No	No	No
Source: MBA 2013, Appendix E				

The Project would not exceed the SJVAPCD's thresholds for ROG, NO_X, PM_{10} or $PM_{2.5}$ during construction. In addition, the Project's construction activities are estimated to last approximately 14 months. Therefore, the project would result in minimal air quality impacts for Clean Air Act criteria pollutants.

Construction Emissions Mitigation

Fugitive Dust

MM AIR-1 During construction, in addition to San Joaquin Valley Air Pollution Control District Regulation VIII requirements for dust control, the project shall also implement the following additional dust control measures:

- Limit traffic speeds on unpaved roads to 15 mph;
- Limit area subject to excavation, grading, and other construction activity at any one time. (Construction area limited to 10 acres per day);
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Install wheel washers for all exciting trucks, or wash off all trucks and equipment leaving the site;
- Install wind breaks at windward sides(s) of construction areas; and
- Suspend excavation and grading activity when winds exceed 20 mph. Regardless of wind speed, an owner/operator must comply with Regulation VIII's 20 percent opacity limitation.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The San Joaquin Valley Air Pollution Control District's phone number shall also be visible to ensure compliance with applicable regulations.

Construction Equipment Exhaust

MM AIR-2 During construction, the project shall also implement the following additional construction equipment exhaust control measures:

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer‘s specifications. All equipment shall be checked by a certified visible emissions evaluator.

- The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NO_X reduction and 45 percent PM_{10} reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.

4.2.3 - Operational Particulate Matter Hot-spot

The SJVAPCD does not have a qualitative or quantitative threshold or methodology of analysis for operational PM_{10} or $PM_{2.5}$ hot-spot analysis. Furthermore, the project is exempted from PM hot-spot analysis under the conformity analysis, as shown in Section 4.1.2.

The purpose of the proposed project is to improve parking and vehicle access to local businesses on Fulton Street in order to maximize sustainable development and economic productivity in conjunction with other downtown redevelopment projects. The proposed project would also be intended to lower crime and improve safety for people walking between parking areas and businesses located on the Fulton Mall and for people who live in, work in, and visit the project area.

The project does not propose any additional traffic generating land uses. The alternatives are not expected to affect traffic volumes. Since the Build Alternatives propose narrow, two-way vehicular streets, it is anticipated that the reintroduced roadways associated with these alternatives would serve existing traffic by providing access to existing businesses along the pedestrian malls, but would not induce additional travel upon opening (Fehr and Peers, 2013). As shown in Table 1, Table 2, and Table 3, the Build Alternatives would appear to result in slightly more Average Daily Trips than the No Build scenario. Per the Transportation Impact Report:

> … it is anticipated that the reintroduced roadways associated with these alternatives would serve existing traffic by providing access to existing businesses along the pedestrian malls, but would not induce additional travel upon opening.

And

> The Open to Traffic alternatives may cause some shifts in local traffic patterns by opening the existing Fulton Mall and its cross streets to vehicle traffic. However, since these alternatives would create narrow, two-way vehicular streets, these new roadways would primarily carry local trips to access adjacent businesses. Therefore, these changes in traffic patters would be localized to roadways in the project study area.

The apparent increase is not a trip increase from Build Scenarios, but is a result of reassignment of existing trips through the project area. Alternative 1 and Alternative 2 would not increase the number of trips on the project area roadways compared to Alternative 3.

This project is estimated to generate minimal air quality impacts for the Clean Air Act criteria pollutants, as detailed in Sections 4.2.1 and 4.2.2, and has not been linked with any special PM_{10} or $PM_{2.5}$ concerns. Re-entrained road dust was estimated for the project using CalEEMod emissions model for Fresno County for years 2010, 2015 and 2035. The emissions output are provided in Appendix F. The analysis contains the following analysis scenarios:

- 2010 Conditions, with 210 AADT, 165.27 daily VMT, and 60,323.55 annual VMT
- 2015 Conditions, with 210 AADT, 165.27 daily VMT, and 60,323.55 annual VMT
- 2035 Conditions, with 2,310 AADT, 1,817.97 daily VMT, and 663,559.05 annual VMT

Each scenario listed above is relevant to the Alternative 1, Alternative 2 and Alternative 3 scenario occurring within that year, as further illustrated in Table 21.

Table 21: Annual Vehicle Miles Traveled by Alternative

Year	Alternative 1 (Build Alternative)	Alternative 2 (Build Alternative)	Alternative 3 (No Project/No Build Alternative)
2010	60,323.55	60,323.55	60,323.55
2015	60,323.55	60,323.55	60,323.55
2035	663,559.05	663,559.05	663,559.05
Source: Fehr and Peers, 2013.			

The annual VMT from Table 21 were used to calculate the operational re-entrained road dust by alternative. The operational PM10 from re-entrained road dust is for each alternative is provided in Table 22.

Table 22: Operational Re-entrained Road Dust by Alternative

Year	Annual Tons PM10		
	Alternative 1 (Build Alternative)	Alternative 2 (Build Alternative)	Alternative 3 (No Project/No Build Alternative)
2010	0.00	0.00	0.00
2015	0.00	0.00	0.00
2035	0.00	0.00	0.00
Notes: Source: MBA 2013.			

As such, this Project will not result in any meaningful changes in traffic volumes, vehicle mix, location of the existing facility, or any other factor that would cause an increase in PM_{10} or $PM_{2.5}$ impacts of the project from that of the no-build alternative.

4.2.4 - Toxic Air Contaminant Analysis

The three toxic air contaminants/hazardous air pollutant categories applicable to the Project are MSAT, NOA, ACM, and DPM. Each subject is addressed below:

Mobile Source Air Toxics

The 2009 Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA documents (2009 Interim MSAT Guidance), published by the FHWA, was utilized to determine the project's potential for MSAT impacts. The FHWA has developed a tiered approach for analyzing MSAT, which are based on three levels of analysis:

1. No analysis for projects with no potential for meaningful MSAT effects;
2. Qualitative analysis for projects with low potential MSAT effects; or
3. Quantitative analysis to differentiate alternatives for projects with higher potential for MSAT effects.

Under the first level, Projects with no potential for meaningful MSAT effects, the types of projects included are:

- Projects qualifying as a categorical exclusion under 23 CFR 771.117(c)
- Projects except under the Clean Air Act conformity rule under 40 CFR 93.126; or
- Other projects with no meaningful impacts on traffic volumes or vehicle mix.

Analysis shows that this project would have no meaningful impacts on traffic volumes or vehicle mix for the project area, as detailed below. However, the project would reassign existing trips in the project area. The project does not propose any additional traffic generating land uses. Since the Build Alternatives propose narrow, two-way vehicular streets, it is anticipated that the reintroduced roadways associated with these alternatives would serve existing traffic by providing access to existing businesses along the pedestrian malls, but would not induce additional travel upon opening (Fehr and Peers, 2013). As shown in Table 1, Table 2, and Table 3, the Build Alternatives would appear to result in slightly more Average Daily Trips than the No Build scenario. Per the Transportation Impact Report:

> … it is anticipated that the reintroduced roadways associated with these alternatives would serve existing traffic by providing access to existing businesses along the pedestrian malls, but would not induce additional travel upon opening.

And

> The Open to Traffic alternatives may cause some shifts in local traffic patterns by opening the existing Fulton Mall and its cross streets to vehicle traffic. However, since these alternatives would create narrow, two-way vehicular streets, these new roadways would primarily carry local trips to access adjacent businesses. Therefore, these changes in traffic patters would be localized to roadways in the project study area.

The apparent increase is not a trip increase from Build Scenarios, but is a result of reassignment of existing trips through the project area. All trips would be existing in the project area under the Build and No Build Alternatives. Under the Build Alternatives, existing trips within the project area would be rerouted from existing travel paths through the project segments. Therefore, the apparent increase on roadway segments identified in Table 1, Table 2, and Table 3 result from a decrease of trips on other project area roadways due to the reassignment of existing trips.

The Build Alternatives would not increase the number of trips on the project area roadways compared to No Build Alternative. However, the Build Alternatives would reassign existing trips to a new location, the Fulton Mall. As shown in Table 1 and Table 2, the build alternatives would result in 210 AADT and 2,310 AADT on the Fulton segment under the 2015 and 2035 scenarios, respectively. Under the No Build Alternative, the Fulton Mall would remain a pedestrian mall, and existing trips would remain in the project area. The relocation of existing trips may have a low potential for MSAT emissions.

A qualitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives, found at: www.fhwa.dot.go/environment/air_quality/air_toxics/research_and_analysis/methodology/methodology00.cfm.

The 2009 Interim MSAT Guidance provides examples of qualitative MSAT analyses for different types of projects. Each project is different, and some projects may contain elements covered in more than one of the examples below. Analysts can use the example language as a starting point, but should tailor it to reflect the unique circumstances of the project being considered. The types of example projects include minor widening projects; new interchanges, replacing a signalized intersection on a surface street; or projects where design year traffic is projected to be less than 140,000 to 150,000 annual average daily traffic (AADT). The Build Alternatives are estimated to facilitate 210 existing AADT in 2015, and 2,310 AADT in 2035 conditions.

For each alternative in this report the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT estimated for each of the Build Alternatives is the same as for the No Build Alternative, however, the Build Alternatives increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. Refer to Table 21. This relocation of VMT would lead to higher MSAT emissions for the Build Alternatives along the project alignment, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to EPA's MOVES2010b model, emissions of all of the priority MSAT decrease as speed increases. Because the estimated VMT under each of the Alternatives are the same, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The reintroduced travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby residences; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT could be higher under certain Build Alternatives than the No Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the expanded roadway sections that would be built at Fulton Mall, under the Build Alternatives. However, the magnitude and the duration of these potential increases compared to the No-Build alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. In sum, when a roadway is reintroduced, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion in the project area (which are associated with lower MSAT emissions). Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

Furthermore, analysis shows this project would generate minimal air quality impacts for the Clean Air Act criteria pollutants, as detailed in Sections 4.2.1 and 4.2.2, and has not been linked with any special MSAT concerns.

Moreover, EPA regulations for the vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOBILE6.2 model forecasts a combined reduction of 72 percent in the

total annual emission rate for the priority MSAT from 1999 to 2050 while vehicle miles of travel are projected to increase by 145 percent. This will both reduce the background levels of MSAT as well as the possibility of even minor MSAT emissions from this project.

Asbestos

During construction in areas that contain NOA-containing rock formations, asbestos can be released into the air and pose a health hazard. The Department of Conservation, Division of Mines and Geology (DMG) has a published guide for generally identifying areas that are likely to contain NOA (DMG 2000). A review of DMG's map showing areas more likely to have rock formations containing NOA indicates that the Project site is not in an area that is likely to contain NOA. In addition, the DMG map indicates that there are no areas within City of Fresno are likely to contain NOA. Therefore, disturbance of NOA is not a concern for the Project.

In the initial Asbestos National Emission Standards for Hazardous Air Pollutants rule promulgated in 1973, a distinction was made between building materials that would readily release asbestos fibers when damaged or disturbed (friable) and those materials that were unlikely to result in significant fiber release (non-friable). The EPA has since determined that, severely damaged, otherwise non-friable materials can release significant amounts of asbestos fibers. Asbestos has been banned from many building materials under the Toxic Substances Control Act, the Clean Air Act, and the Consumer Product Safety Act. However, most uses of asbestos for building material are not banned. However, the project would not demolish or disturb existing buildings, bridges, or other facilities that may have ACM. The project would involve demolition of vegetative trellises that are solely composed of concrete, wood, and metal attachments. Therefore, disturbance of ACM is not a concern for the Project.

Diesel Particulate Matter

Construction activities would also involve the use of diesel-powered construction equipment, which emit DPM. Risk assessments for residential areas exposed to TACs are generally based on a 70-year period of exposure. Construction emissions would occur in 2014 and 2015, and construction is anticipated to be completed within 12 months. Since the use of construction equipment would be temporary and would not be close to the 70-year timeframe, exposure of sensitive receptors to TACs would not be substantial. Emissions of DPM would not be substantial enough to be considered a health risk.

4.2.5 - Air Quality Attainment Plan Conformity

The SJVAPCD specifies that a project is conforming to the applicable attainment or maintenance plan if it:

1. Complies with all applicable SJVAPCD rules and regulations,
2. Complies with all applicable control measures from the applicable plans, and

3. Is consistent with the growth forecast in the applicable plans.

Compliance with adopted SJVAPCD rules and regulations is a requirement under the law. The Project will implement and comply with all applicable SJVAPCD rules and regulations. In addition, the project must comply with all applicable control measures from the applicable SJVAPCD attainment plans. Therefore, the Project complies with the second criterion.

Finally, the Project is consistent with the growth forecast in the Plan. The Fulton Mall has been designated as a collector street by the City of Fresno, which has planned the roadway to be built to two-lanes. In addition, the project does not propose any additional traffic generating land uses. The alternatives are not expected to affect traffic volumes. Since the Build Alternatives propose narrow, two-way vehicular streets, it is anticipated that the reintroduced roadways associated with these alternatives would serve existing traffic by providing access to existing businesses along the pedestrian malls, but would not induce additional travel upon opening (Fehr and Peers, 2013).

The proposed improvements (i.e., Alternatives 1 and 2) would implement that plan, and accommodate projected buildout traffic conditions. Without implementation of the build alternatives (i.e., Alternative 3 - No Project/No Action), the buildout traffic conditions would result in congestion and a reduced LOS on the project area roadways.

4.2.6 - Greenhouse Gases and Climate Change

Greenhouse gas emissions would occur during project construction, and operation. The following greenhouse gas significance thresholds are contained in Appendix G of the CEQA Guidelines. A significant impact would occur if the Project would:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of greenhouse gases. In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines sections 15064(h)(1) and 15130. To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

The AB 32 Scoping Plan contains the main strategies California will use to reduce greenhouse gases. As part of its supporting documentation for the Draft Scoping Plan, ARB released the greenhouse gas inventory for California (Forecast last updated: 28 October 2010). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the greenhouse gas inventory for 2006, 2007, and 2008.

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing greenhouse gas emission reduction and climate change. Recognizing that 98 percent of California's greenhouse gas emissions are from the burning of fossil fuels and 40 percent of all human made greenhouse gas emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006 (see Climate Action Program at Caltrans (December 2006).

Generate Greenhouse Gas Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction greenhouse gas emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

Construction

The Project would emit greenhouse gases from upstream emission sources and direct sources (combustion of fuels from worker vehicles and construction equipment). An upstream emission source (also known as life cycle emissions) refers to emissions that were generated during the manufacture of products to be used for construction of the Project. Upstream emission sources for the Project include but are not limited to the following: emissions from the manufacture of steel and/or emissions from the transportation of construction materials in other countries. The upstream emissions were not estimated because they are not within the control of the Project and to do so would be speculative at this time. Additionally, the California Air Pollution Control Officers Association (CAPCOA) White Paper on CEQA & Climate Change supports this conclusion by stating, "The full life-cycle of GHG [greenhouse gas] emissions from construction activities is not accounted for … and the information needed to characterize [life-cycle emissions] would be speculative at the CEQA analysis level" (CAPCOA 2008). Therefore, pursuant to CEQA Guidelines Section 15144 and 15145, upstream/life cycle, emissions are speculative and no further discussion is necessary.

The emissions of CO_2 from Project construction equipment and worker vehicles were calculated using the Road Construction Emissions Model, Version 7, and the CalEEMod emissions model. The

Project would result in approximately 910.62 metric tons of CO_2 ($MTCO_2e$) in 2014 for Alternative 1, and 909.53 $MTCO_2e$ in 2014 for Alternative 2. The Project would also emit methane and nitrous oxide from construction equipment; however, emissions of methane and nitrous oxide are negligible compared to CO_2 emissions.

Table 23: Greenhouse Gas from Construction

Construction Phase	Alternative 1		Alternative 2	
	Metric Tons CO_2e	English Tons	Metric Tons CO_2e	English Tons
Fulton Mall Demolition	51.20	-	51.20	-
Fulton Mall Soils Excavation, Storm Drain Replacement Curb and Gutter, Rock and Asphalt, Sidewalks	549.13	605.3	548.04	604.1
Subtotal Fulton Mall	600.33	-	599.24	-
Cross Malls Demolition	34.14	-	34.14	-
Cross Malls Soils Excavation, Storm Drain Replacement Curb and Gutter, Rock and Asphalt, Sidewalks	276.15	304.4	276.15	304.4
Subtotal Cross Mall	310.29	-	310.29	-
Total Construction Emissions	910.62	-	909.53	-
Source: MBA 2013, Appendix E				

Construction emissions would be short term in nature and would occur before the year 2020. AB 32 requires that annual emissions in the State of California be reduced to 1990 levels by the year 2020. Although some greenhouse gases can remain in the atmosphere for long periods, AB 32 does not regulate concentrations.

Operation

Greenhouse gas emissions were estimated using the web-based data access EMFAC2011, the AADT contained in for Roadway Segment 4 (Fresno Street; Tuolumne Street to Inyo Street) from Table 1 and Table 2, and a trip length of 0.787 mile. Because the AADT in Table 1 and Table 2 are for the volume for the Fulton Street roadway segment, and because the cross-malls do not connect with other collectors, and because the AADT for the cross malls are unknown, the analysis is conservative by applying the AADT to the entire Project length. Therefore, multiplying the AADT by the project trip length of 1.5 miles produces the daily vehicle miles traveled (VMT) for the Project segment.

The project does not propose any additional traffic generating land uses. The alternatives are not expected to affect traffic volumes. Since the Build Alternatives propose narrow, two-way vehicular streets, it is anticipated that the reintroduced roadways associated with these alternatives would serve existing traffic by providing access to existing businesses along the pedestrian malls, but would not induce additional travel upon opening (Fehr and Peers, 2013). As shown in Table 1 and Table 2, the Build Alternatives would appear to result in slightly more Average Daily Trips than the No Build scenario. Per the Transportation Impact Report:

> … it is anticipated that the reintroduced roadways associated with these alternatives would serve existing traffic by providing access to existing businesses along the pedestrian malls, but would not induce additional travel upon opening.

And

> The Open to Traffic alternatives may cause some shifts in local traffic patterns by opening the existing Fulton Mall and its cross streets to vehicle traffic. However, since these alternatives would create narrow, two-way vehicular streets, these new roadways would primarily carry local trips to access adjacent businesses. Therefore, these changes in traffic patters would be localized to roadways in the project study area.

Therefore, the AADT of Roadway Segment 4 (Fresno Street; Tuolumne Street to Inyo Street) are not new trips, but a reassignment of existing trips from the project area. Alternative 1 and Alternative 2 would not increase the number of trips on the project area roadways compared to Alternative 3. Therefore, under Alternative 3 (No Build) the same number of AADT would be occurring in the project area, just not physically located on Fulton Mall.

The EMFAC2011 emission factors for Fresno County for years 2010, 2015 and 2035 are provided in Appendix G. The analysis contains the following analysis scenarios:

- 2010 Conditions, with 210 AADT, 165.27 daily VMT, and 60,323.55 annual VMT
- 2015 Conditions, with 210 AADT, 165.27 daily VMT, and 60,323.55 annual VMT
- 2035 Conditions, with 2,310 AADT, 1,817.97 daily VMT, and 663,559.05 annual VMT

Each scenario listed above is relevant to the Alternative 1, Alternative 2 and Alternative 3 scenario occurring within that year, as further illustrated in Table 24.

Table 24: Annual Vehicle Miles Traveled by Alternative

Year	Alternative 1 (Build Alternative)	Alternative 2 (Build Alternative)	Alternative 3 (No Project/No Build Alternative)
2010	60,323.55	60,323.55	60,323.55
2015	60,323.55	60,323.55	60,323.55
2035	663,559.05	663,559.05	663,559.05
Source: Fehr and Peers, 2013.			

The tons per mile emission factors for CO_2 from EMFAC2011 were used to calculate the $MTCO_2$ for two emissions scenarios. The first scenario is 'Without Regulation', and does not include the calculated emission reductions attributable to implementation of State regulation. The second scenario is with State regulation; specifically, Pavley I and the Low Carbon Fuel Standard. The emission factors in EMFAC2011 are provided by vehicle class. The emission factors by vehicle class and VMT distribution by vehicle type were used to determine a weighted average emission factor. The weighted average emission factors for years 2010, 2015, and 2035 for the two scenarios are provided in Table 25.

Table 25: CO_2 Emission Factors for Fresno County

Year	Average Tons Per Mile	
	Without Regulation	With Regulation (Pavley I and LCFS)
2010	0.000609986	0.000608045
2015	0.000625816	0.000569272
2035	0.000637624	0.000472034
Notes: LCFS = Low Carbon Fuel Standard Source: MBA 2013.		

The emission factors from Table 25 and the annual VMT from Table 24 were used to calculate the operational $MTCO_2e$ by alternative. The Without Regulation scenario operational $MTCO_2e$ for each alternative is provided in Table 26. . The With Regulation scenario operational $MTCO_2e$ for each alternative is provided in Table 27.

Table 26: Operational CO_2 by Alternative - Without Regulation

Year	Annual Tons CO_2 ($MTCO_2$)		
	Alternative 1 (Build Alternative)	Alternative 2 (Build Alternative)	Alternative 3 (No Project/No Build Alternative)
2010	36.80	36.80	36.80
2015	37.75	37.75	37.75
2035	423.10	423.10	423.10

Notes:
Source: MBA 2013.

Table 27: Operational CO_2 by Alternative - With Regulation

Year	Annual Tons CO_2 ($MTCO_2$)		
	Alternative 1 (Build Alternative)	Alternative 2 (Build Alternative)	Alternative 3 (No Project/No Build Alternative)
2010	36.68	36.68	36.68
2015	34.34	34.34	34.34
2035	313.22	313.22	313.22

Notes:
Source: MBA 2013.

Although emissions estimates are the same for all alternatives, the Project is expected to improve the LOS intersections along the Project area. The Project would create additional travel pathways through the project area, and provide more direct routes through the project area, thereby improving mobility and potentially reducing regional VMT. Improvement in traffic flow would reduce criteria pollutants and greenhouse gas emissions because emissions on a grams-per-mile basis decrease while the speed increases, with a peak efficiency at about 45 to 50 miles per hour. Therefore, emissions of greenhouse gases would be lower with the build alternatives (Alternatives 1 and 2) and higher with the No Project/No Action alternative (Alternative 3).

One of the main strategies in Caltrans's Climate Action Program to reduce greenhouse gas emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 mph; the most severe emissions occur from 0-25 miles per hour. To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors greenhouse gas emissions, particularly CO_2, may be reduced.

Plan Consistency

Caltrans's overall approach to lowering fuel consumption and carbon dioxide from transportation is twofold: (1) reducing congestion and improving efficiency of transportation systems through smart land use, operational improvements, and Intelligent Transportation Systems and (2) institutionalizing energy efficiency and greenhouse gas emission reduction measures and technology into planning, project development, operations, and maintenance of transportation facilities, fleets, buildings, and equipment.

As shown above, the Project would likely reduce the future-year greenhouse gas emissions generated by trips through the Project area. Therefore, the Project would also lower fuel consumption associated with travel in the area. In addition, the Project would improve safety in the Project area, install curbs, gutters and sidewalks, as well as handicap accessible curb ramps throughout the Project limits.

SECTION 5: REFERENCES

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Appendix A:
2011 RTP and 2013 FTIP Documentation

2011 REGIONAL TRANSPORTATION PLAN

AMENDMENT NO. 2

1) 2011 RTP Amendment No. 2 Summary of Changes

2) Changes made to 2011 RTP via Amendment No. 2:

- Chapter 6: Financial Element
    - Exhibit 6-1: Transportation Funding Categories
    - Exhibit 6-4: Total RTP Revenues
    - Exhibit 6-5: Financially Constrained FTIP Projects
    - Exhibit 6-6: Regionally Significant Project List
    - Exhibit 6-11: RTP Financial Constraint Summary
- Appendices
    - Appendix C: RTP Project Listing

FRESNO COUNCIL OF GOVERNMENTS
AMENDMENT NO. 2 TO THE 2011 RTP
CHANGE REPORT AS OF 5/19/12 (in $000)

LEAD AGENCY	PROJECT ID	PROJECT TITLE	PROJECT DESCRIPTION	SYSTEM	PCT CHANGE	COST DIFFERENCE	COST BEFORE	COST REVISED	NARRATIVE	NOTES
Fresno, City of	FRE500768	Downtown Fulton Mall Complete Street Connectivity	In the City of Fresno, at 4 locations; reintroduce 2-lane undivided complete streets. 1) Fulton Mall between Tuolumne and Inyo Streets 2) Merced Mall from Congo Alley to Federal Alley 3) Mariposa Mall from Broadway Street to Federal Alley 4) Kern Mall from Fulton Mall to Federal Alley	Local		0	0	19,925	**New Project** Local: ► Add funds in 09/10 in CON for $4,000 Federal Highway: ► Add funds in 09/10 in CON for $15,925 **Total project cost $19,925**	New project in the RTP to reflect the TIGER application that was submitted for the 2012 TIGER Grants program by the City of Fresno.

Federal High Priority (Demonstration) Projects

The High Priority Projects Program provides designated funding for specific projects (commonly referred to as demonstration projects) identified by Congress and identified in SAFETEA-LU. The designated funding can only be used for the project as described in the law.

Safe Routes to School Program

A new core funding program under SAFETEA-LU to enable and encourage children, including those with disabilities, to walk and bicycle to school; to make walking and bicycling to school safe and more appealing; and to facilitate the planning, development and implementation of project that will improve safety, and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. The program is State administered. Projects are 100% federally funded.

Transportation Investment Generating Economic Recovery (TIGER) Projects

The U.S. Department of Transportation's TIGER Discretionary Grant program was created to invest in road, rail, transit and port projects that promise to achieve critical national objectives. Money is dedicated to fund projects that have a significant impact on the Nation, a region or a metropolitan area. The TIGER program enables DOT to use a rigorous process to select projects with exceptional benefits, explore ways to deliver projects faster and save on construction costs, and make investments in our Nation's infrastructure that make communities more livable and sustainable.

6.4.2 State Programs

Regional Choice Program

Generally speaking, these funds represent approximately 75% of the funds available in the State Highway Account. The funds are programmed by the RTPAs in their Regional Transportation Improvement Programs for inclusion in the State Transportation Improvement Program. Pursuant to SB 45, allocations of Regional Choice funds are known as 'County Shares" and replace the previous "County Minimums." Eligible projects include:

- Local roads
- Public transit
- Intercity transit
- Pedestrian and bikeway facilities
- State highway improvements
- Grade separations
- Intermodal facilities
- Safety projects
- Transportation System Management projects

Interregional Improvement Program

IIP funds represent 25% of available State Highway Account funding. The funds are programmed by Caltrans on a Statewide priority basis, for use primarily on the State highway system (outside urbanized areas). Regional agencies may also nominate projects that generate economic development (may be inside metropolitan areas). Regional agencies may nominate projects if they can show better cost-effective use of funds. Eligible projects include:

REGIONAL TRANSPORTATION PLAN PROJECT LISTING
2011 THROUGH 2035

AGENCY	RTP PROJECT ID	STREET NAME	PROJECT LIMITS	PROJECT DESCRIPTION	ESTIMATED TOTAL COST
Caltrans	FRE500758	41	Interchange Crossstreets:Mckinley & Shields Ave	Widen Ramps at Both Interchanges	$8,200,000.00
Caltrans	FRE500759	41	From: El Paso To: Friant	Add 1 SB Auxiliary Lane	$13,970,000.00
Caltrans	FRE500767	41	From: Tulare Ave To: O Street	SR 41-Tulare to O Street: Widen Auxiliary Lane/Improve Ramps (Project J in the Measure C Urban Regional Program)	$21,590,000.00
California High-Speed Rail Authority	FRE500766	99	From: PM 23.9 To: PM 26.2	State Route 99 from Post Mile 23.9 (approximately Ashlan Avenue) to Post Mile 26.2 (approximately McKinley Ave); Re-Alignment and Add Auxiliary Lane	$90,000,000.00
Kingsburg, City of	FRE500592	10th Avenue	From: Kern St. To: Clarkson Ave. Dist:.5	2 LU to 4 LD	$175,000.00
Kingsburg, City of	FRE500593	10th St (Academy)	From:Sierra To:Stroud Dist:.5	2 lanes to 4 lanes	$750,000.00
Reedley, City of	FRE500703	11th Street	From:Manning Ave To:Reed Ave Dist:1.4	Reconstruct and widen 11th Street from 2 to 4 lanes between Manning Ave and Reed Ave	$6,100,000.00
Kingsburg, City of	FRE500594	18th	From:Mountain View To:Stroud Dist:N/A	2 lanes to 4 lanes	$1,875,000.00
Kingsburg, City of	FRE500595	18th Avenue/Mendocino	From:Stroud Ave To:SR 99 Dist:1.7	2 LU to 4 LU	$682,000.00

Parlier, City of	FRE500451	Tuolumne Street	From:Fett Avenue To:Orit Avenue Dist:.1	Construct New 2 Lane Facility	$450,000.00
Fresno, City of	FRE500531	Valentine	From:McKinley To:Parkway Dr Dist:1.4	2 LU to 4 LU	$1,260,000.00
Fresno, City of	FRE500532	Valentine	From:Weber To:Ashlan Dist:.3	2 LU to 4 LU	$270,000.00
Fresno, City of	FRE500533	Valentine	From:California To:Whitesbridge Dist:2	2 LU to 4 LU	$1,900,000.00
Fresno, City of	FRE500571	Valentine	From:Ashlan To:Gettysburg Dist:.5	2 LU to 4 LU	$500,000.00
Fresno, City of	FRE500768	Various-Downtown Fulton Mall Area	From:Various To:Various Dist:.74	In the City of Fresno, at 4 locations; reintroduce 2-lane undivided complete streets.1) Fulton Mall between Tuolumne and Inyo Streets2) Merced Mall from Congo Alley to Federal Alley3) Mariposa Mall from Broadway Street to Federal Alley4) Kern Mall from Fulton Mall to Federal Alley	$19,925,000.00
Fresno, City of	FRE500279	Ventura	From:C Street To:E Street Dist:.25	Bike Lane	$15,000.00
Fresno, City of	FRE500241	Ventura - SR 99 NB Off Ramp	Interchange Crossstreets:Ventura & NB Off Ramp		$400,000.00
Fresno, City of	FRE500535	Veterans Blvd	From:Bullard-Bryan To:Herndon Dist:.7	Widen from 4 LD to 6 LD	$1,100,000.00
Fresno, City of	FRE500536	Veterans Blvd	From:Gettyburg To:Shaw Dist:.6	Unconstructed to 6 LD	$3,000,000.00
Fresno, City of	FRE500537	Veterans Blvd	From:Shaw To:Barstow Dist:.6	Widen from 4 LD to 6 LD	$1,100,000.00

U.S. Department of Transportation
Federal Highway Administration

Federal Highway Administration
California Division

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (fax)

December 14, 2010

In Reply Refer To:
HDA-CA

Mr. Tony Boren
Executive Director
Council of Fresno County Governments
2035 Tulare Street
Fresno, CA 93721

Dear Mr. Boren:

SUBJECT: Conformity Determination for the Council of Fresno County Governments' (COFCG) 2011 Federal Transportation Improvement Program (FTIP) and the 2011 Regional Transportation Plan (RTP)

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) have completed our review of the conformity determination for the Council of Fresno County Governments' (COFCG) 2011 Federal Transportation Improvement Program (FTIP) and the 2011 Regional Transportation Plan (RTP). A FTA/FHWA air quality conformity determination is required pursuant to the Environmental Protection Agency's (EPA) *Transportation Conformity Rule*, 40 CFR Parts 51 and 93, and the United States Department of Transportation's *Metropolitan Planning Rule*, 23 CFR Part 450.

On July 29, 2010, COFCG adopted the 2011 FTIP and RTP and made the corresponding conformity determination. The conformity analysis submitted by COFCG indicates that all air quality conformity requirements have been met. Based on our review, we find that the 2011 FTIP and RTP conform to the applicable state implementation plan in accordance with the provisions of 40 Parts 51 and 93. In accordance with the July 15, 2004, *Memorandum of Understanding (MOU) between the Federal Highway Administration, California Division and the Federal Transit Administration, Region IX*, the FTA has concurred with this conformity determination. Additionally, this conformity determination was made after consultation with the EPA, Region 9 office.

If you have questions or need additional information concerning this approval, please contact Joseph Vaughn (Joseph.Vaughn@dot.gov) of the FHWA California Division office at (916) 498-5346.

Sincerely,

/s/ Leslie T. Rogers

Leslie T. Rogers
Regional Administrator
Federal Transit Administration

For
Walter C. Waidelich, Jr.
Division Administrator
Federal Highway Administration

cc: (e-mail)
Ray Sukys, FTA
Paul Page, FTA
Muhaned Aljabiry, Caltrans
Tony Boren, Fresno COG (tboren@fresnocog.org)
Mike Bitner, Fresno COG (mbitner@fresnocog.org)
Joseph Vaughn, FHWA
Scott Carson, FHWA
Karina O'Connor, EPA
Mike Brady, Caltrans
Cari Anderson, CA Consulting(cari@caconsulting.org)

cc: (other)
COFCG TIP Binder

2013
FEDERAL TRANSPORTATION IMPROVEMENT PROGRAM

FRESNO COUNCIL OF GOVERNMENTS
2035 TULARE STREET SUITE 201
FRESNO, CA 93721
559-233-4148
www.fresnocog.org

The preparation of this report has been financed in part through grants from the United States Department of Transportation.

APPENDIX F
REGIONAL TRANSPORTATION PLAN PROJECT REFERENCES

REGIONAL TRANSPORTATION PLAN PROJECT LISTING
2011 THROUGH 2035

AGENCY	RTP PROJECT ID	STREET NAME	PROJECT LIMITS	PROJECT DESCRIPTION	ESTIMATED TOTAL COST
Fresno, City of	FRE500768	Various-Downtown Fulton Mall Area	From:Various To:Various Dist:.74	In the City of Fresno, at 4 locations; reintroduce 2-lane undivided complete streets.1) Fulton Mall between Tuolumne and Inyo Streets2) Merced Mall from Congo Alley to Federal Alley3) Mariposa Mall from Broadway Street to Federal Alley4) Kern Mall from Fulton Mall to Federal Alley	$19,925,000.00
Fresno, City of	FRE500279	Ventura	From:C Street To:E Street Dist:.25	Bike Lane	$15,000.00
Fresno, City of	FRE500241	Ventura - SR 99 NB Off Ramp	Interchange Crossstreets:Ventura & NB Off Ramp		$400,000.00
Fresno, City of	FRE500535	Veterans Blvd	From:Bullard-Bryan To:Herndon Dist:.7	Widen from 4 LD to 6 LD	$1,100,000.00
Fresno, City of	FRE500536	Veterans Blvd	From:Gettyburg To:Shaw Dist:.6	Unconstructed to 6 LD	$3,000,000.00
Fresno, City of	FRE500537	Veterans Blvd	From:Shaw To:Barstow Dist:.6	Widen from 4 LD to 6 LD	$1,100,000.00
Fresno, City of	FRE500561	Veterans Blvd	From:Shaw To:Barstow Dist:.6	New 4 LD Superarterial	$5,500,000.00
Fresno, City of	FRE500562	Veterans Blvd	From:Bullard-Bryan To:Herndon Dist:.7	New 4 LD Superarterial	$4,500,000.00

Fresno Council of Governments

2035 Tulare St., Ste. 201 tel 559-233-4148
Fresno, California 93721 fax 559-233-9645

www.fresnocog.org

August 31, 2012

Muhaned Aljabiry, Chief
Caltrans, Division of Programming MS 82
Office of Federal Transportation Management Program
PO Box 942874
Sacramento, CA 94274-0001

Attention: Dennis Jacobs

Subject: Amendment #1 (Type 3 Formal) to the 2013 Fresno Council of Governments FTIP

Mr. Jacobs:

The Executive Director of the Fresno Council of Governments as authorized by the Policy Board hereby approves Amendment #1 (Type 3 Formal) to the 2013 FTIP.

This amendment includes projects whose cost changes are greater than 40% of the total project cost or more than $10 million, changes to the group listing and updates to the financial summary tables. FTIP Amendment #1 is consistent with the 2011 Regional Transportation Plan. The FTIP as amended meets all the applicable transportation planning requirements per 23 CFR Part 450 and 40 CFR Part 93. The funding changes do not interfere with the timely implementation of any approved TCMs, and the TIP as amended conforms to the applicable SIP. The changes do not interfere with air quality conformity or changes to conformity analysis years; therefore a new conformity determination is not required. State and Federal approval will be required.

Fresno COG conducted a 7-day public review and interagency consultation period that was completed on August 31, 2012 at 4:30 pm. Five comments were received and the comments and responses are enclosed. The public participation process for Amendment #1 is consistent with the Fresno COG board adopted public participation plan.

Included with this letter are two hard copies of Amendment #1 to the 2013 FTIP. An electronic copy of the four year financial plan will be sent via email. This amendment is available online at the Fresno COG website at www.fresnocog.org. If you should have any questions or comments, please feel free to call Lindsey Monge at (559) 233-4148, ext. 205.

Sincerely,

City of Clovis
City of Coalinga
City of Firebaugh
City of Fowler
City of Fresno
City of Huron
City of Kerman
City of Kingsburg
City of Mendota
City of Orange Cove
City of Parlier
City of Reedley
City of San Joaquin
City of Sanger
City of Selma
County of Fresno

TONY BOREN, Executive Director
Council of Fresno County Governments

Attachments (1 Copy to Caltrans, Division of Programming)

cc (electronic):
Jermaine Hannon, Federal Highway Administration
Scott Carson, Federal Highway Administration
Joseph Vaughn, Federal Highway Administration
Paul Page, Federal Transit Administration

James Perrault, Caltrans District 06
Steve Curti, Caltrans District 06

Executive Directors, Valley COGs
Cari Anderson, CAC

ATTACHMENT 1

1. **SUMMARY OF CHANGES**
2. **SUMMARY OF CHANGES TO THE GROUPED PROJECT BACK UP LISTING**
3. **INDIVIDUAL PROJECT DETAILS**

SUMMARY OF CHANGES

LEAD AGENCY	PROJECT ID	PROJECT TITLE	PROJECT DESCRIPTION	SYSTEM	PCT CHANGE	COST DIFFERENCE	COST BEFORE	COST REVISED	NARRATIVE	NOTES
Fresno, City of	FRE130010	Herndon Avenue Widening from Brawley to Blythe	Herndon Avenue from Brawley to Blythe; Road Rehabilitation and Widening from 4 to 6 Lanes.	Local	25%	564	2,300	2,864	Change Reason: **Increase funding, Revise funding between fiscal years** Increase Funding Measure C - Regional: ► Add funds in 12/13 in ENG for $250, ROW for $50, CON for $818 - Decrease funds in 13/14 in ENG from $135 to $14 - Decrease funds in 14/15 in ROW from $165 to $12 - Decrease funds in 15/16 in CON from $1,100 to $82 Othr. State - State Local Partnership: ► Add funds in 12/13 in CON for $818 STPL-R: - Decrease funds in 13/14 in ENG from $135 to $104 - Decrease funds in 14/15 in ROW from $165 to $88 + Increase funds in 15/16 in CON from $600 to $628 **Total project cost increased from $2,300 to $2,864**	Changes made per Measure C plan update.
Fresno, City of	FRE130034	Fresno Street and Van Ness Avenue ITS	Fresno Street from B Street to Divisadero Street and Van Ness Avenue from Ventura Avenue to Divisadero Street; Install ITS communications, 2070L controllers; some cameras, detection and vaults	Local	0%	0	1,500	1,500	Change Reason: **CMAQ Energy Act funds changed to Toll Credits** No change in project funding **Total project cost remains the same at $1,500**	As of October 1, 2012 Caltrans and FHWA will no longer approve E-76s that have the CMAQ Energy Act programmed for 100% federal participation. The CMAQ Energy Act funds are being changed to toll credits and this project will remain 100% federally funded with CMAQ.
Fresno, City of	FRE130069	Fulton Mall and Mariposa Mall Street Reconstruction	Fulton Mall and Mariposa Mall Street Reconstruction	Local		0	0	1,000	**New Project** TCSPPP: ► Add funds in 12/13 in ENG for $1,000 **Total project cost $1,000**	New project in the 2013 FTIP; 2012 TCSP funds recently awarded.
Huron, City of	FRE130044	Granada, Los Angeles, Myrtle and Tornado Sidewalks	Granada Street, Los Angeles, Myrtle Street, and Tornado Avenue; Construct new sidewalks, curb ramps, and crosswalks.	Local	0%	0	172	172	Change Reason: **CMAQ Energy Act funds changed to Toll Credits** No change in project funding **Total project cost remains the same at $172**	As of October 1, 2012 Caltrans and FHWA will no longer approve E-76s that have the CMAQ Energy Act programmed for 100% federal participation. The CMAQ Energy Act funds are being changed to toll credits and this project will remain 100% federally funded with CMAQ.
Huron, City of	FRE130059	Lassen Ave (SR 269) and 11th St Pedestrian Crosswalk	In Huron at the intersection of Lassen Avenue (SR 269) and 11th Street; Install new crosswalk, curb ramps, speed feed back signs on existing "School Xing" flashing lights	Local	0%	0	104	104	Change Reason: **CMAQ Energy Act funds changed to Toll Credits** No change in project funding **Total project cost remains the same at $104**	As of October 1, 2012 Caltrans and FHWA will no longer approve E-76s that have the CMAQ Energy Act programmed for 100% federal participation. The CMAQ Energy Act funds are being changed to toll credits and this project will remain 100% federally funded with CMAQ.

Fresno Council of Governments
2013 Federal Transportation Improvement Program
Fresno County Region (in $0s)

Lead Agency: Fresno, City of

FRE130069 — AMENDMENT: 12-01

Project Title:Fulton Mall and Mariposa Mall Street Reconstruction
Project Description: Fulton Mall and Mariposa Mall Street Reconstruction

Sys: Local | Rt: | TCM: No | Model #: | CI:Y | Exempt Category: Non-Exempt

Cost Difference: $1,000,000 | Est Total Cost: $1,000,000 | Open to Traffic:

	Phase	PRIOR	12/13	13/14	14/15	15/16	16/17	BEYOND	TOTAL
Federal Disc. - Trans. & Comm & Sys. Presrv. Pilot Prog	PE		$1,000,000						$1,000,000
	RW								
	CON								
	TOTAL		$1,000,000						$1,000,000
	TOTAL PE	$0	$1,000,000	$0	$0	$0	$0	$0	$1,000,000
	TOTAL RW	$0	$0	$0	$0	$0	$0	$0	$0
	TOTAL CON	$0	$0	$0	$0	$0	$0	$0	$0
	TOTAL TOTAL		$1,000,000						$1,000,000

U.S. Department of Transportation
Federal Highway Administration

California Division

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008

December 14, 2012

In Reply Refer To:
HDA-CA

Mr. Malcolm Dougherty, Director
California Department of Transportation
1120 N Street
Sacramento, CA 95814

Attention: Rachel Falsetti, Chief, Division of Transportation Programming

Dear Mr. Dougherty:

SUBJECT: 2013 FEDERAL STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM

We have completed our review of California's proposed 2012/13 - 2015/16 Federal Statewide Transportation Improvement Program (2013 FSTIP) and Statewide and Metropolitan Planning Certifications and related supporting documentation that was submitted by the California Department of Transportation (Caltrans) by letter dated November 5, 2012. The Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA) approve the 2013 FSTIP and this approval supersedes California's 2011 FSTIP and all subsequent amendments to the 2011 FSTIP that were approved by the FHWA and FTA on or after December 14, 2010.

Section 450.218 of Title 23, Code of Federal Regulations, requires the State to submit the updated FSTIP concurrently to the FTA and the FHWA at least every four years for joint approval. With the exception of the Lake Tahoe planning area, California's proposed 2012/13 FSTIP includes the project and project phase listings for proposed transportation projects located outside the planning area boundaries of the State's designated Metropolitan Planning Organizations (MPOs). California's proposed 2013 FSTIP also incorporates by reference: those projects included in the transportation improvement program developed and adopted by the Tahoe Regional Planning Agency (formerly the Tahoe MPO); those projects included in FFY 2012/13 and 2013/14 of the 2010/11 Federal Transportation Improvement Program adopted by the Metropolitan Transportation Commission; and those projects included in the 2012/13 Federal Transportation Improvements Programs (FTIPs), and related FTIP amendments to the 2013 FTIPs, adopted by the other sixteen designated MPOs in California.

The FHWA and the FTA have completed the air quality conformity determinations required by 23 CFR 450.216(b) for the MPO FTIPs in areas of the State designated as nonattainment or maintenance for national ambient air quality standards (NAAQS).

Based on our review of the information submitted with the State's proposed 2013 FSTIP, including revenue and proposed project funding information required to demonstrate financial constraint, and documentation for statewide and metropolitan planning process in support of California's Statewide Planning Certification, we are approving the 2013 FSTIP as proposed.

Any project or project phase listed in a MPO FTIP that is not included in the MPO's Regional Transportation Plan, is not approved for inclusion in the FSTIP pursuant to 23 CFR §§450.216(k) and 450.324(g).

Our FSTIP approval action includes project listings that indicate no funds are proposed for obligation during the four-year program period from 2012/13 to 2015/16. These projects and project phases cannot be advanced to implementation without an action by the FHWA and the FTA on the FSTIP pursuant to 23 CFR 450.216(l) and 450.328(e). Further, project or project phase funding included in the 2013 FSTIP that is listed/proposed for obligation outside the four year program cycle is accepted by the FHWA and the FTA as 'informational' in accord with 23 CFR §§450.216(a) and 450.324(a).

We are approving the 2013 FSTIP with the understanding that the eligibility of individual projects for funding is subject to the applicant's satisfaction of all federal requirements. This joint FHWA and FTA approval of the FSTIP does not constitute an eligibility determination for the federal funds proposed for obligation on any of the listed projects.

If you have questions or need additional information concerning our approval of the 2013 FSTIP, please contact Wade Hobbs in the FHWA California Division office at (916) 498-5027, or by email at Wade.Hobbs@dot.gov; or Ted Matley in the FTA Region IX office at (415) 744-2590, or by email at Ted.Matley@dot.gov.

Sincerely,

For Leslie T. Rogers
Regional Administrator
Federal Transit Administration

For
Vincent P. Mammano
Division Administrator
Federal Highway Administration

c: (email)
EPA, Region IX
ARB
CALTRANS:
  Fardad Falakfarsa, Office Chief, Office of Federal Resources
  Denix Anbiah, Division Chief, Division of Local Assistance
  Muhaned Aljabiry, Office Chief, Office of Federal Transportation Management Program
  Garth Hopkins, Office Chief, Office of Regional and Interagency Planning
Bureau of Indian Affairs, Pacific Region Roads Engineer
All California MPOs (17)
FTA Region IX, Ray Sukys
FHWA:
  LA Metro Office
  CFLHD
  NVDO

cc:
2012/13 FSTIP Binder

WEH/

Appendix B:
IAC Memo and FHWA Concurrence

M e m o r a n d u m

Flex your power!
Be energy efficient!

To: Inter-agency Consultation Partners

Date: July 30, 2013
FRE-130069

From: ABDUL N. CHAFI, Ph.D.
Central Region
Environmental Engineering Branch

Subject: Consultation on PM 10 & PM2.5 Hot-spot Conformity Assessment.

Projects: Fulton Mall Street Reconstruction-CTIPS I.D. 20300000845

The Department of Transportation is providing this PM10 & PM 2.5 Hot-spot Conformity assessment for the Fulton Mall Street Reconstruction Project for Interagency Consultation. It is requested that the Interagency Consultation Partners concur that this project is not a "Project of Air Quality Concern" (POAQC). Comments on the assessment are due on August 13, 2013. An interagency conference call will be held upon request.

Project Description:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), in cooperation with the City of Fresno (City) proposes to reconstruct Fulton Mall (Mall) as a complete street by reintroducing vehicle traffic lanes to the existing pedestrian mall, located in the City of Fresno.

This project is located in the San Joaquin Valley PM10 & PM 2.5 non-attainment area. According to the Environmental Protection Agency (EPA) Transportation Conformity Guidance, PM2.5 hot-spot analysis is required for Projects of Air Quality Concern (POAQC) in non-attainment and maintenance areas (40CFR 93.123 (b) (1)). Projects that are exempt or not POAQC do not require hot-spot analysis.

This project does not meet the criteria of an exempt project under 40 CFR 93.126. However, Caltrans, as a Project Sponsor, has determined that this project does meet the criteria for not a "Project of Air Quality Concern."

According to the Environmental Protection Agency Transportation Conformity Guidance (Final Rule), March 10, 2006, the following are the projects that are of Air Quality Concern (as defined in 40 CFR 32.123(b)(1)):

i) New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;
ii) Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;
iii) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;
iv) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and

v) Projects in or affecting locations, areas, or categories of sites which are identified in the PM2.5 or PM10 applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation

Based on guidance provided by the Environmental Protection Agency, FHWA, and Federal Transit Administration (2006), this project is considered to be not a "project of air quality concern" (POAQC) because it is not any of the identified types of POAQC listed above. The project is not a new or expanded highway project. The project would not involve trip-generating land uses or otherwise involve a significant number of diesel vehicles. The project would not affect intersections at a LOS D, E, or F with a significant increase of diesel vehicles. The project does not include a new or expanded bus or rail terminal or transfer points. Finally, the project site is not in the PM10 Maintenance Plan or 2012 PM2.5 Plan as a site of violation or possible violation. Therefore, the project does not meet the criteria listed in §93.123(b)(1) which identifies POAQC.

Furthermore, the 2006 Transportation Conformity Guidance for Qualitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas document lists the following Examples of POAQC:

- A project on a new highway or expressway that serves a significant volume of diesel truck traffic, such as facilities with greater than 125,000 annual average daily traffic (AADT) and 8% or more of such AADT is diesel truck traffic;
- New exit ramps and other highway facility improvements to connect a highway or expressway to a major freight, bus, or intermodal terminal;
- Expansion of an existing highway or other facility that affects a congested intersection (operated at Level-of-Service D, E, or F) that has a significant increase in the number of diesel trucks;
- Similar highway projects that involve a significant increase in the number of diesel transit busses and/or diesel trucks.
- A major new bus or intermodal terminal that is considered to be a "regionally significant project" under 40 CFR 93.1019; and,
- An existing bus or intermodal terminal that has a large vehicle fleet where the number of diesel buses increases by 50% or more, as measured by bus arrivals.

Based on guidance provided by the Environmental Protection Agency, FHWA, and Federal Transit Administration (2006), this project is considered to be not a POAQC because it is not any of the identified examples of POAQC listed above.

Traffic Data:

A Transportation Impact Report prepared by Fehr and Peers has provided us with estimated AADT for years 2012, 2015and 2035.

Year	AADT/No Build	2% Trucks	AADT/Build	2% Trucks
2012	NA	NA	0	0
2015	NA	NA	210	4
2035	NA	NA	2,310	46

NA = not applicable
Source: Fehr and Peers 2013

The traffic and the trucks volumes for the horizon year are well below the threshold. Furthermore, the AADT shown in the above table are trips that would have otherwise occurred in the project area. The Build Alternatives are not expected to affect traffic volumes of the project area; it is anticipated that the reintroduced roadways associated with these alternatives would serve existing traffic by providing access to existing businesses along the pedestrian malls, but would not induce additional travel upon opening (Fehr and Peers, 2013)

PM 2.5 Hot-spot Conformity Assessment:

The project is located in a non-attainment area for PM2.5 and the closest monitor station is located in Fresno on 1st Street has registered the following violations of the Federal Standard 1 in the last three years (2010-2012)

Measured # days > 24-Hours Standard: 35, 21, and 39

The National Annual Average: 15.1, 13.0, and 15.4 micrograms per cubic meter.

The National Annual Standard Design Value: 17.1, 15.2, and 14.5 micrograms per cubic meter.

PM10 Hot-Spot Conformity Assessment:

The project is located in maintenance area for PM10. The closest monitor station is located in Fresno on Drummond Avenue has not registered any violation of the Federal Standard in the last three years (2009-2011).

The National 3-Year Average: 38, 34, and 31 micrograms per cubic meter.

The National Annual Average: 35.1, 26.9, and 31.4 micrograms per cubic meter.

There is no reason to believe that this project will create a new violation or worsen an existing violation of the PM2.5 and PM10 National Ambient Air Quality Standards (NAAQS).

The Department of Transportation has completed this PM10 & PM2.5 assessment and has determined that this project is not "Project of Air Quality Concern" therefore no further analysis is required.

Public Involvement Process:

Since the NEPA document for this project is an EA, public involvement is required. A public notice is anticipated to be published in a major newspaper at the time the Environmental Assessment is circulated. This is planned for October, 2013.

If you have any questions, please contact me at (559) 445-6418 or by email at achafi@dot.ca.gov.

Chryss Meier - FW: PM10 & 2.5 Assessment for Fresno Fulton Mall-6005-EPA and FHWA concurrence requested.

From: "Sawtell, Kimely B@DOT" <kimely.sawtell@dot.ca.gov>
To: Chryss Meier <CMeier@brandman.com>
Date: 8/9/2013 12:41 PM
Subject: FW: PM10 & 2.5 Assessment for Fresno Fulton Mall-6005-EPA and FHWA concurrence requested.

From: Goewert, Terry@DOT
Sent: Monday, August 05, 2013 9:22 AM
To: Chafi, Abdul Rahim N@DOT; Sawtell, Kimely B@DOT
Subject: FW: PM10 & 2.5 Assessment for Fresno Fulton Mall-6005-EPA and FHWA concurrence requested.

FYI

From: Joseph.Vaughn@dot.gov [mailto:Joseph.Vaughn@dot.gov]
Sent: Monday, August 05, 2013 9:14 AM
To: Goewert, Terry@DOT
Cc: oconnor.karina@epa.gov; Brady, Mike J@DOT; Romero, Ken J@DOT
Subject: RE: PM10 & 2.5 Assessment for Fresno Fulton Mall-6005-EPA and FHWA concurrence requested.

FHWA concurs that this is not a project of air quality concern.

Joseph Vaughn
Air Quality Specialist/MPO Coordinator
FHWA, CA Division
(916) 498-5346

From: Goewert, Terry@DOT [mailto:terry.goewert@dot.ca.gov]
Sent: Tuesday, July 30, 2013 3:46 PM
To: Cari Anderson; Aaron Hoyt; Bagde, Abhijit J@DOT; Alexandra Marcucci; Mahaney, Ann@DOT; Ben Giuliani; Bruce Abanathie; Cari Anderson; Crenshaw, Cecilia (FHWA); Chelsea Gonzales; Christina Lehn; David Cortez; Derek Winning; Dylan Stone; Eddie Wendt; Elizabeth Wright; Errol Villegas; Frances Wicher; Reese, Gwyn E@DOT; Janette Fabela; Crow, Jason@ARB; Jaylen French; Jeff Findley; Jessica Fierro; Perrault, James R@DOT; Taylor, Jonathan@ARB; jstramaglia@kerncog.org; Vaughn, Joseph (FHWA); Kai Han; Kara Bounds; Karina O'Connor; Romero, Ken J@DOT; Kim Kloeb; Kristine Cai; ldawson@fresnocog.org; Kimura, Lezlie@ARB; Green, Lilibeth I@DOT; Huy, Lima A@DOT; Evans, Marcus B@DOT; Mark Hays; Matt Fell; Melissa Garza; Michael Costa; Mike Aronson; Mike Bitner; Brady, Mike J@DOT; Robledo, Pat@DOT; Marquez, Paul Albert@DOT; Raquel Pacheco; Rob Ball; Roberto Brady; Rosa De Leon Park; Carson, Scott (FHWA); Tracey, Stephen R@DOT; Vanderspek, Sylvia@ARB; Tanisha Taylor; Matley, Ted (FTA); Goewert, Terry@DOT; Dumas, Thomas A@DOT; Troy Hightower; Ty Phimmasone; Vincent Liu; Wil Ridder
Cc: ahakimi@kerncog.org; achesley@sjcog.org; Barbara Steck; cyamzon@stancog.org; Diane Nguyen; Elizabeth Wright; Marjie.Kirn@mcagov.org; Michael Sigala; patricia@maderactc.org; Robert Phipps; tsmalley@co.tulare.ca.us; terri.king@co.kings.ca.us; tboren@fresnocog.org; Tex, Julie D@DOT
Subject: PM10 & 2.5 Assessment for Fresno Fulton Mall-6005-EPA and FHWA concurrence requested.

Hello interagency consultation partners,

Caltrans, as lead NEPA agency, is providing the attached PM 10 & 2.5 Hotspot Assessment for the Fresno Fulton Mall project. As part of the environmental review, it is requested that the IAC partners concur that this project is not a Project of Air Quality Concern (POAQC). Please reply to all with concurrence or comments by 5:00 pm on August 13, 2013. An interagency conference call will be held upon request.

This project is being processed as a NEPA Environmental Assessment, EPA and FHWA concurrence is requested.

Please contact me with any questions.

Terry Goewert
Air Quality Specialist-Associate Environmental Planner
Central Region Environmental Engineering
559.445.6426 phone-----fax: 559.445.6236
Address: 855 M Street, Suite 200, Fresno, CA 93721

Appendix C:
CO Protocol Flow Charts

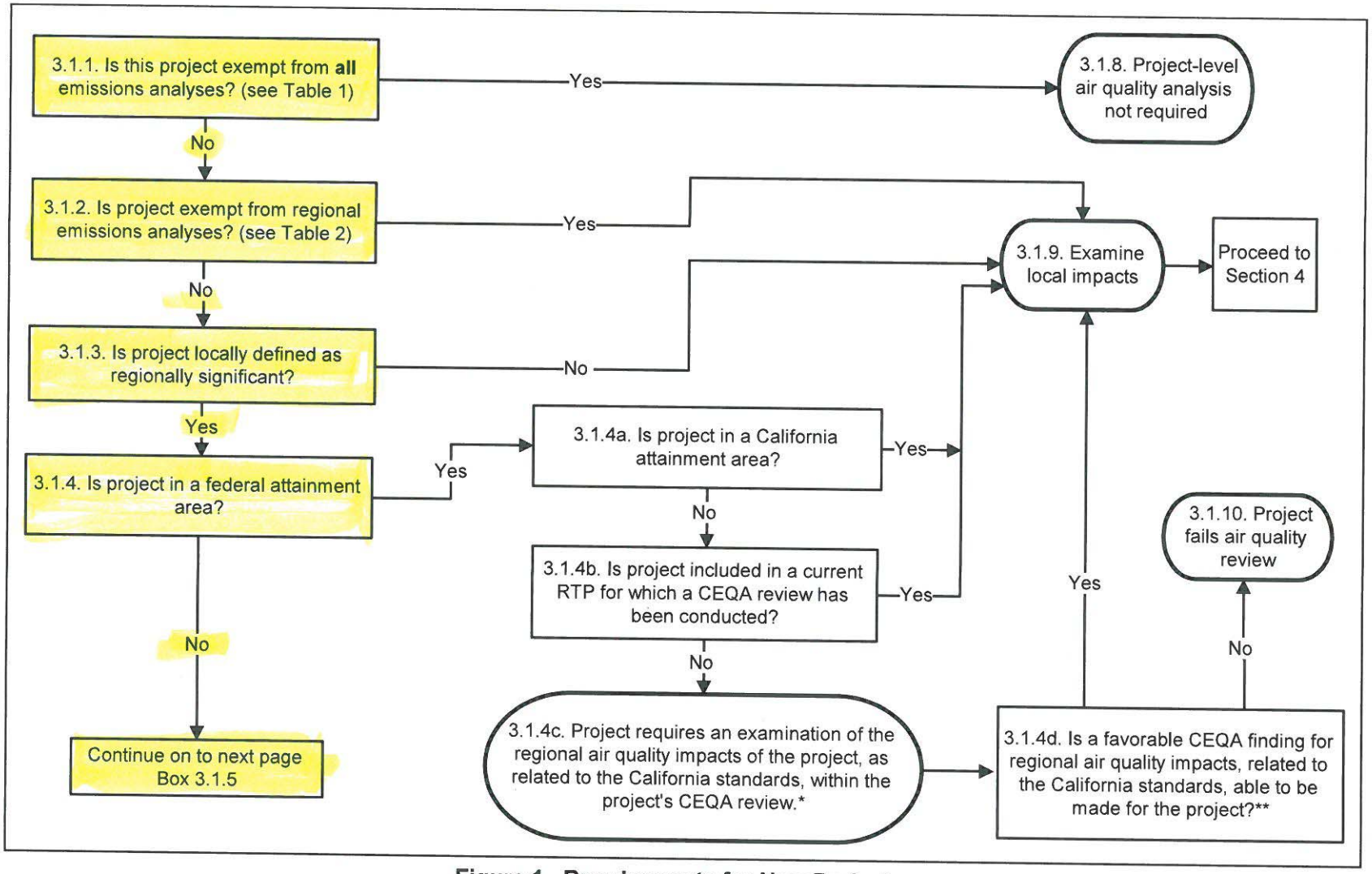

Figure 1. Requirements for New Projects

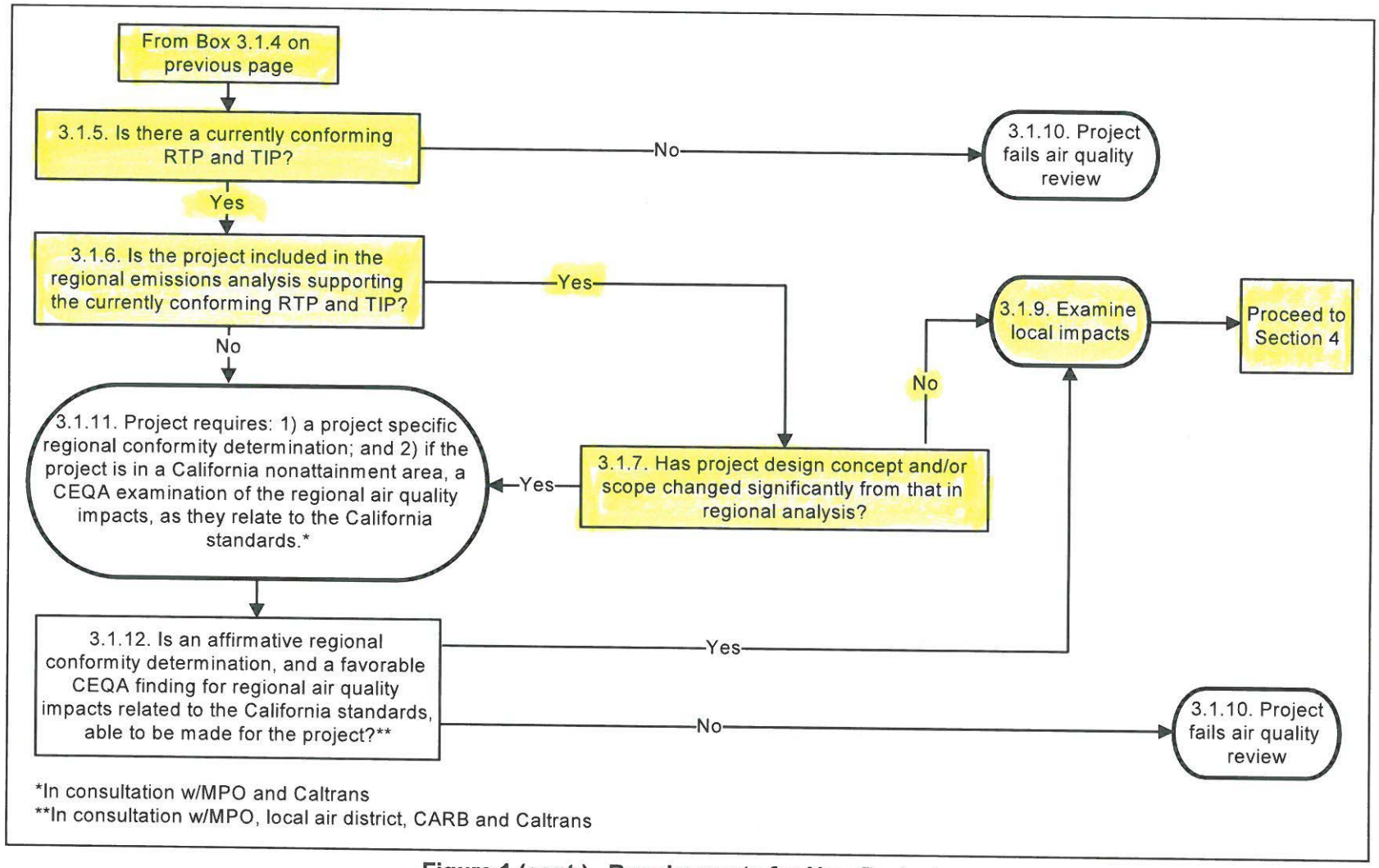

Figure 1 (cont.). Requirements for New Projects

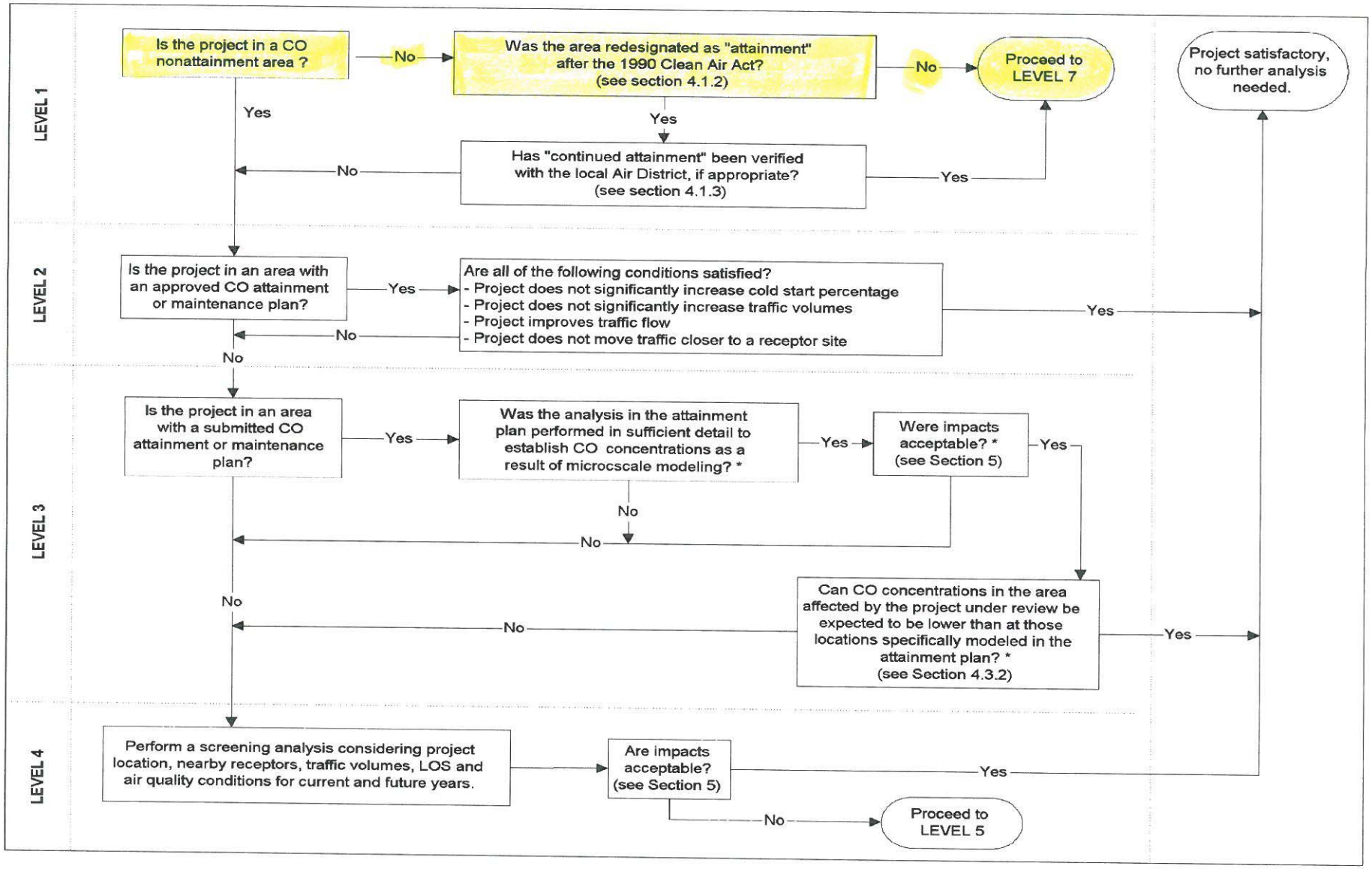

Figure 3. Local CO Analysis

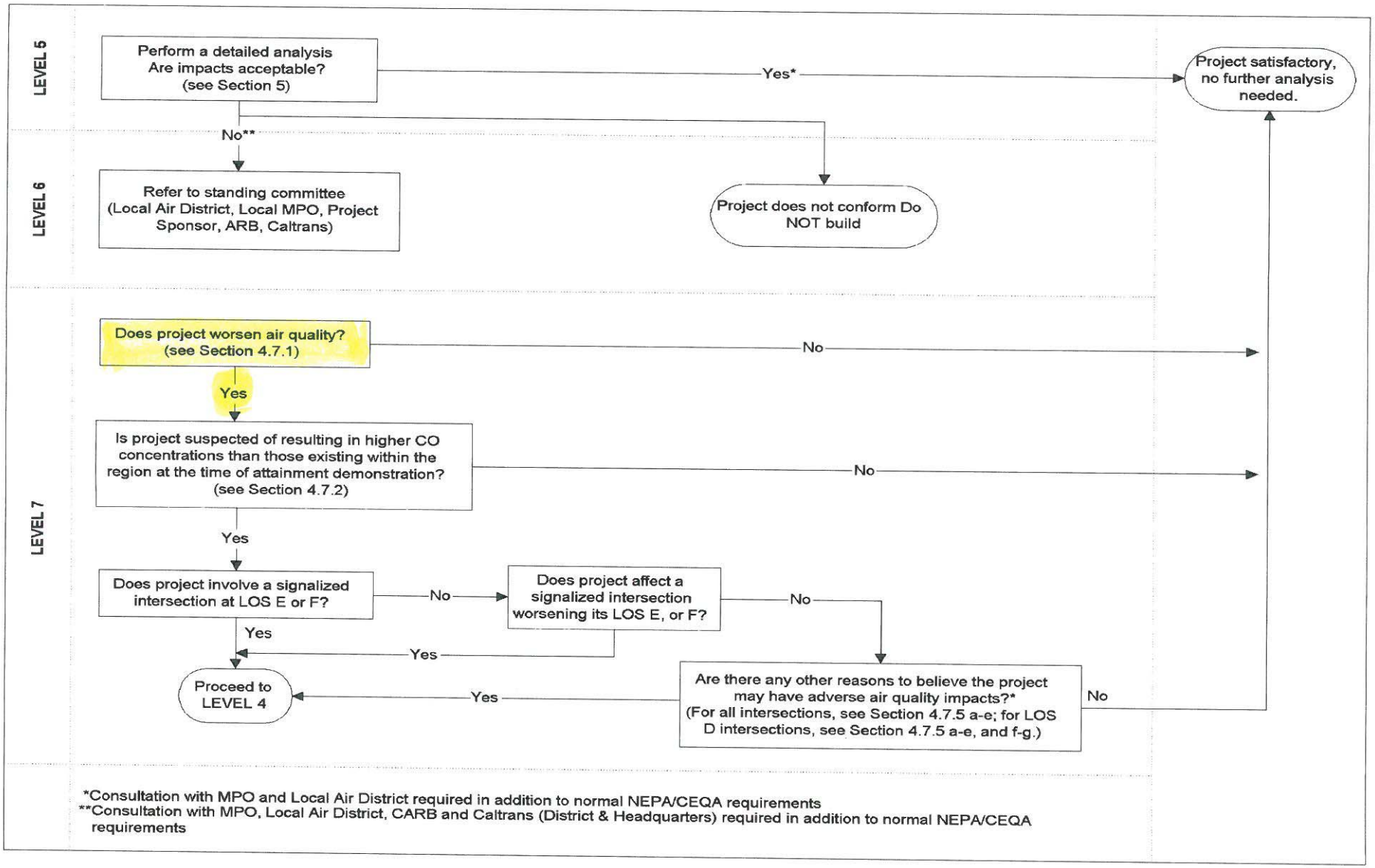

Figure 3 (cont.). Local CO Analysis

Appendix D:
CO Hotspot Analysis

CO Template
Updated 3/19/07

1-hour background	2.47
8-hour background	1.73
Persistence Factor	0.7

Intersection	Caline4 Output (1-hour)	1-hour (with background)	8-hour (without background)	8-hour (with background)
9 Fresno at Van Ness	0.5	3.0	0.35	2.1
16 Ventura at H Street	0.3	2.8	0.21	1.9

```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
         JUNE 1989 VERSION
         PAGE   1

     JOB: 9 Fresno at Van Ness Alt 2 PM
     RUN: Hour 1           (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide
```

I. SITE VARIABLES

```
      U=   1.0 M/S              Z0= 100. CM            ALT=    89. (M)
    BRG= WORST CASE             VD=   .0 CM/S
   CLAS=     7 (G)              VS=   .0 CM/S
   MIXH= 1000. M               AMB=   .0 PPM
  SIGTH=    5. DEGREES        TEMP=  2.9 DEGREE (C)
```

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NB External	10	0	10	600	AG	570	2.7	.0	12.6
B. NB Approach	10	600	10	755	AG	440	4.4	.0	12.6
C. NB Depart	10	755	10	910	AG	520	4.4	.0	12.6
D. NB External	10	910	10	1510	AG	520	2.7	.0	12.6
E. NB Left	10	600	5	755	AG	130	4.4	.0	12.6
F. SB Left	0	910	5	755	AG	60	4.4	.0	12.6
G. SB External	0	1510	0	910	AG	340	2.7	.0	12.6
H. SB Approach	0	910	0	755	AG	280	4.4	.0	12.6
I. SB Depart	0	755	0	600	AG	290	4.4	.0	12.6
J. SB External	0	600	0	0	AG	290	2.7	.0	12.6
K. EB External	-750	750	-150	750	AG	460	2.7	.0	13.4
L. EB Approach	-150	750	5	750	AG	340	4.4	.0	13.4
M. EB Depart	5	750	160	750	AG	430	4.4	.0	13.4
N. EB External	160	750	760	750	AG	430	2.7	.0	13.4
O. WB External	760	760	160	760	AG	430	2.7	.0	13.4
P. WB Approach	160	760	5	760	AG	370	4.4	.0	13.4
Q. WB Depart	5	760	-150	760	AG	560	4.4	.0	13.4
R. WB External	-150	760	-750	760	AG	560	2.7	.0	13.4
S. EB Left	-150	750	5	755	AG	120	4.4	.0	13.4
T. WB Left	160	760	5	755	AG	60	4.4	.0	13.4

```
CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
         JUNE 1989 VERSION
         PAGE   2
```

C4$ 9 Fresno at Van Ness 2015
JOB: 9 Fresno at Van Ness Alt 2 PM
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Receptor	-8	742	2.0
2. Receptor	17	742	2.0
3. Receptor	17	769	2.0
4. Receptor	-8	769	2.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. Receptor	84.	.4	.0	.0	.0	.0	.0	.0	.0	.0
2. Receptor	355.	.5	.0	.0	.2	.0	.0	.0	.0	.0
3. Receptor	264.	.4	.0	.0	.0	.0	.0	.0	.0	.0
4. Receptor	173.	.4	.0	.0	.0	.0	.0	.0	.0	.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. Receptor	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0
2. Receptor	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. Receptor	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0
4. Receptor	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: 16 Ventura at H
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S Z0= 100. CM ALT= 89. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 5. DEGREES TEMP= 2.9 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NB External	7	0	7	600	AG	70	1.1	.0	10.2
B. NB Approach	7	600	7	754	AG	30	1.6	.0	10.2
C. NB Depart	7	754	7	908	AG	340	1.6	.0	10.2
D. NB External	7	908	7	1508	AG	340	1.1	.0	10.2
E. NB Left	7	600	4	754	AG	40	1.6	.0	10.2
F. SB Left	0	908	4	754	AG	70	1.6	.0	10.2
G. SB External	0	1508	0	908	AG	420	1.1	.0	10.2
H. SB Approach	0	908	0	754	AG	350	1.6	.0	10.2
I. SB Depart	0	754	0	600	AG	60	1.6	.0	10.2
J. SB External	0	600	0	0	AG	60	1.1	.0	10.2
K. EB External	-750	750	-150	750	AG	1220	1.1	.0	11.4
L. EB Approach	-150	750	4	750	AG	1020	1.6	.0	11.4
M. EB Depart	4	750	157	750	AG	1070	1.6	.0	11.4
N. EB External	157	750	757	750	AG	1070	1.1	.0	11.4
O. WB External	757	758	157	758	AG	1300	1.1	.0	11.4
P. WB Approach	157	758	4	758	AG	1290	1.6	.0	11.4
Q. WB Depart	4	758	-150	758	AG	1540	1.6	.0	11.4
R. WB External	-150	758	-750	758	AG	1540	1.1	.0	11.4
S. EB Left	-150	750	4	754	AG	200	1.6	.0	11.4
T. WB Left	157	758	4	754	AG	10	1.6	.0	11.4

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

C4$ 16 Ventura 2035
JOB: 16 Ventura at H
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Receptor	-7	743	2.0
2. Receptor	14	743	2.0
3. Receptor	14	766	2.0
4. Receptor	-7	766	2.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. Receptor	276.	.3	.0	.0	.0	.0	.0	.0	.0	.0
2. Receptor	276.	.3	.0	.0	.0	.0	.0	.0	.0	.0
3. Receptor	264.	.3	.0	.0	.0	.0	.0	.0	.0	.0
4. Receptor	96.	.3	.0	.0	.0	.0	.0	.0	.0	.0

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. Receptor	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0
2. Receptor	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0
3. Receptor	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0
4. Receptor	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0

Appendix E:
Roadway Construction Emissions Model Output

Fulton Mall - Demolition

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Parking	1	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Pacific Gas & Electric Company
Climate Zone	3		2.2		
		Precipitation Freq (Days)			
			45		

1.3 User Entered Comments

Project Characteristics -

Land Use - Parking entered as the closest type of land use.

Construction Phase - 15 working days for demolition

Demolition - 6,867 tons of debris to be removed

Trips and VMT - 382 round-trips, 16 miles per round trip

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.07	0.57	0.34	0.00	0.12	0.03	0.15	0.01	0.03	0.04	0.00	63.82	63.82	0.01	0.00	63.93
Total	**0.07**	**0.57**	**0.34**	**0.00**	**0.12**	**0.03**	**0.15**	**0.01**	**0.03**	**0.04**	**0.00**	**63.82**	**63.82**	**0.01**	**0.00**	**63.93**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.07	0.57	0.34	0.00	0.07	0.03	0.10	0.01	0.03	0.04	0.00	63.82	63.82	0.01	0.00	63.93
Total	**0.07**	**0.57**	**0.34**	**0.00**	**0.07**	**0.03**	**0.10**	**0.01**	**0.03**	**0.04**	**0.00**	**63.82**	**63.82**	**0.01**	**0.00**	**63.93**

2.2 Overall Operational

Not Applicable

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Demolition - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.07	0.00	0.07	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.06	0.50	0.31	0.00		0.02	0.02		0.02	0.02	0.00	51.09	51.09	0.01	0.00	51.20
Total	**0.06**	**0.50**	**0.31**	**0.00**	**0.07**	**0.02**	**0.09**	**0.01**	**0.02**	**0.03**	**0.00**	**51.09**	**51.09**	**0.01**	**0.00**	**51.20**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.01	0.07	0.03	0.00	0.05	0.00	0.05	0.00	0.00	0.00	0.00	11.81	11.81	0.00	0.00	11.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.92	0.00	0.00	0.92
Total	**0.01**	**0.07**	**0.04**	**0.00**	**0.05**	**0.00**	**0.05**	**0.00**	**0.00**	**0.00**	**0.00**	**12.73**	**12.73**	**0.00**	**0.00**	**12.74**

Road Construction Emissions Model, Version 7.1.3

Emission Estimates for -> Fulton Mall - Alternative 1 Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	-	-	-	-	-	-	-	-	-	-
Grading/Excavation	10.6	52.6	119.1	6.4	5.4	1.0	5.1	4.9	0.2	12,140.1
Drainage/Utilities/Sub-Grade	6.4	31.2	54.5	4.1	3.1	1.0	3.0	2.8	0.2	5,803.7
Paving	3.1	17.7	23.4	1.4	1.4	-	1.3	1.3	-	3,234.6
Maximum (pounds/day)	10.6	52.6	119.1	6.4	5.4	1.0	5.1	4.9	0.2	12,140.1
Total (tons/construction project)	0.6	3.1	5.3	0.4	0.3	0.1	0.3	0.3	0.0	605.3

Notes: Project Start Year -> 2014
Project Length (months) -> 11
Total Project Area (acres) -> 5
Maximum Area Disturbed/Day (acres) -> 0
Total Soil Imported/Exported (yd^3/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Fulton Mall - Alternative 1 Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	-	-	-	-	-	-	-	-	-	-
Grading/Excavation	4.8	23.9	54.1	2.9	2.5	0.5	2.3	2.2	0.1	5,518.2
Drainage/Utilities/Sub-Grade	2.9	14.2	24.8	1.9	1.4	0.5	1.4	1.3	0.1	2,638.0
Paving	1.4	8.0	10.6	0.6	0.6	-	0.6	0.6	-	1,470.3
Maximum (kilograms/day)	4.8	23.9	54.1	2.9	2.5	0.5	2.3	2.2	0.1	5,518.2
Total (megagrams/construction project)	0.5	2.8	4.8	0.3	0.3	0.1	0.3	0.2	0.0	549.0

Notes: Project Start Year -> 2014
Project Length (months) -> 11
Total Project Area (hectares) -> 2
Maximum Area Disturbed/Day (hectares) -> 0
Total Soil Imported/Exported ($meters^3$/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

Road Construction Emissions Model, Version 7.1.3

Emission Estimates for -> Fulton Mall - Alternative 2 Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	-	-	-	-	-	-	-	-	-	-
Grading/Excavation	10.6	52.5	118.6	6.4	5.4	1.0	5.1	4.9	0.2	12,063.6
Drainage/Utilities/Sub-Grade	6.4	31.2	54.5	4.1	3.1	1.0	3.0	2.8	0.2	5,803.7
Paving	3.1	17.7	23.4	1.4	1.4	-	1.3	1.3	-	3,234.6
Maximum (pounds/day)	10.6	52.5	118.6	6.4	5.4	1.0	5.1	4.9	0.2	12,063.6
Total (tons/construction project)	0.6	3.1	5.3	0.4	0.3	0.1	0.3	0.3	0.0	604.1

Notes: Project Start Year -> 2014
Project Length (months) -> 11
Total Project Area (acres) -> 5
Maximum Area Disturbed/Day (acres) -> 0
Total Soil Imported/Exported (yd^3/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Fulton Mall - Alternative 2 Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	-	-	-	-	-	-	-	-	-	-
Grading/Excavation	4.8	23.9	53.9	2.9	2.5	0.5	2.3	2.2	0.1	5,483.4
Drainage/Utilities/Sub-Grade	2.9	14.2	24.8	1.9	1.4	0.5	1.4	1.3	0.1	2,638.0
Paving	1.4	8.0	10.6	0.6	0.6	-	0.6	0.6	-	1,470.3
Maximum (kilograms/day)	4.8	23.9	53.9	2.9	2.5	0.5	2.3	2.2	0.1	5,483.4
Total (megagrams/construction project)	0.5	2.8	4.8	0.3	0.3	0.1	0.3	0.2	0.0	547.9

Notes: Project Start Year -> 2014
Project Length (months) -> 11
Total Project Area (hectares) -> 2
Maximum Area Disturbed/Day (hectares) -> 0
Total Soil Imported/Exported (meters^3/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

Cross Mall - Demolition

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Parking	1	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Pacific Gas & Electric Company
Climate Zone	3		2.2		
		Precipitation Freq (Days)			
			45		

1.3 User Entered Comments

Project Characteristics -

Land Use - Parking entered as the closest type of land use.

Construction Phase - 10 working days for demolition

Demolition - 5,425 tons of debris to be removed

Trips and VMT - 301 round-trips, 16 miles per round trip

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.05	0.39	0.23	0.00	0.08	0.02	0.10	0.01	0.02	0.03	0.00	43.98	43.98	0.00	0.00	44.06
Total	**0.05**	**0.39**	**0.23**	**0.00**	**0.08**	**0.02**	**0.10**	**0.01**	**0.02**	**0.03**	**0.00**	**43.98**	**43.98**	**0.00**	**0.00**	**44.06**

2.2 Overall Operational

Not Applicable

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Demolition - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.06	0.00	0.06	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.04	0.33	0.21	0.00		0.02	0.02		0.02	0.02	0.00	34.06	34.06	0.00	0.00	34.13
Total	**0.04**	**0.33**	**0.21**	**0.00**	**0.06**	**0.02**	**0.08**	**0.01**	**0.02**	**0.03**	**0.00**	**34.06**	**34.06**	**0.00**	**0.00**	**34.13**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.06	0.02	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.00	9.31	9.31	0.00	0.00	9.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.61	0.00	0.00	0.61
Total	**0.00**	**0.06**	**0.02**	**0.00**	**0.02**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**9.92**	**9.92**	**0.00**	**0.00**	**9.92**

Road Construction Emissions Model, Version 7.1.3

Emission Estimates for -> Fulton Mall - Cross Malls Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	-	-	-	-	-	-	-	-	-	-
Grading/Excavation	10.1	50.6	115.9	6.2	5.2	1.0	5.0	4.8	0.2	11,649.9
Drainage/Utilities/Sub-Grade	5.9	29.5	53.1	4.0	3.0	1.0	2.9	2.7	0.2	5,596.3
Paving	2.7	15.9	21.9	1.3	1.3	-	1.2	1.2	-	3,027.3
Maximum (pounds/day)	10.1	50.6	115.9	6.2	5.2	1.0	5.0	4.8	0.2	11,649.9
Total (tons/construction project)	0.3	1.5	2.7	0.2	0.1	0.0	0.1	0.1	0.0	304.4

Notes: Project Start Year -> 2014
Project Length (months) -> 5
Total Project Area (acres) -> 3
Maximum Area Disturbed/Day (acres) -> 0
Total Soil Imported/Exported (yd^3/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Fulton Mall - Cross Malls Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	-	-	-	-	-	-	-	-	-	-
Grading/Excavation	4.6	23.0	52.7	2.8	2.4	0.5	2.3	2.2	0.1	5,295.4
Drainage/Utilities/Sub-Grade	2.7	13.4	24.1	1.8	1.3	0.5	1.3	1.2	0.1	2,543.8
Paving	1.2	7.2	10.0	0.6	0.6	-	0.5	0.5	-	1,376.0
Maximum (kilograms/day)	4.6	23.0	52.7	2.8	2.4	0.5	2.3	2.2	0.1	5,295.4
Total (megagrams/construction project)	0.3	1.4	2.5	0.2	0.1	0.0	0.1	0.1	0.0	276.1

Notes: Project Start Year -> 2014
Project Length (months) -> 5
Total Project Area (hectares) -> 1
Maximum Area Disturbed/Day (hectares) -> 0
Total Soil Imported/Exported (meters^3/day)-> 0

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sume of exhaust and fugitive dust emissions shown in columns K and L.

Appendix F:
CalEEMod Output

Fulton Mall - Reintrained Road Dust 2010

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Retail	10	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	
Climate Zone	3		2.2		
		Precipitation Freq (Days)			
			45		

1.3 User Entered Comments

Project Characteristics -

Land Use - Land use Selected Soley for VMT analysis. Project would accomodate existing trips, but would not generate new trips.

Construction Phase -

Vehicle Trips - 21 trips per unit, 10 units, Road length of 0.787 mile

Vechicle Emission Factors - PM10 Exhaust, Brakeware and tirewear set to zero.

Vechicle Emission Factors - PM10 Exhaust, Brakeware and tirewear set to zero.

Vechicle Emission Factors -

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area						0.00	0.00								0.00	
Energy						0.00	0.00								0.00	
Mobile					0.00	0.00	0.00								0.00	
Waste						0.00	0.00								0.00	
Water						0.00	0.00								0.00	
Total					**0.00**	**0.00**	**0.00**								**0.00**	

3.0 Construction Detail

Not Applicable

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated					0.00	0.00	0.00								0.00	
Unmitigated					0.00	0.00	0.00								0.00	
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Retail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
User Defined Retail	0.79	0.79	0.79	0.00	0.00	0.00

Fulton Mall - Reintrained Road Dust 2015

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Retail	10	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**
Climate Zone	3		2.2	
		Precipitation Freq (Days)		
			45	

1.3 User Entered Comments

Project Characteristics -

Land Use - Land use Selected Soley for VMT analysis. Project would accomodate existing trips, but would not generate new trips.

Construction Phase -

Vehicle Trips - 21 trips per unit, 10 units, Road length of 0.787 mile

Vechicle Emission Factors - PM10 Exhaust, Brakeware and tirewear set to zero.

Vechicle Emission Factors - PM10 Exhaust, Brakeware and tirewear set to zero.

Vechicle Emission Factors -

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area						0.00	0.00								0.00	
Energy						0.00	0.00								0.00	
Mobile					0.00	0.00	0.00								0.00	
Waste						0.00	0.00								0.00	
Water						0.00	0.00								0.00	
Total					**0.00**	**0.00**	**0.00**								**0.00**	

3.0 Construction Detail

Not Applicable

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated					0.00	0.00	0.00								0.00	
Unmitigated					0.00	0.00	0.00								0.00	
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Retail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
User Defined Retail	0.79	0.79	0.79	0.00	0.00	0.00

Fulton Mall - Reintrained Road Dust 2035

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Retail	10	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	
Climate Zone	3		2.2		
		Precipitation Freq (Days)			
			45		

1.3 User Entered Comments

Project Characteristics -

Land Use - Land use Selected Soley for VMT analysis. Project would accomodate existing trips, but would not generate new trips.

Construction Phase -

Vehicle Trips - 231 trips per unit, 10 units, Road length of 0.787 mile

Vechicle Emission Factors - PM10 Exhaust, Brakeware and tirewear set to zero.

Vechicle Emission Factors - PM10 Exhaust, Brakeware and tirewear set to zero.

Vechicle Emission Factors -

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area						0.00	0.00									
Energy						0.00	0.00									
Mobile					0.00	0.00	0.00									
Waste						0.00	0.00									
Water						0.00	0.00									
Total					**0.00**	**0.00**	**0.00**									

3.0 Construction Detail

Not Applicable

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated					0.00	0.00	0.00									
Unmitigated					0.00	0.00	0.00									
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Retail	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
User Defined Retail	0.79	0.79	0.79	0.00	0.00	0.00

Appendix G:
EMFAC2011 Output

EMFAC2011 Emissions Inventory
Region Type: County
Region: Fresno
Calendar Year: 2010
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	CO2_TOTEX (tons/day)	CO2_TOTEX(Pavley I+LCFS) (tons/day)
Fresno	2010	Annual	LDA	GAS	Aggregatec	Aggregatec	246280.1	9951728	1541300	3772.490924	3752.828902
Fresno	2010	Annual	LDA	DSL	Aggregatec	Aggregatec	723.9481	23036.94	4073.936	9.301140729	9.218437197
Fresno	2010	Annual	LDT1	GAS	Aggregatec	Aggregatec	38182.59	1429384	230736.8	622.6845679	619.4695405
Fresno	2010	Annual	LDT1	DSL	Aggregatec	Aggregatec	49.93192	1403.673	264.2301	0.580085484	0.576393942
Fresno	2010	Annual	LDT2	GAS	Aggregatec	Aggregatec	90998.06	3755839	569646.2	1949.563217	1937.396926
Fresno	2010	Annual	LDT2	DSL	Aggregatec	Aggregatec	43.64291	1446.606	239.3832	0.588515846	0.582201507
Fresno	2010	Annual	LHD1	GAS	Aggregatec	Aggregatec	14964.84	665986.1	222953.8	727.6096983	727.6096983
Fresno	2010	Annual	LHD1	DSL	Aggregatec	Aggregatec	9093.482	412625.5	114384.6	241.0582101	241.0582101
Fresno	2010	Annual	LHD2	GAS	Aggregatec	Aggregatec	1528.984	65095.17	22779.58	71.33043333	71.33043333
Fresno	2010	Annual	LHD2	DSL	Aggregatec	Aggregatec	2478.364	110630.2	31174.71	64.68132682	64.68132682
Fresno	2010	Annual	MCY	GAS	Aggregatec	Aggregatec	15772.46	152119.4	31541.77	23.54007746	23.54007746
Fresno	2010	Annual	MDV	GAS	Aggregatec	Aggregatec	102445.9	4247895	647528	2769.981323	2760.765497
Fresno	2010	Annual	MDV	DSL	Aggregatec	Aggregatec	79.13535	3255.392	463.3107	1.350592755	1.338795032
Fresno	2010	Annual	MH	GAS	Aggregatec	Aggregatec	2760.031	35489.21	276.1135	26.81677438	26.81677438
Fresno	2010	Annual	MH	DSL	Aggregatec	Aggregatec	606.9944	8353.755	60.69944	11.0847322	11.0847322
Fresno	2010	Annual	Motor Coac	DSL	Aggregatec	Aggregatec	85.27542	12343.9	0	24.73598467	24.73598467
Fresno	2010	Annual	OBUS	GAS	Aggregatec	Aggregatec	394.5845	24438.76	18019.99	19.45370769	19.45370769
Fresno	2010	Annual	PTO	DSL	Aggregatec	Aggregatec	0	7501.724	0	17.74922161	17.74922161
Fresno	2010	Annual	SBUS	GAS	Aggregatec	Aggregatec	103.1073	5235.691	412.4293	4.355692818	4.355692818
Fresno	2010	Annual	SBUS	DSL	Aggregatec	Aggregatec	368.8207	14109.52	0	21.58262643	21.58262643
Fresno	2010	Annual	T6 Ag	DSL	Aggregatec	Aggregatec	798.3472	28187.2	0	38.2808007	38.2808007
Fresno	2010	Annual	T6 Public	DSL	Aggregatec	Aggregatec	373.1919	6632.151	0	9.130141898	9.130141898
Fresno	2010	Annual	T6 CAIRP	DSL	Aggregatec	Aggregatec	14.47922	939.1619	0	1.253590126	1.253590126
Fresno	2010	Annual	T6 CAIRP :	DSL	Aggregatec	Aggregatec	44.70859	3194.65	0	4.260827489	4.260827489
Fresno	2010	Annual	T6 OOS he	DSL	Aggregatec	Aggregatec	8.301239	538.4411	0	0.718709357	0.718709357
Fresno	2010	Annual	T6 OOS sn	DSL	Aggregatec	Aggregatec	25.63237	1831.559	0	2.442821238	2.442821238
Fresno	2010	Annual	T6 instate (	DSL	Aggregatec	Aggregatec	229.3039	12352.37	0	16.53059835	16.53059835
Fresno	2010	Annual	T6 instate (	DSL	Aggregatec	Aggregatec	510.5235	32728.08	0	43.66310647	43.66310647
Fresno	2010	Annual	T6 instate l	DSL	Aggregatec	Aggregatec	1065.633	57544.06	0	76.99626417	76.99626417
Fresno	2010	Annual	T6 instate s	DSL	Aggregatec	Aggregatec	2383.56	153106	0	204.220257	204.220257
Fresno	2010	Annual	T6 utility	DSL	Aggregatec	Aggregatec	72.16999	1433.291	0	1.952713452	1.952713452
Fresno	2010	Annual	T6TS	GAS	Aggregatec	Aggregatec	1272.706	49376.52	25464.31	40.23825643	40.23825643
Fresno	2010	Annual	T7 Ag	DSL	Aggregatec	Aggregatec	800.5149	57739.99	0	113.4761158	113.4761158
Fresno	2010	Annual	T7 CAIRP	DSL	Aggregatec	Aggregatec	1419.366	339248	0	670.5083796	670.5083796
Fresno	2010	Annual	T7 CAIRP (	DSL	Aggregatec	Aggregatec	29.40183	7023.973	0	13.88060513	13.88060513
Fresno	2010	Annual	T7 NNOOS	DSL	Aggregatec	Aggregatec	1432.029	381641.3	0	768.868997	768.868997
Fresno	2010	Annual	T7 NOOS	DSL	Aggregatec	Aggregatec	516.8972	123545.5	0	245.9630857	245.9630857
Fresno	2010	Annual	T7 other pc	DSL	Aggregatec	Aggregatec	41.864	6546.026	0	12.97073936	12.97073936
Fresno	2010	Annual	T7 POAK	DSL	Aggregatec	Aggregatec	118.8504	16468.35	0	33.12126241	33.12126241
Fresno	2010	Annual	T7 POLA	DSL	Aggregatec	Aggregatec	194.6165	26992.22	0	54.51509739	54.51509739
Fresno	2010	Annual	T7 Public	DSL	Aggregatec	Aggregatec	186.0689	4625.935	0	10.70230159	10.70230159
Fresno	2010	Annual	T7 Single	DSL	Aggregatec	Aggregatec	390.8925	31196.35	0	60.77168559	60.77168559
Fresno	2010	Annual	T7 single c	DSL	Aggregatec	Aggregatec	228.2462	18170.09	0	35.39613176	35.39613176
Fresno	2010	Annual	T7 SWCV	DSL	Aggregatec	Aggregatec	192.0838	9609.104	0	20.30237699	20.30237699
Fresno	2010	Annual	T7 tractor	DSL	Aggregatec	Aggregatec	2963.753	482197.2	0	933.4367409	933.4367409
Fresno	2010	Annual	T7 tractor c	DSL	Aggregatec	Aggregatec	172.8231	13547.15	0	26.45118063	26.45118063
Fresno	2010	Annual	T7 utility	DSL	Aggregatec	Aggregatec	27.77199	691.9406	0	1.582215995	1.582215995
Fresno	2010	Annual	T7IS	GAS	Aggregatec	Aggregatec	69.72841	8371.469	1395.126	5.530518848	5.530518848
Fresno	2010	Annual	UBUS	GAS	Aggregatec	Aggregatec	85.2491	12846.76	340.9964	10.5952681	10.5952681
Fresno	2010	Annual	UBUS	DSL	Aggregatec	Aggregatec	210.1471	31668.49	840.5885	89.70778221	89.70778221
Fresno	2010	Annual	All Other B	DSL	Aggregatec	Aggregatec	206.4432	12207.61	0	16.34083763	16.34083763
							543045.6	22860118	3463897	13944.34826	13899.98459
									Tons/VMT	0.000609986	0.000608045

EMFAC2011 Emissions Inventory
Region Type: County
Region: Fresno
Calendar Year: 2015
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	CO2_TOTEX (tons/day)	CO2_TOTEX(Pavley I+LCFS) (tons/day)
Fresno	2015	Annual	LDA	GAS	Aggregatec	Aggregatec	267199.9	11357914	1684802	4326.588138	3633.472324
Fresno	2015	Annual	LDA	DSL	Aggregatec	Aggregatec	785.4427	31159.41	4668.494	12.88254734	10.58234656
Fresno	2015	Annual	LDT1	GAS	Aggregatec	Aggregatec	41642.31	1653845	252863	726.6511074	623.1450553
Fresno	2015	Annual	LDT1	DSL	Aggregatec	Aggregatec	54.45624	2029.647	295.8024	0.847741404	0.696967587
Fresno	2015	Annual	LDT2	GAS	Aggregatec	Aggregatec	98611.32	4212462	618938.7	2186.401888	1930.472317
Fresno	2015	Annual	LDT2	DSL	Aggregatec	Aggregatec	47.29425	1968.337	277.6389	0.813635844	0.697243192
Fresno	2015	Annual	LHD1	GAS	Aggregatec	Aggregatec	16208.9	698595.1	241488.4	763.9530906	744.8542634
Fresno	2015	Annual	LHD1	DSL	Aggregatec	Aggregatec	9849.44	426015.6	123893.6	247.4452819	241.2591498
Fresno	2015	Annual	LHD2	GAS	Aggregatec	Aggregatec	1658.537	71010.87	24709.72	77.70382333	75.76122774
Fresno	2015	Annual	LHD2	DSL	Aggregatec	Aggregatec	2688.36	114375.2	33816.18	66.4181338	64.75768046
Fresno	2015	Annual	MCY	GAS	Aggregatec	Aggregatec	16755.54	167922.5	33507.72	31.05763184	30.28119105
Fresno	2015	Annual	MDV	GAS	Aggregatec	Aggregatec	110918.8	4434915	691907.1	2920.653522	2666.647593
Fresno	2015	Annual	MDV	DSL	Aggregatec	Aggregatec	85.68028	3476.969	504.011	1.451164539	1.302059052
Fresno	2015	Annual	MH	GAS	Aggregatec	Aggregatec	2939.211	39543.23	294.0387	29.87675499	29.12983611
Fresno	2015	Annual	MH	DSL	Aggregatec	Aggregatec	646.4002	8618.554	64.64002	11.46152771	11.17498952
Fresno	2015	Annual	Motor Coac	DSL	Aggregatec	Aggregatec	103.5354	14704.86	0	29.65907099	28.91759421
Fresno	2015	Annual	OBUS	GAS	Aggregatec	Aggregatec	421.0692	24068.94	19229.5	19.17503321	18.69565738
Fresno	2015	Annual	PTO	DSL	Aggregatec	Aggregatec	0	9601.057	0	22.73783941	22.16939342
Fresno	2015	Annual	SBUS	GAS	Aggregatec	Aggregatec	106.1789	5391.662	424.7155	4.476210965	4.364305691
Fresno	2015	Annual	SBUS	DSL	Aggregatec	Aggregatec	409.3176	15108.51	0	23.33007882	22.74682685
Fresno	2015	Annual	T6 Ag	DSL	Aggregatec	Aggregatec	901.7122	29895.91	0	40.19768949	39.19274725
Fresno	2015	Annual	T6 Public	DSL	Aggregatec	Aggregatec	451.1297	7889.303	0	10.92682835	10.65365764
Fresno	2015	Annual	T6 CAIRP	DSL	Aggregatec	Aggregatec	18.26674	1139.335	0	1.514602473	1.476737412
Fresno	2015	Annual	T6 CAIRP	DSL	Aggregatec	Aggregatec	52.79225	3713.72	0	4.905370958	4.782736684
Fresno	2015	Annual	T6 OOS he	DSL	Aggregatec	Aggregatec	10.4727	653.2047	0	0.868353177	0.846644348
Fresno	2015	Annual	T6 OOS sn	DSL	Aggregatec	Aggregatec	30.2669	2129.153	0	2.812351447	2.742042661
Fresno	2015	Annual	T6 instate	DSL	Aggregatec	Aggregatec	488.8986	24709.83	0	33.19860804	32.36864284
Fresno	2015	Annual	T6 instate	DSL	Aggregatec	Aggregatec	951.403	58442.73	0	77.59615046	75.6562467
Fresno	2015	Annual	T6 instate	DSL	Aggregatec	Aggregatec	1446.619	74620.35	0	100.0952563	97.59287485
Fresno	2015	Annual	T6 instate	DSL	Aggregatec	Aggregatec	2919.098	183132.6	0	242.865672	236.7940302
Fresno	2015	Annual	T6 utility	DSL	Aggregatec	Aggregatec	90.0571	1777.035	0	2.425880228	2.365233222
Fresno	2015	Annual	T6TS	GAS	Aggregatec	Aggregatec	1395.533	74002.49	27921.82	58.37267421	56.91335736
Fresno	2015	Annual	T7 Ag	DSL	Aggregatec	Aggregatec	911.8527	61560.89	0	121.2729787	118.2411543
Fresno	2015	Annual	T7 CAIRP	DSL	Aggregatec	Aggregatec	1880.762	435248.9	0	881.7019402	859.6593917
Fresno	2015	Annual	T7 CAIRP	DSL	Aggregatec	Aggregatec	56.64095	12955.98	0	26.2546109	25.59824562
Fresno	2015	Annual	T7 NNOOS	DSL	Aggregatec	Aggregatec	1805.238	489638.8	0	997.6152113	972.674831
Fresno	2015	Annual	T7 NOOS	DSL	Aggregatec	Aggregatec	684.9257	158506.6	0	325.239539	317.1085505
Fresno	2015	Annual	T7 other pc	DSL	Aggregatec	Aggregatec	48.99553	7661.141	0	15.24187802	14.86083107
Fresno	2015	Annual	T7 POAK	DSL	Aggregatec	Aggregatec	152.4579	24452.31	0	49.28179977	48.04975478
Fresno	2015	Annual	T7 POLA	DSL	Aggregatec	Aggregatec	259.4181	40522.94	0	82.18332449	80.12874138
Fresno	2015	Annual	T7 Public	DSL	Aggregatec	Aggregatec	222.723	5531.618	0	12.9450977	12.62147026
Fresno	2015	Annual	T7 Single	DSL	Aggregatec	Aggregatec	503.401	40024.34	0	78.52654119	76.56337766
Fresno	2015	Annual	T7 single c	DSL	Aggregatec	Aggregatec	426.009	33515.41	0	65.77840334	64.13394325
Fresno	2015	Annual	T7 SWCV	DSL	Aggregatec	Aggregatec	229.8743	11490.41	0	24.39501849	23.78514302
Fresno	2015	Annual	T7 tractor	DSL	Aggregatec	Aggregatec	3951.377	618650.1	0	1203.472551	1173.385737
Fresno	2015	Annual	T7 tractor c	DSL	Aggregatec	Aggregatec	328.0979	24988.22	0	49.17802248	47.94857192
Fresno	2015	Annual	T7 utility	DSL	Aggregatec	Aggregatec	34.61857	862.3806	0	1.985303199	1.935670619
Fresno	2015	Annual	T7IS	GAS	Aggregatec	Aggregatec	73.73943	11295.29	1475.378	7.352298468	7.168491007
Fresno	2015	Annual	UBUS	GAS	Aggregatec	Aggregatec	87.78692	13229.2	351.1476	10.91066281	10.63789624
Fresno	2015	Annual	UBUS	DSL	Aggregatec	Aggregatec	216.403	32611.23	865.6121	89.05541631	86.8290309
Fresno	2015	Annual	All Other B	DSL	Aggregatec	Aggregatec	267.0293	14419.64	0	19.29099979	18.80872479
							592029.3	25791997	3762299	16141.04526	14682.65253
									Tons/VMT	0.000625816	0.000569272

EMFAC2011 Emissions Inventory
Region Type: County
Region: Fresno
Calendar Year: 2035
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	CO2_TOTEX (tons/day)	CO2_TOTEX(Pavley I+LCFS) (tons/day)
Fresno	2035	Annual	LDA	GAS	Aggregatec	Aggregatec	390801.8	16623501	2475221	6400.703906	3807.217557
Fresno	2035	Annual	LDA	DSL	Aggregatec	Aggregatec	1148.774	44359.5	7144.546	18.57693675	11.20553149
Fresno	2035	Annual	LDT1	GAS	Aggregatec	Aggregatec	60726.54	2467372	374013.8	1104.180355	672.5489479
Fresno	2035	Annual	LDT1	DSL	Aggregatec	Aggregatec	79.41298	3273.774	498.6997	1.371655631	0.820095377
Fresno	2035	Annual	LDT2	GAS	Aggregatec	Aggregatec	143564.6	6148220	902157.3	3214.670153	2184.265614
Fresno	2035	Annual	LDT2	DSL	Aggregatec	Aggregatec	68.85394	2769.779	427.978	1.159008775	0.791512725
Fresno	2035	Annual	LHD1	GAS	Aggregatec	Aggregatec	23560.97	1012388	351023.4	1108.016533	997.2148799
Fresno	2035	Annual	LHD1	DSL	Aggregatec	Aggregatec	14316.97	618695.3	180089.5	356.2242773	320.6018495
Fresno	2035	Annual	LHD2	GAS	Aggregatec	Aggregatec	2366.244	101102.9	35253.51	110.6768037	99.60912329
Fresno	2035	Annual	LHD2	DSL	Aggregatec	Aggregatec	3835.499	163102.6	48245.76	93.93012778	84.537115
Fresno	2035	Annual	MCY	GAS	Aggregatec	Aggregatec	25565.4	258826.5	51125.69	52.16858087	46.95172278
Fresno	2035	Annual	MDV	GAS	Aggregatec	Aggregatec	159544.8	6312262	967658.8	4234.144572	2945.892458
Fresno	2035	Annual	MDV	DSL	Aggregatec	Aggregatec	123.2419	4921.308	762.4152	2.061248071	1.424408574
Fresno	2035	Annual	MH	GAS	Aggregatec	Aggregatec	4219.736	57515.58	422.1424	43.45436236	39.10892613
Fresno	2035	Annual	MH	DSL	Aggregatec	Aggregatec	928.0172	12440.33	92.80172	16.73285064	15.05956557
Fresno	2035	Annual	Motor Coac	DSL	Aggregatec	Aggregatec	142.7816	21403.68	0	42.2818694	38.05368246
Fresno	2035	Annual	OBUS	GAS	Aggregatec	Aggregatec	631.5095	34800.98	28839.94	27.72258575	24.95032717
Fresno	2035	Annual	PTO	DSL	Aggregatec	Aggregatec	0	14674.53	0	34.245282	30.8207538
Fresno	2035	Annual	SBUS	GAS	Aggregatec	Aggregatec	154.8267	7861.949	619.3066	6.518937365	5.867043629
Fresno	2035	Annual	SBUS	DSL	Aggregatec	Aggregatec	457.018	15477.85	0	23.94688708	21.55219837
Fresno	2035	Annual	T6 Ag	DSL	Aggregatec	Aggregatec	811.0643	28878.34	0	38.17728564	34.35955708
Fresno	2035	Annual	T6 Public	DSL	Aggregatec	Aggregatec	675.7975	12058.6	0	16.25332575	14.62799317
Fresno	2035	Annual	T6 CAIRP	DSL	Aggregatec	Aggregatec	22.6956	1492.652	0	1.957073527	1.761366175
Fresno	2035	Annual	T6 CAIRP :	DSL	Aggregatec	Aggregatec	71.54572	5167.443	0	6.769423244	6.09248092
Fresno	2035	Annual	T6 OOS he	DSL	Aggregatec	Aggregatec	13.01186	855.7685	0	1.122031058	1.009827952
Fresno	2035	Annual	T6 OOS sn	DSL	Aggregatec	Aggregatec	41.01865	2962.603	0	3.881051488	3.49294634
Fresno	2035	Annual	T6 instate (	DSL	Aggregatec	Aggregatec	852.9026	46790.98	0	61.46709038	55.32038135
Fresno	2035	Annual	T6 instate (	DSL	Aggregatec	Aggregatec	1950.17	128044.6	0	167.8870563	151.0983506
Fresno	2035	Annual	T6 instate l	DSL	Aggregatec	Aggregatec	2008.899	109885.9	0	144.3569242	129.9212318
Fresno	2035	Annual	T6 instate s	DSL	Aggregatec	Aggregatec	4567.028	299490.2	0	392.6846101	353.4161491
Fresno	2035	Annual	T6 utility	DSL	Aggregatec	Aggregatec	156.8072	3143.461	0	4.211119882	3.790007894
Fresno	2035	Annual	T6TS	GAS	Aggregatec	Aggregatec	2026.136	112576.9	40538.93	88.03212867	79.2289158
Fresno	2035	Annual	T7 Ag	DSL	Aggregatec	Aggregatec	820.9757	59257.77	0	116.9599223	105.2639301
Fresno	2035	Annual	T7 CAIRP	DSL	Aggregatec	Aggregatec	2736.37	663788	0	1346.841097	1212.156988
Fresno	2035	Annual	T7 CAIRP (	DSL	Aggregatec	Aggregatec	112.3395	27241.09	0	55.2742334	49.74681006
Fresno	2035	Annual	T7 NNOOS	DSL	Aggregatec	Aggregatec	2702.413	746736.7	0	1524.567087	1372.110379
Fresno	2035	Annual	T7 NOOS	DSL	Aggregatec	Aggregatec	996.5164	241734.7	0	498.6963751	448.8267376
Fresno	2035	Annual	T7 other pc	DSL	Aggregatec	Aggregatec	68.94767	10780.94	0	20.89876498	18.80888849
Fresno	2035	Annual	T7 POAK	DSL	Aggregatec	Aggregatec	326.105	67065.42	0	131.1296855	118.016717
Fresno	2035	Annual	T7 POLA	DSL	Aggregatec	Aggregatec	555.683	109944.2	0	216.6460253	194.9814228
Fresno	2035	Annual	T7 Public	DSL	Aggregatec	Aggregatec	339.3438	8425.396	0	19.16848526	17.25163673
Fresno	2035	Annual	T7 Single	DSL	Aggregatec	Aggregatec	732.7131	61040.2	0	119.7646738	107.7882064
Fresno	2035	Annual	T7 single c	DSL	Aggregatec	Aggregatec	846.4702	70469.12	0	138.2683167	124.441485
Fresno	2035	Annual	T7 SWCV	DSL	Aggregatec	Aggregatec	350.1434	17501.44	0	36.33890699	32.70501629
Fresno	2035	Annual	T7 tractor	DSL	Aggregatec	Aggregatec	5671.032	943488.9	0	1816.410551	1634.769496
Fresno	2035	Annual	T7 tractor c	DSL	Aggregatec	Aggregatec	652.4894	52539.94	0	103.2228387	92.90055479
Fresno	2035	Annual	T7 utility	DSL	Aggregatec	Aggregatec	61.02302	1520.165	0	3.438233126	3.094409813
Fresno	2035	Annual	T7IS	GAS	Aggregatec	Aggregatec	91.9213	12929.61	1839.162	8.385668943	7.547102049
Fresno	2035	Annual	UBUS	GAS	Aggregatec	Aggregatec	128.0081	19290.4	512.0322	15.90861256	14.31775131
Fresno	2035	Annual	UBUS	DSL	Aggregatec	Aggregatec	315.552	47552.65	1262.208	120.5414025	108.4872622
Fresno	2035	Annual	All Other B	DSL	Aggregatec	Aggregatec	356.7164	20911.13	0	27.45081659	24.70573493
							863298.9	37858534	5467749	24139.49775	17870.53305
									Tons/VMT	0.000637624	0.000472034

Appendix 5:
Biological Resources Report

Natural Environment Study
(Minimal Impacts)
Fulton Mall Reconstruction Project
City of Fresno, California

Prepared for:
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Tommy Molioo, Biologist

Report Date: November 19, 2013

1. Summary

A Natural Environment Study - Minimal Impacts (NES-MI) was prepared for the City of Fresno for the proposed Fulton Mall Project. The Biological Study Area (BSA) for this NES-MI consists of approximately 65.5 acres located in the City of Fresno, Fresno County, California. The project involves converting the pedestrian paths associated with the Fulton Mall into multi-use roadways. The proposed project would allow multi-use access to the Fulton Mall and three cross street mall sections, Merced Mall, Mariposa Mall, and Kern Mall.

The purpose of the proposed project is to increase mobility and access in the Fulton Mall study area by providing more convenient multi-modal access options on the Mall and its cross streets; to improve visibility of businesses, offices and other amenities in the Fulton Mall study area by improving traffic circulation, thereby encouraging additional economic development in the area; and to increase the Fulton Mall study area's consistency with the requirements and goals of proposed land use plans by making the area more accessible to the public, thereby encouraging greater public use of the area an bolstering future economic development opportunities.

The BSA is comprised of developed and disturbed land associated with existing developments such as the Fulton Mall, associated buildings and structures, vehicle parking, pedestrian pathways, access roads and Chukchansi ballpark. The BSA contains no suitable habitat for any federal or state listed plant or wildlife species. No potentially jurisdictional drainages or mapped blue-line streams occur within or immediately adjacent to the BSA and no regulatory permitting would be required for the proposed project.

The BSA is not within any United States Fish and Wildlife Service (USFWS) designated critical habitat and is not within a designated wildlife movement corridor. The BSA is not within any approved or proposed Habitat Conservation Plan (HCPs) or Natural Community Conservation Plans (NCCPs). The BSA contains some suitable nesting habitat for resident and migratory bird species protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFG Code). Avoidance and minimization measures would be required to minimize impacts to migratory birds, if construction activities take place during the avian nesting season from February 15 through September 1.

2. Introduction

The City of Fresno, in cooperation with the California Department of Transportation (Caltrans), proposes to convert the pedestrian paths associated with the Fulton Mall into multi-use roadways to reintroduce vehicle traffic into the Downtown Mall Area.

2.1 Project Location

The BSA is regionally located in Downtown Fresno, within Fresno County, south of State Route (180), west of SR-41 and east of SR-99 (Appendix A). The BSA is depicted on the Fresno South, California, United States Geological Survey (USGS) 7.5-minute topographic quadrangle in Sections 3, 4, 9 and 10 of Township 14 South, Range 20 East. Fulton Mall consists of six blocks bounded by Van Ness Avenue to the east, Inyo Street to the south, Broadway/H Street to the west, and Tuolumne Street to the north (Exhibit 2). Tulare Street and Fresno Street divide the Mall into three equal portions. The project site includes the existing 80-foot rights-of-way within Fulton Mall including Fulton between Inyo Street to Tulare Street, Tulare Street and Fresno Street, and Fresno Street and Tuolumne Street. The project also includes the existing 80-foot rights-of-way along (1) Kern between Van Ness Avenue and Home Run Alley, (2) Mariposa between Van Ness Avenue and Broadway, and (3) Merced between Van Ness Avenue and Congo Alley. In addition to the Mall, there are areas adjacent to the new streets within the Mall that would allow transitional streetscape to accommodate the project. Furthermore, the project includes a parcel at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley for the proposed tot lot. The BSA for the project is depicted on Appendix B.

2.2 Project Description

The City of Fresno (City) proposes to reconstruct Fulton Mall as a complete street by reintroducing vehicle traffic lanes to the existing pedestrian mall. The Mall consists of six (6) linear blocks that were open to traffic prior to 1964 but now do not allow public vehicle access. The Mall is bound by Tuolumne Street to the north and Inyo Street to the south, and includes portions of three cross streets. The total length of the new roadways would be approximately 0.67 mile; a total of 0.74 mile of existing Fulton Mall right-of-way would be affected.

The “Mall” refers specifically to the pedestrian areas between adjoining buildings located on the former City streets of Fulton, Mariposa, Merced, and Kern, which function as an integrated pedestrian Mall. Fresno Street and Tulare Street, which do allow vehicle traffic, run through the Mall and divide it into three roughly equal sections. Mall landscaping elements include

fountains, planters, benches, sculptures, electrical systems, irrigation systems, and two "tot lots." The Mall does not include the adjoining buildings or their façades.

Each Build Alternative proposes to reconstruct the Mall using "complete streets" design concepts. Complete streets are those designed to function as shared public space, or as "living streets"—for pedestrians, cyclists, outdoor businesses, and slow-moving, cautiously driven vehicles. Complete streets may include narrow roadways, corner bulb-outs, winding streets, and other traffic calming measures to lower driving speeds; street trees and other landscape elements; wide pedestrian sidewalks and crosswalks; and bicycle accommodations such as dedicated bicycle lanes or wide shoulders. The purpose of incorporating these design concepts into the project is to retain portions of the historic fabric and character of the Mall, maintaining the key elements, feeling, and unique experience of a pedestrian mall in downtown Fresno.

The Draft EIR addresses two build options, which are described below.

Project Option 1

Option 1 consists of reopening the Fulton Mall with two-way streets, with one lane of vehicular traffic in each direction alongside bicycle, pedestrian, and potentially other travel modes, along the length of the Fulton Mall and three cross streets: Merced between Congo Alley and Federal Alley, Mariposa between Broadway Plaza and Federal Alley, and Kern between Fulton and Federal Alley. On-street vehicle parking spaces would be reintroduced along the length of the Fulton Mall (including cross streets), mid-block pedestrian crossings would be provided, and construction of streetscape improvements would optimize the streets for the new blend of travel modes. One 11-foot-wide vehicle travel lane would run in each direction, with a parallel parking lane of 8 feet included on both sides of the streets. Sidewalks would include a typical 14-foot sidewalk on one side of the street and a 28-foot-wide promenade on the other. This promenade is intended to approximate the mall-like pedestrian experience of the original Eckbo Fulton Mall. Like the existing mall, the Option 1 promenade would feature artworks, water features, seating, and trees and would allow for walking and pedestrian-only seating, landscaping, and lighting. Pedestrians would be separated from vehicles. There are existing street rights-of-way adjacent to the new streets within the Mall that would include minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane striping. These improvements would provide transitional streetscape to accommodate the project. Under Option 1, the two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be consolidated into one larger tot lot at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley.

Project Option 2

Option 2 consists of reconnecting the street grid similar to Option 1, but would include rebuilding distinctive elements of the Fulton Mall in five to six specific locations, known as "vignettes," in their exact current size and configuration. The vignettes are intended to preserve existing shade trees and features of the historic Eckbo design, and would include many of the existing elements (sculptures, fountains, pavement pattern, trees, and so on). To accomplish this, the street would have gentle curves that would allow for greater preservation of historic features including fountains, art and existing shade trees. One 11-foot-wide vehicle travel lane would run in each direction and would curve through the vignettes. Outside the vignette areas, the street would straighten, and the landscape would include, where possible, an 8-foot-wide parallel parking lane, as well as a pedestrian-only walking, seating, vegetation, and public art area that varies between 14 and 44 feet wide on each side of the street. Within the vignettes, there would be no parking lane, and the existing Fulton Mall landscape elements would be kept intact as much as possible. The remaining space on each side of the street would be dedicated to pedestrian travel, seating, vegetation, and artwork. There are existing street rights-of-way adjacent to the new streets within the Mall that would include minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane striping. These improvements would provide transitional streetscape to accommodate the project. Under Option 2, the two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be consolidated into one larger tot lot at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley.

3. Study Methods

A review and assessment of the natural resources was conducted within the BSA, and analyzed the potential for sensitive biological resources to occur within the BSA. An informal assessment of potential jurisdictional waters and wetlands was also included in the review. The following section discusses the methods used for these studies.

3.1 Studies Required

Prior to the completion of the biological study, the impact area was reviewed and compared to the topographic map and aerial photographs. The BSA encompassed the proposed impact area and immediately surrounding habitat, for a total survey area of approximately 65.5 acres (Appendix B).

3.2 Literature Review

As part of the study of the biological resources within the BSA, a literature review was conducted of the environmental setting of the BSA. Literature reviewed included the United States Department of Agriculture (USDA 1971) Soil Survey for the BSA, the USGS topographic quadrangles queried for the California Natural Diversity Database (CNDDB 2013) (Appendix C) including the Fresno South, Fresno North, Clovis and Malaga quadrangles, the U.S. Fish and Wildlife Service Listed Species for the project region (Appendix C), and literature detailing the habitat requirements of sensitive species occurring in the vicinity of the BSA. The CNDDB Geographic Information System (GIS) database was utilized, together with ArcGIS software, to determine sensitive species located within a 5-mile radius of the BSA.

The entire BSA was assessed to verify the extent of plant communities and to determine the presence of suitable habitat for sensitive plant and wildlife species. Parameters assessed included soil conditions, presence of indicator species, slope, aspect, and hydrology.

Plant communities were mapped using 7.5-minute USGS topographic base maps and aerial photography. The plant communities within the BSA were classified according to the California Department of Fish and Wildlife (CDFW) List of Terrestrial Natural Communities (2003) and cross-referenced to descriptions provided in Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986 and 1992 update). The California Natural Plant Society (CNPS) Inventory of Rare and Endangered Plants was also reviewed (Appendix D).

3.3 Personnel and Survey Dates

The biological study was completed by Biologist Tommy Molioo of FirstCarbon Solutions | Michael Brandman Associates. Mr. Molioo has over five years experience conducting and managing biological resources studies. A site visit to the BSA was conducted by Senior Archeologist Michael Dice of FirstCarbon Solutions | Michael Brandman Associates on April 3, 2013 with other FirstCarbon Solutions | Michael Brandman Associates staff and City personnel. Site photos and general notes of the BSA were taken onsite by Mr. Dice. The information provided by Mr. Dice was compiled with first-hand knowledge of the BSA, downtown portion of the City of Fresno, and the Fresno city limits and zone of influence, to determine the biological resources within the BSA.

3.4 Assessment of Jurisdictional Waters and Wetlands

The assessment of jurisdictional waters and wetlands was conducted by Tommy Molioo on April 22, 2013. Mr. Molioo has over five years experience assessing waters and wetlands for potential regulatory agency jurisdiction. A formal jurisdictional and wetland delineation, consistent with

the USACE 1987 “Federal Manual for Identifying and Delineating Jurisdictional Wetlands,” was not conducted; however, the BSA was systematically inspected to record existing conditions, including any potentially jurisdictional drainage features.

4. Environmental Setting

4.1 Description of the Existing Biological and Physical Conditions

Study Area

The BSA encompasses the project impact area and a buffer around the impact area (Appendix B). The buffer was not based on a fixed measurement but rather on land uses and surrounding habitat. The BSA is approximately 65.5 acres, including the entirety of the proposed Fulton Mall project footprint with a buffer extending out to encompass any potential impacts that may occur during construction activity.

Physical Conditions

The BSA is located on the eastern side of the San Joaquin Valley on the valley floor west of the Sierra Nevada Mountains. The BSA occurs on relatively flat land at an elevation of approximately 290 feet above mean sea level.

The BSA is mapped by the Natural Resource Conservation Service (NRCS) as containing four separate soil series: Delhi loamy sand (3 to 9 percent slopes) Hanford sandy loam, Madera loam, and San Joaquin sandy loam (0 to 3 percent slopes). The soils within the majority of the BSA have been significantly altered from their natural state because of grading and compaction for the construction of the existing Fulton Mall and adjacent buildings and infrastructure.

4.2 Regional Species and Habitats of Concern

Based on the most current version of the California Natural Diversity Database (CNDDB), one sensitive plant community, eight sensitive plant species and fifteen sensitive wildlife species were previously recorded to occur within the Fresno South, Fresno North, Clovis, and Malaga, California USGS topographic quadrangles (Appendix C). For the purpose of this NES (MI) NEPA document, only the federally listed species were analyzed for their potential to occur within the BSA. The U.S. Fish and Wildlife Service (USFWS) Listed Species was also reviewed for the project region (Appendix C) A detailed description and analysis of each species, including habitat type and potential for occurrence, is included in Appendix E, Sensitive Species Tables. Based on the CNDDB and USFWS Listed Species, five federally listed plant species and four federally listed wildlife species have been recorded within 5 miles of the BSA. The five federally listed plant species include succulent owl’s clover (*Castilleja campestris* ssp.

succulenta), California jewel-flower (*Caulanthus californicus*), San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*), hairy Orcutt grass (*Orcuttia pilosa*), and Greene's tuctoria (*Tuctoria greenei*). The four federally listed wildlife species include vernal pool fairy shrimp (*Branchinectia lynchi*), California tiger salamander (*Ambystoma californiense*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), Fresno kangaroo rat (*Dipodomys nitratoides exilis*).

The BSA is located within a disturbed and developed area characterized by concrete pavement and buildings with scattered ornamental trees. As shown in the photographs located in Appendix F, no native or natural habitat occurs within the BSA or has the potential to occur within the BSA. The five federally listed plant species listed above as well as in Appendix E occur within grassland or vernal pool habitats, which are not found within the BSA. The four federally listed wildlife species listed above as well as in Appendix E can be found in grassland, vernal pool, and/or riparian habitats, which do not occur within the BSA. Therefore, there is no suitable habitat for any federally listed species recorded within 5 miles of the BSA.

The BSA is located in the central portion of the City of Fresno and is surrounded by urban development to the north, south, east, and west. Therefore, the proposed project would have no effect on any federally listed plant or wildlife species.

4.3 Vegetation

The BSA is characterized by one habitat type, urban/developed land. The entirety of the BSA has been previously developed for the construction of the Fulton Mall and associated infrastructure, various buildings and a ballpark. Ornamental trees are scattered throughout the BSA, primarily as landscaping along paved pedestrian paths and adjacent to existing buildings. No natural vegetation or habitats occur within the BSA.

The vegetation present within the BSA consists of landscaped ornamental trees such as fig (*Ficus* sp.) pine (*Pinus* sp.), and gum (*Eucalyptus* sp.), with scattered non-native grasses and ruderal (weedy) species including, red brome (*Bromus rubens*), barley (*Hordeum murinum*), and Bermuda grass (*Cynodon dactylon*). These ornamental trees, non-native grasses and ruderal species occur within landscaped and disturbed areas associated with the paved pedestrian paths.

4.4 Animals

Wildlife species expected to occur within the BSA include common avian species typically observed in disturbed settings and urban environments such as, northern mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), common raven (*Corvus corax*), and mourning dove (*Zenaida macroura*). Other wildlife species expected to occur onsite include

western fence lizard (*Sceloporus occidentalis*) and domestic dog (*Canis familiaris*). The buildings associated with the Fulton Mall may provide suitable roosting habitat for bat species known to occur in the area such as California myotis (*Myotis californicus*). The trees located within Fulton Mall do not provide suitable habitat for tree roosting species and none are expected to occur within the landscaped trees within the Mall.

The BSA is located in the downtown portion of the City of Fresno and is surrounded by development in all directions. The BSA does not demonstrate connectivity with any undeveloped habitat, does not function as a wildlife movement corridor for species moving through the area, and approval of the project would not reduce the potential for wildlife to move through the area.

5. Project Impacts

The proposed project would be contained entirely within developed areas associated with the existing Fulton Mall and associated access roads, parking, and paved pedestrian paths. The proposed project would convert the existing paved pedestrian paths into multi-use roadways to facilitate an increase in vehicle traffic. All project impacts would occur to existing developed areas and no native vegetation would be removed as a result of construction of the project. The developed areas associated with the Fulton Mall do not provide suitable habitat for any sensitive biological resources, and there would be no effect on sensitive plant or wildlife species, particularly federally listed species.

The project site provides suitable nesting habitat for a number of common resident and migratory bird species protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game (CFG) Code Section 3500. The ornamental landscaped trees located throughout the Fulton Mall project provide suitable nesting habitat for common species such as house sparrow (*Passer domesticus*) and lesser goldfinch (*Carduelis psaltria*). Both build options of the proposed project would result in the removal of trees within Fulton Mall (approximately 118 trees under Option 1 and approximately 113 trees under Option 2). If the removal of the landscaped trees occurs during the general avian breeding season of February 15 to September 1, nesting bird species may be directly and/or indirectly impacted. Therefore, additional avoidance and minimization measures are required.

Since the buildings associated with Fulton Mall may provide suitable roosting habitat for bat species, construction activities, involving construction noise, may result in indirect effects on bat species, particularly if construction activities occur during the maternity roosting season of May through September. Therefore, avoidance and minimization measures are required.

During the construction phase of the proposed project, noxious and invasive weeds may be introduced to the project site from construction equipment and personnel vehicles. The project is proposing to improve and revitalize Downtown Fresno, which also involves creating an aesthetically pleasing outdoor space, and the potential introduction of noxious weeds is considered a significant effect. Noxious weeds and invasive species control would need to be implemented into the project to reduce the potential for the introduction of noxious weeds to no effect.

The project site and BSA do not occur within any potentially jurisdictional drainages or wetlands and no regulatory agency coordination or permitting is required. The project site is not within a known wildlife movement corridor. The project site is not within a USFWS designated critical habitat area, and the site is not within a local HCP or NCCP area.

6. Mitigation Measures

Both project build alternatives would remove trees associated with the Fulton Mall (approximately 118 trees under Option 1 and approximately 113 trees under Option 2). Option 1 includes the replacement of approximately 132 trees, which is more than the number of trees removed and Option 2 includes the replacement of 70 trees. The replacement planting of trees needs to select species from the City of Fresno Master Tree List to limit the potential for unacceptable or nuisance trees to be planted within the City.

Since construction of the proposed project may potentially impact nesting resident and migratory birds, avoidance and minimization measures are recommended to decrease potential impacts to nesting birds. It is recommended that construction activity occur outside of the nesting season, which typically extends from February 15th through September 1st, but can vary based on seasonal conditions. If construction activity must proceed during the nesting season, a pre-construction nesting bird survey must be conducted within 30-days of tree removal. If an active nest is observed, a suitable buffer would be placed around the active nest and no construction activities may commence without the discretion of an onsite monitoring biologist. If no active nests are observed, construction activity would have no effect on nesting resident and migratory birds and no further measures are required.

Since construction of the proposed project may potentially impact bat species roosting within the buildings associated with Fulton Mall, avoidance and minimization measures are recommended to decrease potential impacts to roosting bats. It is recommended that construction activity occur outside of the maternity roosting season, which typically extends from May 1st through September 30th, but can vary based on seasonal conditions. If construction activity must

proceed during the materity roosting season, a pre-construction roosting bat survey must be conducted within 15-days of construction. If an active roost is observed or detected, a suitable buffer would be placed around the active roost and no construction activities may commence without the discretion of an onsite monitoring biologist. If no active roosts are observed, construction activity would have no effect on roosting resident bats and no further measures are required.

Noxious weeds would be handled in accordance with both Caltrans Highway Design Manual topic 110.5 “Control of Noxious Weeds--Exotic and Invasive Species” and Executive Order 13112 (Invasive Species) and by methods approved by Caltrans’ landscape architect and/or vegetation control specialist.

This project would not introduce, transport, or spread invasive species and would not change the surrounding habitat to encourage immigration of invasive species to the site.

7. Permits Required

No local, state or federal permits are required for construction of the proposed project. Construction of the proposed project would not impact any state or federally listed species, would not result in any impacts to a potentially jurisdictional drainage feature or wetland, would not remove any habitat potentially suitable for a state or federally listed species nor would it affect any USFWS-designated Critical Habitat. Additionally no potentially jurisdictional waters or drainages will be impacted by the proposed project. Therefore, a U.S. Army Corps of Engineers Nationwide or 404 Permit, a CDFW Section 1600 Streambed Alteration Agreement or a Regional Water Quality Control Board Section 401 Certification are not required for the proposed project.

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9. Appendices

A - Regional Vicinity Map

B - Biological Study Area and Project Area

C - California Natural Diversity Data Base List and U.S. Fish and Wildlife Service Listed Species

D - CNPS Inventory of Rare and Endangered Plants List

E - Special Status Species Tables

F - Photographs

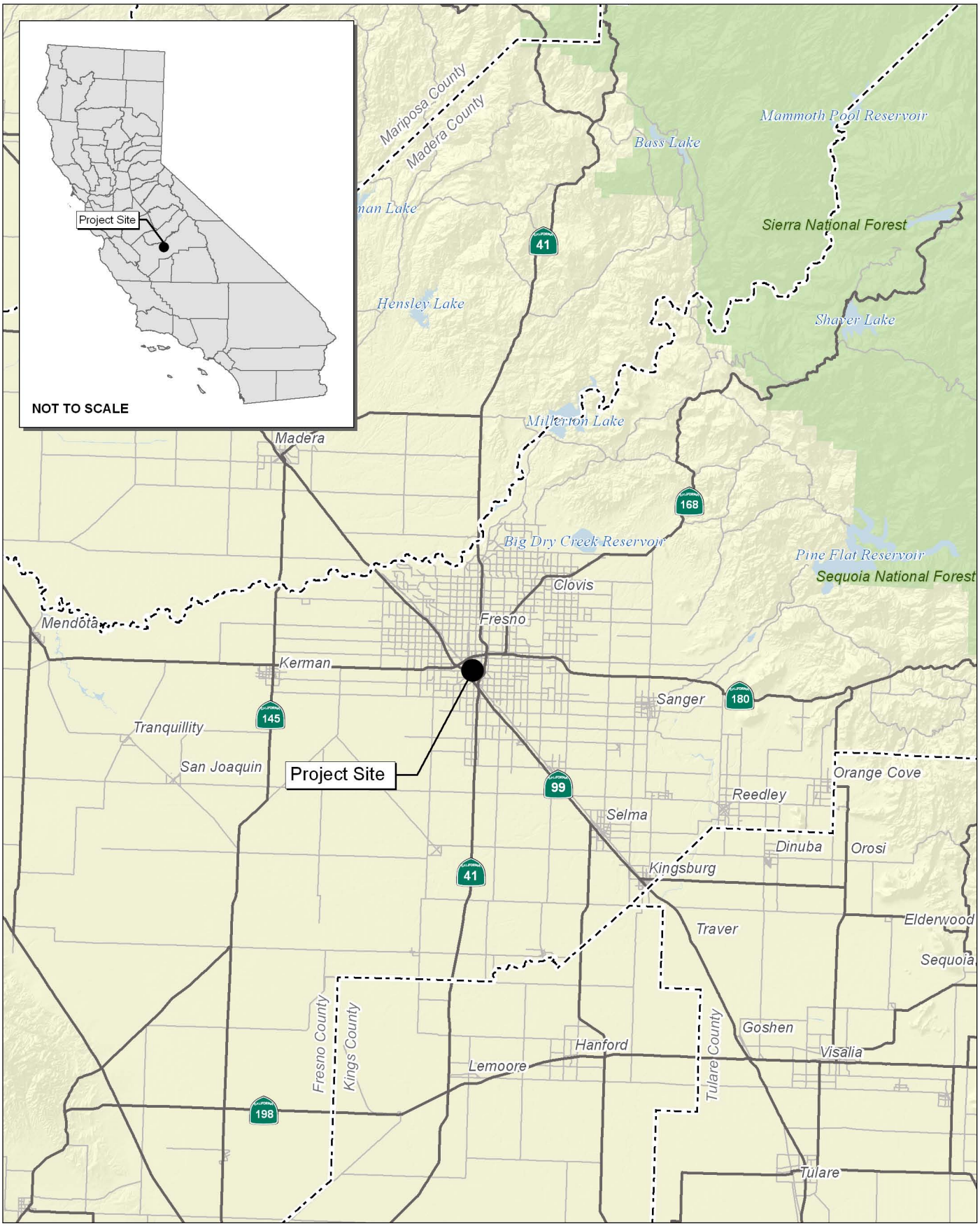
Certification

I hereby certify that the statements furnished above and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Date: November 19, 2013 Signed: _____

Tommy Molioo
Biologist
FirstCarbon Solutions
220 Commerce, Suite 200
Irvine, CA 92602

Appendix A - Regional Vicinity Map



Source: Census 2000 Data, The CaSIL, MBA GIS 2013.

NORTH

10 5 0 10 Miles

Michael Brandman Associates

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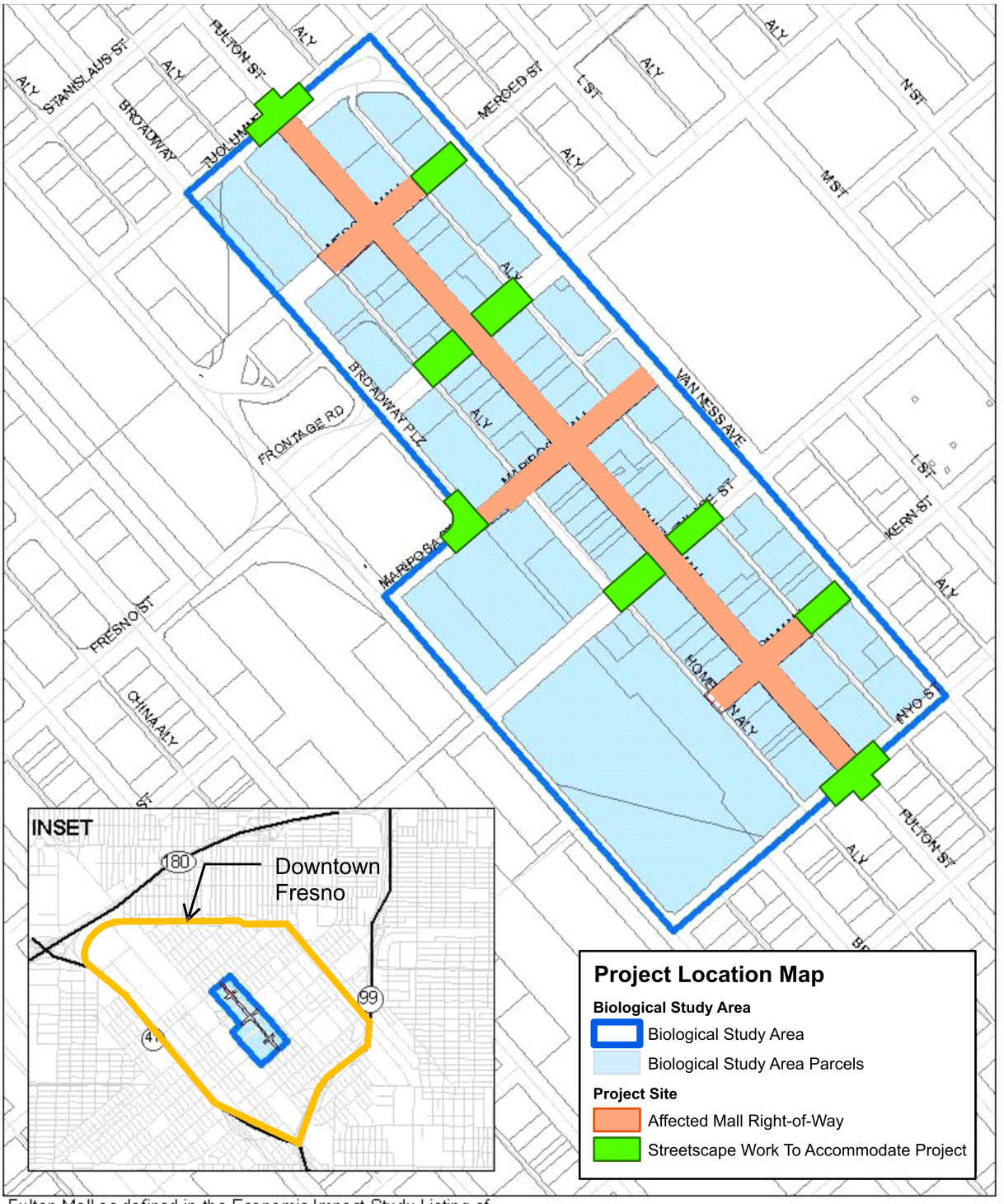
Appendix A
Regional Vicinity Map

CITY OF FRESNO • FULTON MALL PROJECT
NATURAL ENVIRONMENT STUDY – MINIMAL IMPACTS

Appendix B - Biological Study Area Map



\1 Fulton Mall as defined in the Economic Impact Study Listing of Fulton Mall on National Register of Historic Places (September 2008)
\2 Study Area as defined in Chapter 4 of the Fulton Corridor Specific Plan (PUBLIC DRAFT, 14 October 2011)

Michael Brandman Associates

Appendix B
Biological Study Area and Project Area

Appendix C - California Natural Diversity Data Base List and U.S. Fish and Wildlife Service Listed Species

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE

Quad is (Fresno South (3611967) or Fresno North (3611977) or Clovis (3611976) or Malaga (3611966))

CNDDB Element Query Results

ScientificName	CommonName	ElementCode	OccCount	GlobalRank	StateRank	FederalListingStatus	StateListingStatus	CNPSList	OtherStatus	Habitat
Agelaius tricolor	tricolored blackbird	ABPBXB0020	428	G2G3	S2	None	None		ABC_WLBCC -Watch List of Birds of Conservation Concern | BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | USFWS_BCC -Birds of Conservation Concern	Freshwater marsh | Marsh and swamp | Swamp | Wetland
Ambystoma californiense	California tiger salamander	AAAAA01180	1054	G2G3	S2S3	Threatened	Threatened		CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Cismontane woodland | Meadow and seep | Riparian woodland | Valley and foothill grassland | Vernal pool | Wetland
Antrozous pallidus	pallid bat	AMACC10010	402	G5	S3	None	None		BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Chaparral | Coastal scrub | Desert wash | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Riparian woodland | Sonoran desert scrub | Upper montane coniferous forest | Valley and foothill grassland
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	608	G3	S2S3	Threatened	None		IUCN_VU-Vulnerable	Valley and foothill grassland | Vernal pool | Wetland
Castilleja campestris ssp. succulenta	succulent owl's-clover	PDSCR0D3Z1	90	G4?T3	S3	Threatened	Endangered	1B.2		Valley and foothill grassland | Vernal pool | Wetland
Caulanthus californicus	California jewel -flower	PDBRA31010	63	G1	S1	Endangered	Endangered	1B.1	USFS_S-Sensitive	Chenopod scrub | Pinon and juniper woodlands | Valley and foothill grassland
Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	119	G5T3Q	S1	Candidate	Endangered		BLM_S-Sensitive | USFS_S-Sensitive | USFWS_BCC -Birds of Conservation Concern	Riparian forest
Dipodomys nitratoides exilis	Fresno kangaroo rat	AMAFD03151	12	G3T1	S1	Endangered	Endangered		IUCN_VU-Vulnerable	Chenopod scrub
Efferia antiochi	Antioch efferian robberfly	IIDIP07010	4	G1G3	S1S3	None	None			Interior dunes

Eumops perotis californicus	western mastiff bat	AMACD02011	293	G5T4	S3?	None	None		BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | WBWG_H-High Priority	Chaparral | Cismontane woodland | Coastal scrub | Valley and foothill grassland
Imperata brevifolia	California satintail	PMPOA3D020	31	G2	S2.1	None	None	2.1	USFS_S-Sensitive	Chaparral | Coastal scrub | Meadow and seep | Mojavean desert scrub | Riparian forest | Wetland
Lasiurus cinereus	hoary bat	AMACC05030	235	G5	S4?	None	None		IUCN_LC-Least Concern | WBWG_M-Medium Priority	Broadleaved upland forest | Cismontane woodland | Lower montane coniferous forest | North coast coniferous forest
Leptosiphon serrulatus	Madera leptosiphon	PDPLM09130	27	G1?	S1?	None	None	1B.2	USFS_S-Sensitive	Cismontane woodland | Lower montane coniferous forest
Linderiella occidentalis	California linderiella	ICBRA06010	382	G3	S2S3	None	None		IUCN_NT-Near Threatened	Vernal pool
Lytta molesta	molestan blister beetle	IICOL4C030	17	G2	S2	None	None			Vernal pool | Wetland
Metapogon hurdi	Hurd's metapogon robberfly	IIDIP08010	3	G1G3	S1S3	None	None			Interior dunes
Northern Claypan Vernal Pool	Northern Claypan Vernal Pool	CTT44120CA	21	G1	S1.1	None	None			Vernal pool | Wetland
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	PMPOA4G060	47	G1	S1	Threatened	Endangered	1B.1		Vernal pool | Wetland
Perognathus inornatus inornatus	San Joaquin pocket mouse	AMAFD01061	109	G4T2T3	S2S3	None	None		BLM_S-Sensitive	Coastal scrub | Valley and foothill grassland
Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	88	G3	S3	None	None	1B.2	BLM_S-Sensitive	Marsh and swamp | Wetland
Spea hammondii	western spadefoot	AAABF02020	422	G3	S3	None	None		BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened	Cismontane woodland | Coastal scrub | Valley and foothill grassland | Vernal pool | Wetland
Taxidea taxus	American badger	AMAJF04010	454	G5	S4	None	None		CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Alkali marsh | Alkali playa | Alpine | Alpine dwarf scrub | Bog and fen | Brackish marsh | Broadleaved upland forest | Chaparral | Chenopod scrub | Cismontane woodland | Closed-cone coniferous forest | Coastal bluff scrub | Coastal dunes |

										Coastal prairie | Coastal scrub | Desert dunes | Desert wash | Freshwater marsh | Great Basin grassland | Great Basin scrub | Interior dunes | Ione formation | Joshua tree woodland | Limestone | Lower montane coniferous forest | Marsh and swamp | Meadow and seep | Mojavean desert scrub | Montane dwarf scrub | North coast coniferous forest | Oldgrowth | Pavement plain | Redwood | Riparian forest | Riparian scrub | Riparian woodland | Salt marsh | Sonoran desert scrub | Sonoran thorn woodland | Ultramafic | Upper montane coniferous forest | Upper Sonoran scrub | Valley and foothill grassland
Tropidocarpum capparideum	caper-fruited tropidocarpum	PDBRA2R010	18	G1	S1	None	None	1B.1	USFS_S-Sensitive	Valley and foothill grassland
Tuctoria greenei	Greene's tuctoria	PMPOA6N010	46	G1	S1	Endangered	Rare	1B.1	USFS_S-Sensitive	Vernal pool | Wetland

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U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the FRESNO SOUTH (358A) U.S.G.S. 7 1/2 Minute Quad

Database last updated: September 18, 2011

Report Date: November 4, 2013

Listed Species

Invertebrates

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Fish

Hypomesus transpacificus
delta smelt (T)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Gambelia (=Crotaphytus) sila
blunt-nosed leopard lizard (E)

Thamnophis gigas
giant garter snake (T)

Mammals

Dipodomys nitratoides exilis
Fresno kangaroo rat (E)

Vulpes macrotis mutica
San Joaquin kit fox (E)

Plants

Caulanthus californicus
California jewelflower (E)

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

Appendix D - CNPS Inventory of Rare and Endangered Plants List

CNPS California Native Plant Inventory of Rare and Endangered Plants

Plant List

11 matches found. *Click on scientific name for details*

Search Criteria

Found in Fresno County, Found in 9 Quads around 36119G7

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Castilleja campestris ssp. succulenta	succulent owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S3	G4?T3
Caulanthus californicus	California jewel-flower	Brassicaceae	annual herb	1B.1	S1	G1
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	2.2	S2	G2
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual / perennial herb	1B.2	S2.2	G2
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	2.1	S2.1	G2
Leptosiphon serrulatus	Madera leptosiphon	Polemoniaceae	annual herb	1B.2	S1?	G1?
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	1B.1	S1	G1
Pseudobahia bahiifolia	Hartweg's golden sunburst	Asteraceae	annual herb	1B.1	S2	G2
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb	1B.2	S3	G3
Tropidocarpum capparideum	caper-fruited tropidocarpum	Brassicaceae	annual herb	1B.1	S1	G1
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	1B.1	S1	G1

Suggested Citation

California Native Plant Society (CNPS). 2013. Inventory of Rare and Endangered Plants (online edition, v8-01a). California Native Plant Society. Sacramento, CA. Accessed on Monday, April 29, 2013.

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Appendix E - Special Status Species Tables

Appendix E.1: Special-Status Plant Species Table

Special Status Plant Species Table

Species		Status			Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFW	CNPS				
Atriplex persistens	vernal pool smallscale	—	—	1B.2	This species occurs within vernal pools, specifically alkaline vernal pools. Known Elevation Limits: 33 – 377 ft.	Annual herb	Jun – Oct	**Not Likely to Occur.** The BSA occurs within the Fresno River floodplain that does not contain any vernal pools. Additionally the BSA is significantly disturbed from previous and ongoing disturbances.
Castilleja campestris ssp. *succulenta*	succulent owl's clover	FT	SE	1B.2	Succulent owl's clover occurs in vernal pools within valley and foothill grasslands. Known Elevation Limits: 82 – 2,460 ft.	Annual herb	Apr – May	**Not Likely to Occur.** The project site and BSA are located within an entirely disturbed and developed area. No vernal pools or any native habitat occur within the BSA.
Caulanthus californicus	California jewel-flower	FE	SE	1B.1	This species occurs within chenopod scrub, valley and foothill grassland, and pinyon-juniper woodland. It is historically found from various valley habitat in both the central valley and the Carrizo Plain. Known Elevation Limits: 213 – 2,952 ft.	Annual herb	Feb – May	**Not Likely to Occur.** The project site and BSA are located within an entirely disturbed and developed area. No chenopod scrub, grasslands, juniper woodlands, or any native habitat occur within the BSA.
Leptosiphon serrulatus	Madera leptosiphon	—	—	1B.2	This species occurs within cismontane woodland and lower montane coniferous forests, on dry slopes	Annual herb	Apr – May	**Not Likely to Occur.** The BSA occurs partially within the Fresno River floodplain and partially within urban/developed areas.

Species		Status						
Scientific Name	Common Name	USFWS	CDFW	CNPS	Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
					and often on decomposed granite woodland. Known Elevation Limits: 984 – 4,265 ft.			No woodland habitat occurs within or immediately adjacent to the BSA. Additionally the BSA is significantly disturbed from previous and ongoing disturbances.
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	FT	SE	1B.1	This species is only found in vernal pools. Known Elevation Limits: 50 – 2,165 ft.	Annual herb	Apr – Sep	**Not Likely to Occur.** The project site and BSA are located within an entirely disturbed and developed area. No vernal pools or any native habitat occur within the BSA.
Orcuttia pilosa	hairy Orcutt grass	FE	SE	1B.1	This species typically occurs along the margins of vernal pools. Known Elevation Limits: 150 – 656 ft.	Annual herb	May – Sep	**Not Likely to Occur.** The BSA occurs within the Fresno River floodplain that does not contain any vernal pools. Additionally the BSA is significantly disturbed from previous and ongoing disturbances.
Tuctoria greenei	Greene's tuctoria	FE	SR	1B.1	Greene's tuctoria only occurs in vernal pools. It can specifically be found on the dry bottoms of vernal pools in open grasslands. Known Elevation Limits: 98 – 3,510 ft.	Annual herb	May – Sep	**Not Likely to Occur.** The project site and BSA are located within an entirely disturbed and developed area. No vernal pools, grasslands or any native habitat occur within the BSA.

Species		Status			Preferred Habitat	Life Form	Blooming Period	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	USFWS	CDFW	CNPS				

U.S. Fish and Wildlife Service
FE Federal Endangered
FT Federal Threatened

California Department of Fish and Game
SE State Endangered
ST State Threatened
SR State Rare

California Native Plant Society
1A Plants presumed extinct in California.
1B Plants rare, threatened, or endangered in California and elsewhere.
2 Plants rare, threatened, or endangered in California, but more common elsewhere.
3 Plants in need of more information.
4 Plants of limited distribution.
** No Longer Recognized as Sensitive by CNPS

Not Likely to Occur – There are no present or historical records of the species occurring on or in the immediate vicinity, (within 3 miles) of the Project Site and the diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the Site.

Low Potential to Occur – There is a historical record of the species in the vicinity of the Project Site and potentially suitable habitat on Site, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species may occur. The Site is above or below the recognized elevation limits for this species.

Moderate Potential to Occur – The diagnostic habitats associated with the species occur on or in the immediate vicinity of the Project Site, but there is not a recorded occurrence of the species within the immediate vicinity (within 3 miles). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.

High Potential to Occur – There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the Project Site (within 3 miles).

Species Present – The species was observed on the Project Site at the time of the survey or during a previous biological survey.

Appendix E.2: Special-Status Wildlife Species Table

Special Status Wildlife Species Table

Species		Status			Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	Other		
Arthropods						
Branchinecta lynchi	vernal pool fairy shrimp	FT	—	—	This species inhabits the Central Valley of California, from Contra Costa to Kern and Tulare Counties. This beetle can be found in dry vernal pools, but absent from adjacent green/flowering, non pool vegetation.	**Not Likely to Occur.** No suitable habitat for this species occurs on or in the immediate vicinity of the BSA. No vernal pool habitat occurs within the BSA. This species was not observed during the survey.
Reptiles and Amphibians						
Ambystoma californiense	California tiger salamander	FT	ST	DFW: SSC	This salamander needs underground refuges, especially ground squirrel burrows and vernal pools or other season water sources for breeding.	**Not Likely to Occur.** No suitable habitat occurs on or in the immediate vicinity of the BSA for this species. The BSA does not contain vernal pools or ground squirrel burrows. This species was not observed during the survey.
Avian						
Athene cunicularia	burrowing owl	—	—	DFW: SSC	This speices is known to occur within open, dry annual or perennial grasslands, and in deserts and scrublands characterized by low-growing vegetation. The burrowing owl is a subterranean nester, dependant upon burrowing mammals, most notably, the California ground squirrel.	**Not Likely to Occur.** No suitable nesting habitat for this species occurs within the survey area due to lack of small mammal burrows. Marginally suitable foraging opportunities occurs within limited portions of the BSA; however, existing anthropogenic disturbances would likely deter this species from utilizing the area.

Species		Status			Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	Other		
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FC	SE	USFS: Sensitive	This bird is a riparian forest nester, primarily along the broad, lower flood-bottoms of larger river systems. It nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	**Not Likely to Occur.** The BSA occurs within Downtown Fresno and is characterized by disturbed and developed land. No riparian areas or riparian forests are located within the BSA. Ornamental trees occur within the BSA, but are not native willow or cottonwood trees.
Mammals						
Dipodomys nitratoides exilis	Fresno kangaroo rat	FE	SE	-	Fresno kangaroo rat occurs in alkali sink-open grassland habitats in western Fresno County. It prefers bare alkaline clay-based soils subject to seasonal inundation, with more friable soil mounds around shrubs and grasses.	**Not Likely to Occur.** The BSA is characterized by heavily disturbed and completely developed land. No native friable soils occur onsite due to paving of the BSA for the construction of Downtown Fresno.
Lasiurus cinereus	hoary bat	—	—	—	This species prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. It roosts in dense foliage of medium to large trees and feeds primarily on moths. Requires water.	**Not Likely to Occur.** No suitable roosting or foraging habitat occurs within the BSA. Swallow nests occur underneath the Schnoor Avenue Bridge and no dense stands of trees occur within the Fresno River floodplain. This species was not observed during the survey.

Species		Status			Required Habitat	Potential to Occur/ Known Occurrence/ Suitable Habitat
Scientific Name	Common Name	Federal	State	Other		

Federal		State		Other	
FE	Federal Endangered	SE	State Endangered		
FT	Federal Threatened	ST	State Threatened	DFW:SSC	California Species of Special Concern
PFT	Proposed Federal Threatened	CDFW:FP	Fully Protected Species	USFS:	Sensitive United States Forest Service
C	Candidate for Federal Listing	CDFW: P	Protected Species	BLM:	Sensitive
D	Delisted			G	Global Ranking Rarity
				S	State Ranking Rarity

Not Likely to Occur - There are no present or historical records of the species occurring on or in the immediate vicinity, (within 3 miles) of the Project Site and the diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the Site.

Low Potential to Occur - There is a historical record of the species in the vicinity of the Project Site and potentially suitable habitat on Site, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species may occur. The Site is above or below the recognized elevation limits for this species.

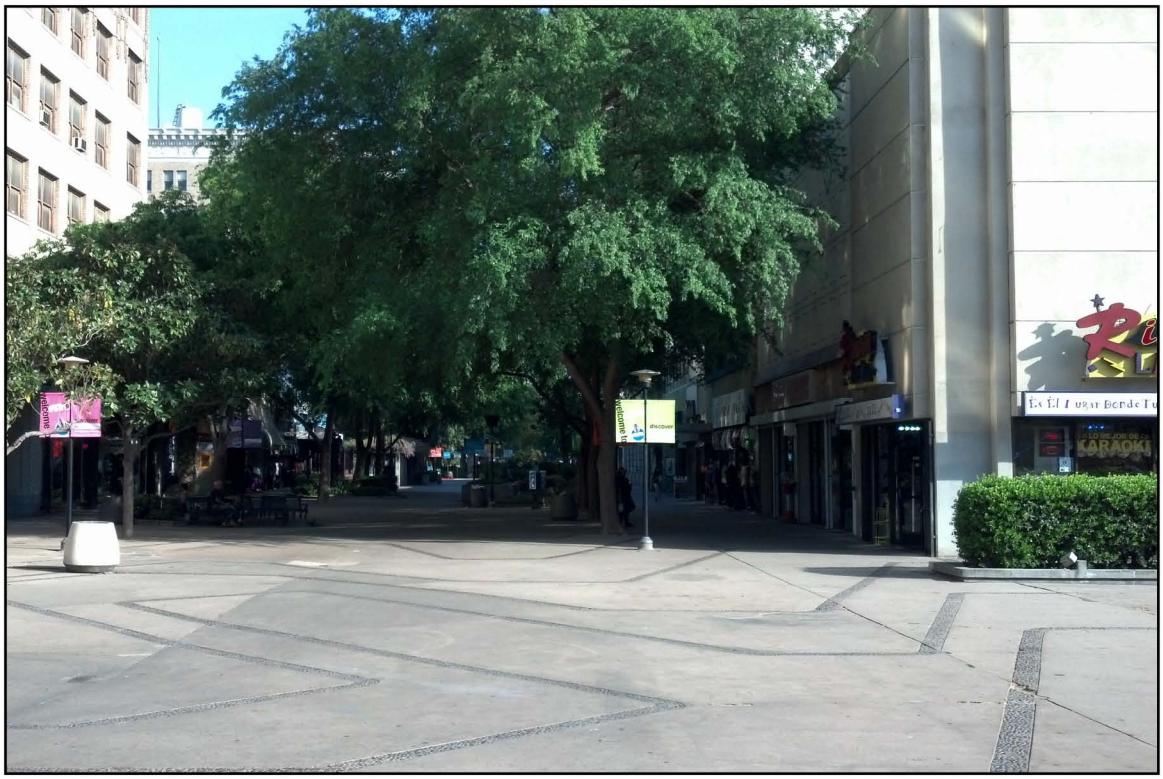
Moderate Potential to Occur - The diagnostic habitats associated with the species occur on or in the immediate vicinity of the Project Site, but there is not a recorded occurrence of the species within the immediate vicinity (within 3 miles). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity.

High Potential to Occur - There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the Project Site (within 3 miles).

Species Present - The species was observed on the Project Site at the time of the survey or during a previous biological survey.

Appendix F - Photographs

Photograph 1: Southwest view of Mariposa Mall with 1900 Mariposa Mall building in distant background.

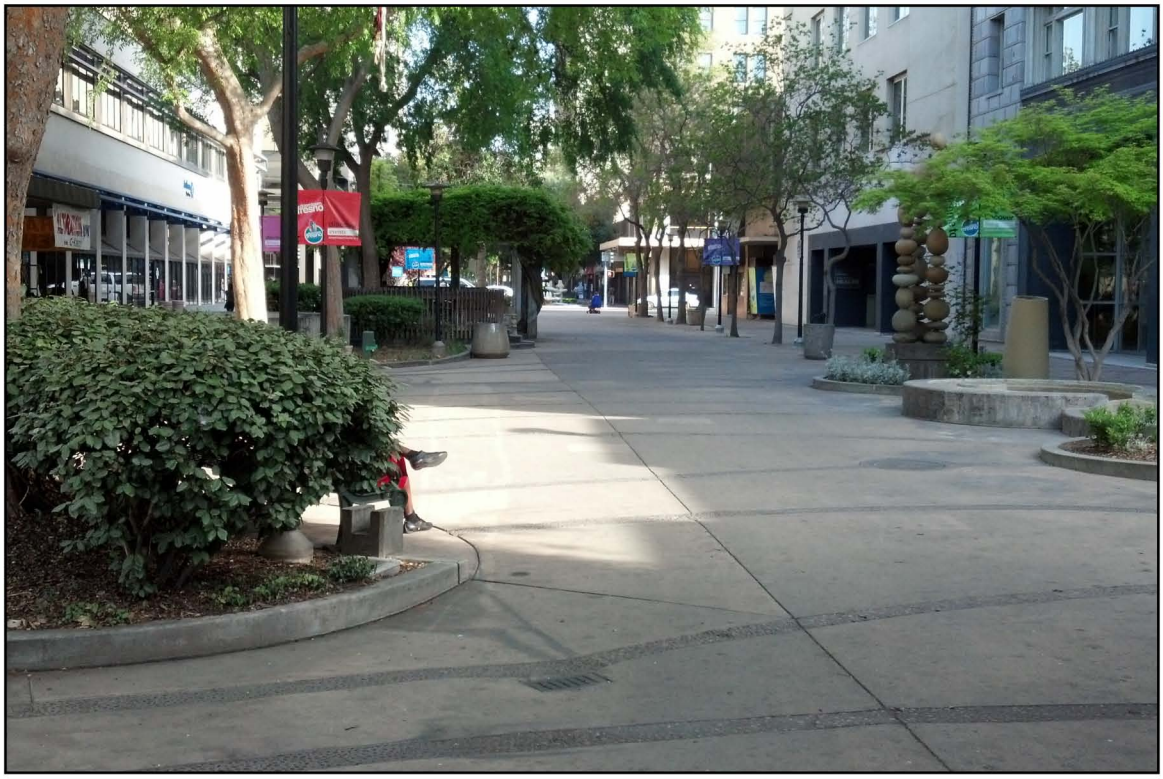


Photograph 2: Southeast view along Fulton Mall from the center of Mariposa Mall.

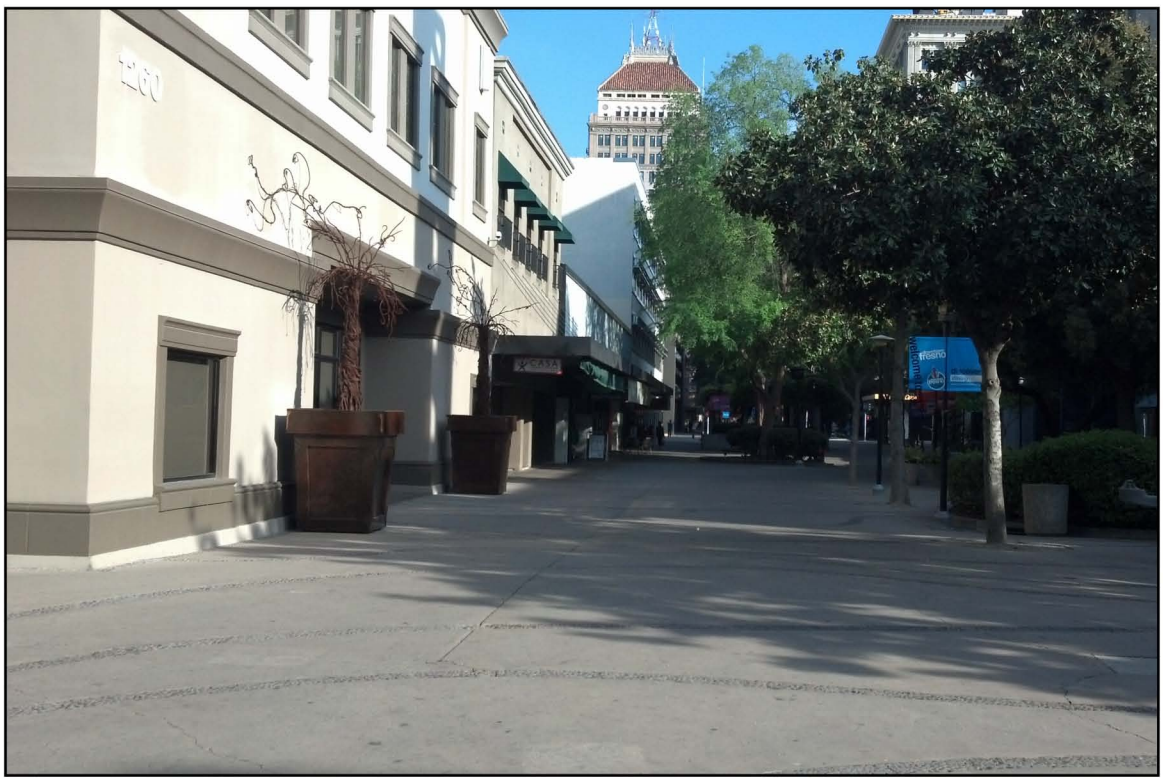
Source: Michael Brandman Associates, 2013.

Michael Brandman Associates

Appendix F
Site Photographs 1 and 2



Photograph 3: Fulton Mall overview (1215 Fulton Mall at far right), southeast view.



Photograph 4: Overview of Fulton Mall from the center of Merced Mall intersection (1260 Fulton Mall to left), southeast view.

Source: Michael Brandman Associates, 2013.

Michael Brandman Associates

Appendix F
Site Photographs 3 and 4

Appendix 6: Paleontological Report

Paleontological Resource Assessment

Fulton Mall Reconstruction Project
City of Fresno, California

Prepared for:
City of Fresno
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559.621.8366

Contact: Elliott Balch, Downtown Revitalization Manager

Prepared by:
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Michael Dice, Archaeologist

Report Date: November 20, 2013

Technical Report

Paleontological Resource Assessment

Prepared For: Elliott Balch
City of Fresno

Prepared by: FirstCarbon Solutions | Michael Brandman Associates

Date: November 20, 2013

The purpose of this memorandum is to review and evaluate potential short- and long-term impacts to buried paleontological resources that may result from construction and implementation of the proposed Fulton Mall Project.

Project Purpose and Need

The purpose of the proposed project is to increase mobility and access in the Fulton Mall study area by providing more convenient multi-modal access options on the Mall and its cross streets; to improve visibility of businesses, offices and other amenities in the Fulton Mall study area by improving traffic circulation, thereby encouraging additional economic development in the area; and to increase the Fulton Mall study area's consistency with the requirements and goals of proposed land use plans by making the area more accessible to the public, thereby encouraging greater public use of the area an bolstering future economic development opportunities.

Proposed Project

The City of Fresno (City) proposes to reconstruct Fulton Mall as a complete street by reintroducing vehicle traffic lanes to the existing pedestrian mall. The Mall consists of six linear blocks that were open to traffic prior to 1964 but now do not allow public vehicle access. The Mall is bounded by Tuolumne Street to the north and Inyo Street to the south, and includes portions of three cross streets. The total length of the new roadways would be approximately 0.67 mile; a total of 0.74 mile of existing Fulton Mall right-of-way would be affected.

The "Mall" refers specifically to the pedestrian areas between adjoining buildings located on the former City streets of Fulton, Mariposa, Merced, and Kern, which function as an integrated pedestrian mall. Fresno Street and Tulare Street, which do allow vehicle traffic, run through the Mall and divide it into three roughly equal sections. Mall landscaping elements include fountains, planters, benches, sculptures, electrical systems, irrigation systems, and two "tot lots." The Mall does not include the adjoining buildings or their facades.

The City of Fresno is proposing two build options for the Fulton Mall Reconstruction Project. These two build options propose to reconstruct the Mall using "complete streets" design concepts. Complete streets are those designed to function as shared public space, or as "living streets" - for pedestrians, cyclists, outdoor businesses, and slow-moving, cautiously driven vehicles. Complete streets may include narrow roadways, corner bulb-outs, winding streets, and other traffic calming measures to lower driving speeds; street trees and other landscape elements; wide pedestrian sidewalks and crosswalks; and bicycle accommodations such as dedicated bicycle lanes or wide shoulders. The purpose of incorporating these design concepts into the proposed project is to retain portions of the historic fabric and character of the

Mall, maintaining the key elements, feeling and unique experience of a pedestrian mall in downtown Fresno.

This Draft EIR addresses two build options, which are described below.

Project Option 1

Option 1 consists of reopening the Fulton Mall with two-way streets, with one lane of vehicular traffic in each direction alongside bicycle, pedestrian, and potentially other travel modes, along the length of the Fulton Mall and three cross streets: Merced between Congo Alley and Federal Alley, Mariposa between Broadway Plaza and Federal Alley, and Kern between Fulton and Federal Alley. On-street vehicle parking spaces would be reintroduced along the length of the Fulton Mall (including cross streets), mid-block pedestrian crossings would be provided, and construction of streetscape improvements would optimize the streets for the new blend of travel modes. One 11-foot-wide vehicle travel lane would run in each direction, with a parallel parking lane of 8 feet included on both sides of the streets. Sidewalks would include a typical 14-foot sidewalk on one side of the street and a 28-foot-wide promenade on the other. This promenade is intended to approximate the mall-like pedestrian experience of the original Eckbo Fulton Mall. Like the existing mall, the Option 1 promenade would feature artworks, water features, seating, and trees and would allow for walking and pedestrian-only seating, landscaping, and lighting. Pedestrians would be separated from vehicles. There are existing street rights-of-way adjacent to the new streets within the Mall that would include minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane striping. These improvements would provide transitional streetscape to accommodate the project. Under Option 1, the two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be consolidated into one larger tot lot at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley.

Project Option 2

Option 2 consists of reconnecting the street grid similar to Option 1, but would include rebuilding distinctive elements of the Fulton Mall in five to six specific locations, known as “vignettes,” in their exact current size and configuration. The vignettes are intended to preserve existing shade trees and features of the historic Eckbo design, and would include many of the existing elements (sculptures, fountains, pavement pattern, trees, and so on). To accomplish this, the street would have gentle curves that would allow for greater preservation of historic features including fountains, art and existing shade trees. One 11-foot-wide vehicle travel lane would run in each direction and would curve through the vignettes. Outside the vignette areas, the street would straighten, and the landscape would include, where possible, an 8-foot-wide parallel parking lane, as well as a pedestrian-only walking, seating, vegetation, and public art area that varies between 14 and 44 feet wide on each sides of the street. Within the vignettes, there would be no parking lane, and the existing Fulton Mall landscape elements would be kept intact as much as possible. The remaining space on each side of the street would be dedicated to pedestrian travel, seating, vegetation, and artwork. There are existing street rights-of-way adjacent to the new streets within the Mall that would include minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane stripping. These improvements would provide transitional streetscape to accommodate the project. Under Option 2, the two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be consolidated into one larger tot lot at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley.

Environmental Setting

Topography

The Fulton Mall project study area consists predominantly of developed land consistent with the characteristics of an urban center. Single- and multi-story buildings are located throughout the project study area. Fulton Mall and the Cross Malls consist of paved pedestrian pathways. The project study area has generally flat topography at an elevation of approximately 290 feet above mean sea level.

Climate

The City of Fresno has an "inland Mediterranean" climate including long, hot, dry summers and short, foggy winters with low rainfall. The average winter temperatures are in the high 50s degrees Fahrenheit (°F); temperatures below freezing are unusual. Average summer temperatures are in the 90s°F; however, over the greater Fresno area the average is 95°F. Many summer days have highs exceeding 100°F. The City of Fresno experiences, on average, a little more than 10 inches annual precipitation.

Soils

The general soil profile within Fulton Mall study area consists of four separate soil series: Delhi loamy sand, Hanford sandy loam, Madera loam, and San Joaquin sandy loam. The soils within the majority of the study area have been altered from their natural state because of grading and compaction for the construction of the existing Fulton Mall and adjacent buildings and infrastructure. It is uncertain just how deep undisturbed terrain is located below the pavement of the existing Fulton Mall.

Paleontological Resource Assessment

Finger (2013) has previously reviewed the geology and paleontological sensitivity of the whole of the City of Fresno (see Attachment 1). The geologic maps of Matthews and Burnett (1965), Page and LeBlanc (1969), and Marchand and Allwardt (1978) indicate that the entire area of concern consists of Quaternary alluvium. Matthews and Burnett (1965) mapped the surface of the project area as Pleistocene nonmarine (Qc) and Quaternary nonmarine fan deposits (Qf), the former having been more recently been referred as the Riverbank Formation and the latter consists of undifferentiated Pleistocene-Holocene alluvial sediments, respectively.

Dr. Finger found that the University of California Museum of Paleontology (UCMP) database records three Pleistocene Riverbank Formation localities (#V4401, #V65100, and #V81121) in surrounding Fresno County, all of which yielded elements of the Rancholabrean (late Pleistocene) vertebrate fauna. Locality #V81121 is referred to the Riverbank Formation, whereas the other two units are unnamed. Locality #V4401 ("Tranquility") accounts for 149 of the 151 specimens listed. Numerous specimens have been have been published, several of which are types for their species. The recovered faunal assemblage includes pond turtle (*Clemmys marmorata*), rattlesnake (*Crotalus*), loon (*Gavia*), broad-footed mole (*Scapanus latimanus*), jackrabbit (*Lepus*), vole (*Microtus*), wood rat (*Neotoma*), pocket gopher (*Thomomys*), badger (*Taxidea*), grey fox (*Urocyon*), true fox (*Vulpes*), coyote (*Canis latrans*), horse (*Equus*), bison (*Bison*), elk (*Cervus*), and mule deer (*Odocoileus*). Among these are type specimens of *Clemmys marmorata*, *Scapanus latimanus*, and *Canis latrans* that have been documented in scientific publication. The UCMP database also records 12 plant localities in Fresno County, in the Pleistocene alluvial deposits of the Modesto, Riverbank, and Turlock Lake formations.

Dr. Finger indicated that all undisturbed Pleistocene alluvium in the surface and subsurface of the area has the potential to contain significant paleontological resources that could be impacted by project-related excavations. Fossils tend to be spottily distributed in alluvium, occurring primarily in pointbar and

floodplain deposits. Nevertheless, Dr. Finger concluded that all Pleistocene alluvium, including undifferentiated Pleistocene-Holocene fan deposits, should be considered as having a high paleontological sensitivity. Mitigation measures associated with potential impacts to buried paleontologic resources should be developed on a project-by-project basis.

Exhibit 1 shows that the whole of the Fulton Mall Reconstruction area is located on Quaternary nonmarine fan deposits (Qf), with Pleistocene nonmarine (Qc) located about ¼ mile to the southeast. Since the Quaternary nonmarine fan deposits overlie the Pleistocene nonmarine deposits at uncertain depth at the project site, it is not known -until cuts are made- at what depth the Pleistocene nonmarine deposits will be encountered.

Potential Project Impacts

Short-Term Construction Impacts

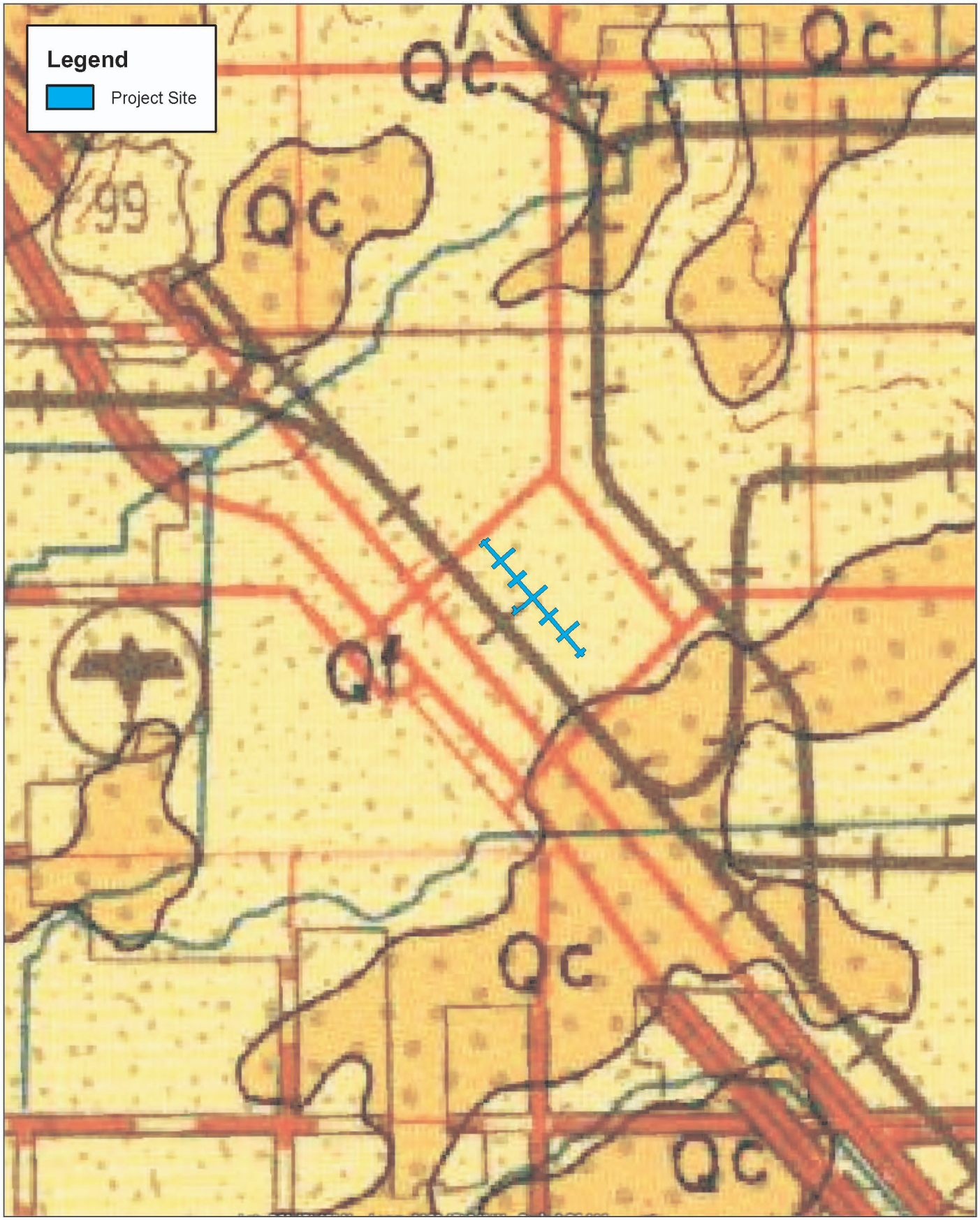
Construction of the proposed Fulton Mall project would require reconstruction activities that would disturb more than one acre and could include excavation cuts up to 15 feet below modern grade. During these activities, there is the potential that such excavation cuts below five feet could impact undisturbed Pleistocene and/or Quaternary deposits, and it is this undisturbed terrain that may contain locally significant fossil deposits. Grading activities that occur between modern grade and five feet below modern grade are expected to be disturbed given that Fulton Mall has undergone previous grading activities when the pedestrian mall and related utility improvements were constructed in the 1960s.

Long-Term Operational Impacts

Use of the conversion of Fulton Mall to a street network would not result in long-term impacts on paleontological resources because no long-term disturbance of undisturbed terrain would occur.

Mitigation Measures

Prior to the issuance of grading permits, a paleontologist shall be retained to monitor excavation activities that occur five feet below modern grade. If paleontological resources are found, earth-disturbing activities shall be diverted elsewhere until the monitor has completed salvaging of the resources. For resources that are discovered, the paleontologist shall prepare, identify, and curate any paleontological resources deemed significant. The significant resources shall be sent to a City-approved depository along with a summary report.



Source: US geological survey map website (http://ngmdb.usgs.gov/ngmdb/ngmdb_home.html)

NORTH

Michael Brandman Associates

Geological Map of the Fulton Mall

31680020 • 11/2013 | paleo_map_fulton_mall.cdr

Appendix 7:
Hazardous Materials - Supplemental Assessment to the Fulton Mall Corridor Phase I Environmental Site Assessment

Memorandum

Flex your power!
Be energy efficient!

To: KIMLEY SAWTELL
Associate Environmental Planner
Central Region QA/QC Branch

Date: November 20, 2013
File: Fulton Mall
EFIS: 06-0002-0006

From: JUERGEN VESPERMANN
Chief, Central Region Hazardous Waste and Paleontology Branch

Subject: Fulton Mall Reconstruction Supplemental Assessment to Fulton Corridor Phase I ESA, FRE County, California

The Caltrans Hazardous Waste Branch is providing supplemental assessment and oversight for the Fulton Mall Reconstruction Project as it relates to hazardous waste issues along the project. This supplemental assessment provides a more in depth review of recognized environmental concerns (RECs) identified in the attached City of Fresno's Fulton Corridor Phase I Environmental Site Assessment (ESA) Specific Plan Project Area (SPPA) conducted by Krazan & Associates, Inc. (Krazan) in October 2011 and a more recent database search and file review of sites that have been identified as environmental areas of concern. The original ESA conducted in October by Krazan was too broad.

BACKGROUND

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), in cooperation with the City of Fresno (City) proposes to reconstruct Fulton Mall as a complete street by reintroducing vehicle traffic lanes to the existing pedestrian mall. The Mall consists of six (6) linear blocks that were open to traffic prior to 1964 but now do not allow public vehicle access. The Mall is bound by Tuolumne Street to the north and Inyo Street to the south, and includes portions of three cross streets. The total length of the new roadways would be 0.67 mile; a total of 0.74 mile of existing Fulton Mall right-of-way would be affected.

The "Mall" refers specifically to the pedestrian areas between adjoining buildings located on the former City streets of Fulton, Mariposa, Merced, and Kern, which function as an integrated pedestrian Mall. Fresno Street and Tulare Street, which do allow vehicle traffic, run through the Mall and divide it into three roughly equal sections. Mall landscaping elements include fountains, planters, benches, sculptures, electrical systems, irrigation systems, and two "tot lots." The Mall does not include the adjoining buildings or their façades.

Each Build Alternative proposes to reconstruct the Mall using "complete streets" design concepts. Complete streets are those designed to function as shared public space, or as "living streets"—for pedestrians, cyclists, outdoor businesses, and slow-moving, cautiously driven vehicles. Complete streets may include narrow roadways, corner bulb-outs, winding streets, and other traffic calming measures to lower driving speeds; street trees and other landscape elements; wide pedestrian sidewalks and crosswalks; and bicycle accommodations such as dedicated bicycle lanes or wide shoulders. The purpose of incorporating these design concepts into the project is to retain portions of the historic fabric and character of the Mall, maintaining the key elements, feeling, and unique experience of a pedestrian mall in downtown Fresno.

In August 2012, the Federal Highway Administration (FHWA) announced the award of $1 million from the Transportation, Community, and System Preservation (TCSP) Program to the City for preconstruction expenses for the project, and in September 2013, the U.S. Department of Transportation announced that the City of Fresno had been awarded nearly $16 million in Transportation Investments Generating Economic Recovery (TIGER) funding for project construction expenses.

Both Alternative 1 and Alternative 2 reintroduce two-way traffic, with one lane in each direction, along the length of the Fulton Mall and three cross streets: Merced between Congo Alley and Federal Alley, Mariposa between Broadway Plaza and Federal Alley, and Kern between Fulton and Federal Alley. Both alternatives include a certain (though different) number of on-street parking spaces on these restored streets. Existing sidewalks would be removed and replaced. The streets are envisioned as slow speed streets. Pedestrian right of way would decrease from 80 feet to an average of 42 feet. The two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be relocated and combined into one larger tot on Kern Mall between Fulton Street and Home Run Alley, or near the corner of Mariposa and Fulton. Both alternatives would cost approximately $20 million.

1. Alternative 1

Alternative 1 consists of reopening the Fulton Mall with two-way streets, with one lane of vehicular traffic in each direction alongside bicycle, pedestrian, and potentially other travel modes. On-street vehicle parking spaces would be reintroduced along the length of the Fulton Mall (including cross streets), mid-block pedestrian crossings would be provided, and construction of streetscape improvements would optimize the streets for the new blend of travel modes. One 11-foot-wide vehicle travel lane would run in each direction, with a parallel parking lane of 8 feet included on both sides of the streets. Sidewalks would include a typical 14-foot sidewalk on one side of the street and a 28-foot-wide promenade on the other. This promenade is intended to approximate the mall-like pedestrian experience of the

original Eckbo Fulton Mall. Like the existing mall, the Alternative 1 promenade would feature artworks, water features, seating, and trees and would allow for walking and pedestrian-only seating, landscaping, and lighting. Pedestrians would be separated from vehicles.

2. *Alternative 2*
Alternative 2 consists of reconnecting the street grid similar to Alternative 1, but would include rebuilding distinctive elements of the Fulton Mall in five to six specific locations, known as "vignettes," in their exact current size and configuration. The vignettes are intended to preserve existing shade trees and features of the historic Eckbo design, and would include many of the existing elements (sculptures, fountains, pavement pattern, trees, and so on). To accomplish this, the street would have gentle curves that would allow for greater preservation of historic features including fountains, art and existing shade trees. One 11-foot-wide vehicle travel lane would run in each direction and would curve through the vignettes. Outside the vignette areas, the street would straighten, and the landscape would include, where possible, an 8-foot-wide parallel parking lane, as well as a pedestrian-only walking, seating, vegetation, and public art area that varies between 14 and 44 feet wide on each side of the street. Within the vignettes, there would be no parking lane, and the existing Fulton Mall landscape elements would be kept intact as much as possible. The remaining space on each side of the street would be dedicated to pedestrian travel, seating, vegetation, and artwork.

Krazan's SPPA identifies a portion of the study area related to the Fulton Mall Reconstruction Project parameters as "**Area 1** – *Fulton* Area Mixed-Use Neighborhoods. Evidence of potential hazardous materials use was almost exclusively limited to the aforementioned H Street and Broadway corridors, where some automotive service businesses were noted among numerous older industrial buildings. Former auto dealership buildings which now house commercial businesses were also noted along Tuolumne Street.

Krazan's assessment that "evidence of potential hazardous materials use was almost exclusively limited to the aforementioned H Street and Broadway corridors, where some automotive service businesses were noted among numerous older industrial buildings. Former auto dealership buildings which now house commercial businesses were also noted along Tuolumne Street," still holds true.

In March 2010, Krazan reviewed the RWQCB Leaking Underground Fuel Tank (LUFT) database records available via the Geotracker website for the Fulton Corridor Specific Plan project area subject site. Eleven active LUFT and cleanup sites were revealed.

Additionally, no Federal Superfund National Priorities List (NPL) sites were determined to be located within a one-mile radius of the subject site (See Table No. VI and Figures No. 6 and 7). Only two of the sites identified in SPPA are relevant to the Fulton Reconstruction Project based on project boundaries and scope of work. The properties of concern identified in Table VI of Krazan's SPPA include the Greyhound Bus Depot, 1033 Broadway, an open LUFT case with Petroleum Hydrocarbon Contamination (PHC) and Van Waters and Rodgers, 1152 G Street, cleanup site with tetrachloroethene (PCE) release to soil/groundwater.

In order to provide site specific, accurate, up to date information as it relates to the Fulton Mall Reconstruction project, Caltrans Hazardous Waste searched the following five Cal/EPA Data Resources, commonly referred to as the 'Cortese List', for this supplemental assessment:

- EnviroStor database, List of Hazardous Waste and Substances sites, Department of Toxic Substances Control (DTSC)
- Geotracker database, List of Leaking Underground Storage Tank sites, State Water Resources Control Board
- Sites Identified With Waste Constituents Above Hazardous Waste Levels Outside The Waste Management Unit, State Water Resources Control Board
- CDO/CAO List, List of active Cease and Desist Orders and Cleanup and Abatement Orders, State Water Resources Control Board
- List of hazardous waste facilities subject to corrective action, DTSC

In addition the:

- SWIS database, Solid Waste Information System, Department of Resources Recycling and Recovery (CalRecycle) was reviewed.

DATABASE/ RECORDS SEARCH RESULTS

The database search identified three open case (actively worked on) Leaking Underground Storage Tank (LUST) cleanup sites as well as closed or documented clean-up sites within the Fulton Mall Resconstruction Project boundaries that have the potential to affect this project.

1. BROADWAY FURNITURE PARKING LOT (FORMER SERVICE STATION)
755 BROADWAY FRESNO, CA 93721 ***LUST Cleanup Site*** ***Cleanup Status: Completed - Case Closed*** ***RB Case #: 5T10000837*** ***Loc Case #: FA0277130***

2. GREYHOUND BUS DEPOT
1033 BROADWAY FRESNO, CA 93721 ***LUST Cleanup Site*** ***Cleanup Status: Open - Remediation*** ***RB Case #: 5T10000457*** ***Loc Case #: FA0169029***

3. VAN WATERS & ROGERS INC - FRESNO FACILITY
1152 G ST FRESNO, CA 93706-3319 ***Cleanup Program Site*** ***Cleanup Status: Open - Assessment & Interim Remedial Action*** ***RB Case #: SL185704255***

SUPPLEMENTAL RESULTS/ RECOMMENDATIONS

Of the identified sites, only one, Broadway Furniture Parking Lot (identified as #1 above) was **not** previously noted in the study by Krazan. The Site is a closed case (A closure letter or other formal closure decision document has been issued for the site). A diesel/ gasoline leak was reported on October 7, 2004 and Cleanup Action was completed on October 29, 2004. A Closure/ No Further Action Letter was issued on October 6, 2004. The Site is under the authority of Fresno County Environmental Health.

Greyhound Bus Depot, (#2 above) which is has a closure letter dated May 14, 2013, is adjacent to the project study area. The Central Valley Regional Water Quality Control Board's (CVRWQCB) comments regarding the closure request issued May 1, 2012 indicate closure may be appropriate in a letter dated January 24, 2013 (see a*ttachment 1*). In the letter staff states "previous site assessment work at the Site has established that the source of diesel fuel constituents in soil appears to be the former product lines serving the fuel ports located in the bus parking stalls on the southwest side of the terminal building. The evidence also suggests that diesel fuel has migrated into the adjacent sanitary sewer trenches. However, the lateral extent of diesel fuel migration in the subsurface soil does not appear to extend beyond the limits of the bus parking area. While the vertical extent of diesel fuel constituent migration extends to a depth of at least 70 feet bgs, the pattern of attenuation indicates that groundwater has not been impacted by this release. Groundwater is estimated to be approximately 110 feet below ground surface at the Site. The soil vapor assessment work documented in the previous and current submittals demonstrate that the diesel fuel remaining in the subsurface does not present a threat to human health or groundwater. Based on the information in the case file, it appears closure of this case may be appropriate." As such, the Fulton Mall Reconstruction Project may include work that includes handling petroleum-impacted material (soil and groundwater) generated during excavation near the Bus Depot and sanitary sewer lines if affected. Groundwater fluctuates between 90-110 feet below ground surface (bgs).

The open case file Van Waters & Rodgers Inc – Fresno Facility, also known as Univar USA (#3 above), is included due to presence of three monitoring wells within the project study area but not within the project boundaries. The Van Waters and Rodgers Fresno Facility is located at 1152 G Street in Fresno. The Site was historically used, from 1965 to 1986, to store bulk tetracholoroethene (PCE) in an aboveground storage tank at the northern section of the property. Soil and soil vapor surveys in 1996 indicated the presence of PCE. Several monitoring wells were installed in 1996 and showed PCE in the underlying groundwater. In 1998, a vapor extraction system was installed and ran until 2004. The extracted soil vapor is treated using two 2500-pound activated carbon vessels to remove the Volatile Organic Compounds (VOCs). Through subsequent testing a series of groundwater monitoring wells have been installed and continue to be monitored quarterly.

Four new offsite Soil Vapor Extraction (SVE) wells were installed during late 2008. A SVE system is currently extracting soil vapors from five vapor extraction wells located near the highest concentrations of PCE in groundwater and soil. This is located just down gradient of the site. Investigation to assess the lateral and vertical extent of impacts to groundwater is ongoing. A remediation action plan and Report of Waste Discharge has been submitted for insitu biodegration of solvents in groundwater. Waste Discharge Requirements are currently being prepared. There are three monitoring wells (T1-3, T2-2, T2-3) related to The Van Waters and Rodgers Site/ Univar USA within the project boundaries. In a report generated by Nichols Consulting Engineers, dated Dec 11, 2008, "groundwater records from as early as 1997 show groundwater in the study area flowing from a northwestern to northeastern direction. An apparent pumping depression created by City Well 22A located approximately 1,900 feet northwest of the Site appears to have an effect on groundwater flow in the vicinity of the Site". The subject report prepared by Nichols Consulting Engineers summarizes the results of an additional groundwater investigation conducted during 2007 and 2008 including installation of shallow monitoring wells at locations T1-1, T1-2, T1-3, T2-1, T2-2, and T2-3, which are located within the project boundaries.

Despite the risk of groundwater contamination migration, construction activities are **not** likely to affect groundwater on the project based on the scope of work. First, two of the three monitoring wells are located on sidewalks and a third is located on a concrete pad outside of the project site and a minimum of 135 feet from Fulton Mall. The top of all three monitoring wells are raised above street level, flush with the concrete sidewalk or concrete pad, covered, and include water proof locking well caps. Second, there is no reason the project would require closure and well destruction of the three monitoring wells because they are not located within the project site. They are located within the Project Study Area.

Several other sites, primarily along the H Street and Broadway corridors, with commercial uses were identified in Krazan's SPPA report. However, these sites are outside the project boundary and pose minimal threat from groundwater contamination given the scope of work identified in the Fulton Mall Reconstruction project. Furthermore, depth of excavation for the project is estimated at 15 feet below ground surface (bgs) and no new right-of-way is required by the City. Krazan's SPPA references State of California Department of Water Resources (DWR*) at approximately 90-110 feet bgs with a Regional Groundwater Flow Direction: Northwest to southwest, DWR* in its report.

LEAD AND ASBESTOS CONTAINING MATERIALS

A lead-based paint survey was not within the scope of this assessment conducted by Krazan. Occupational exposure to lead is regulated by both the Federal Occupational Safety and Health Administration (OSHA) (29 CFR 1926.62) and California OSHA (Title 8, GISO 5198 and CSO 1532.1). Based on Federal and California OSHA, when disturbing paints which contain lead (any amount of detectable lead), the above-noted OSHA and California OSHA regulations should be followed.

In addition, Krazan's SPPA report addresses Asbestos Containing Construction Materials (ACCMs). "In the event of planned renovation or demolition of residential and/or commercial structures on the subject site, asbestos and LBP surveys should be conducted in order to determine the presence or absence of ACCMs and/or LBP. The National Emissions Standards for Hazardous Air Pollutants (NESHAP) defines regulated asbestos-containing materials. When building maintenance, repair, renovation, or other activities disturb or damage ACCMs, asbestos fibers may be released creating a potential hazard. Therefore, removal of friable and non-friable ACCMs that have the potential to become friable during demolition and/or renovation is federally regulated under the NESHAP. The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is the responsible agency on the local level to enforce the NESHAP and must be notified prior to any demolition and/or renovation activities. If asbestos-containing materials are left in place, an Operations and Maintenance Program (O&M Program) could be developed for the management of asbestos-containing materials if left in place."

Krazan's assessment that "asbestos and LBP surveys should be conducted in order to determine the presence or absence of ACCMs and/or LBP," still holds true

Caltrans Hazardous Waste has identified issues as low risk for the project based on project scope.

If there are any questions or you would like to review the collected hazardous waste information, contact Shawn Ogletree at (559) 445-6404.

* State of California, Department of Water Resources, Lines of Equal Elevation of Water in Wells Unconfined Aquifer, San Joaquin Valley, Spring 2007.

Enclosure:

- PHASE I ENVIRONMENTAL SITE ASSESSMENT CITY OF FRESNO FULTON CORRIDOR SPECIFIC PLAN PROJECT AREA FRESNO, CALIFORNIA, Krazan and Associates, Inc., Project No. 014-10022B October 7, 2011
- *Attachment 1* Central Valley Regional Water Quality Control Board's Response to request to closure request.
- Texas Green Star Environmental L.L.C. Environmental Report – Case Closure Request Report
- Nichols Summary Report Groundwater Investigations Former VW&R Inc., Facility
- *Attachment 2* Geotracker and Envirostor Database Search Map
- Figure 1-4 Project Location Map

PHASE I ENVIRONMENTAL SITE ASSESSMENT CITY OF FRESNO FULTON CORRIDOR SPECIFIC PLAN PROJECT AREA FRESNO, CALIFORNIA

Pursuant to ASTM E 1527-05

Project No. 014-10022B
October 7, 2011

Prepared for:
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Due to the enormous amount of data reviewed in the course of this assessment, the total volume of printed information generated in conjunction with the listed appendices would be impractical and unreasonable to attach hereto. Consequently, copies of historical business directories, Sanborn Fire Insurance Maps and City of Fresno street directories are not included herein. Additionally, the Regulatory Database EFS Radius Search Report Summary in Appendix C is comprised of excerpts from the original full document deemed to be practically useful to the reader of this report without inclusion of detail material. The balance of printed materials not included in the appendices of this report are on file at the Preparer's office and can be made available upon request if warranted.

October 7, 2011 Project No. 014-10022B

PHASE I ENVIRONMENTAL SITE ASSESSMENT
CITY OF FRESNO
FULTON CORRIDOR
SPECIFIC PLAN PROJECT AREA
FRESNO, CALIFORNIA

1.0 EXECUTIVE SUMMARY

Krazan & Associates, Inc. (Krazan) has conducted a Phase I Environmental Site Assessment (ESA) of the Fulton Corridor Specific Plan Project Area located in central Fresno, California (subject site). This Phase I ESA of the subject site has been prepared in conformance with the American Society for Testing and Materials (ASTM) E 1527-05 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* Any deviations from this practice are described herein. This Phase I ESA is designed as a screening tool for the subject site regional area and constitutes all appropriate inquiry (AAI) designed to identify recognized environmental conditions, historical recognized environmental conditions and potential environmental concerns in connection with the uses of the subject site as defined by ASTM E 1527-05.

Krazan's findings of this Phase I ESA revealed the following evidence of environmental areas of concern in connection with the subject site.

RECOGNIZED ENVIRONMENTAL CONDITIONS (RECs)

Sites with Documented Contamination Under Investigation and/or Regulatory Oversight.

Properties within the Fulton Corridor Specific Plan subject site area with documented releases of hazardous materials to soils and groundwater represent known impacts to the environment which may be accompanied by related threats to human health. In cases where impacts from hazardous materials have been reported to regulatory agencies and are currently undergoing active investigation and/or remediation, the potential is higher for environmental impairments and threats to human health. Krazan's review of the

regulatory database search report indicates the presence of the following sites of highest concern meeting this criteria:

- LEAKING UNDERGROUND STORAGE TANK (UST) SITES: 12
- SOLID WASTE/LANDFILL SITES: 1
- SPILLS SITES: 6

Regional Contamination Issues Under Regulatory Oversight.

According to review of the California Environmental Protection Agency (Cal-EPA) Department of Toxic Substances Control (DTSC) Envirostor Website, a co-mingled groundwater plume identified as "South Fresno Regional Groundwater Plume" (SFRGWP) is present adjacent to the southeast and hydraulically upgradient of the Fulton Corridor Specific Plan area, and is noteworthy because of its proximity to the Fulton Corridor Specific Plan area. The plume generally is estimated to occupy the area south of East Church Avenue, north of East California Avenue, west of South Orange Avenue, and east of Golden State Boulevard at a depth of approximately 90 feet below ground surface. The SFRGWP is located within the South Van Ness Industrial Area, which lies in a highly industrialized area of South Fresno. Many of the industrial facilities within the South Van Ness Industrial Area have been operating since before World War II, and some of the properties have been used for industrial purposes since the early 1900s. Constituents of concern (COCs) identified in association with the SFRGWP include dissolved chromium, volatile organic compounds such as 1,2,3-trichlorpropane (TCP), trichloroethylene (TCE), tetrachlorethylene (PCE), Freon-11, Cis-1,2-dichloroethene (DCE), toluene, and 1,1-dichloroethene (1,1-DCE), pesticide-related compounds such as 1,2-dibromo-3-chloropropane (DBCP) and TCP, Dinoseb, Monuran, and nitrates. Groundwater monitoring wells and groundwater extraction systems have been implemented in order to address and remediate the groundwater plume. Previous investigations to characterize the extent of impacts have shown that drinking water sources have not been affected. According to records on file with the DTSC, the groundwater extraction system is working effectively to remove contaminants from the leading edge of the groundwater plume. The responsible parties are currently involved in the active investigation and remediation of the SFRGWP.

HISTORICAL ENVIRONMENTAL CONDITIONS (HRECs)

Sites with Documented Contamination Which Have Been Closed with Regulatory Oversight

Based upon review of regulatory agency database information, properties within the Fulton Corridor Specific Plan subject site area with documented releases of hazardous materials to soils and groundwater that have undergone investigation and/or remediation to the satisfaction of the oversight regulatory agency represent known impacts to the environment and may have been accompanied by related threats to human health. In cases where impacts from hazardous materials have been reported to regulatory agencies and have undergone investigation and/or remediation, the potential is lower for environmental

impairments and threats to human health. However, in the absence of review of site-specific investigative and verification closure data, the current condition of individual sites is unknown. Krazan's review of the regulatory database radius search report indicates the presence of the following sites of lower concern meeting this criteria:

- CLOSED LEAKING UST SITES: 35
- CLOSED SOLID WASTE/LANDFILL SITES: 1
- CLOSED SPILLS SITES: 1

POTENTIAL ENVIRONMENTAL CONCERNS (PECS)

Sites with Current or Historical Usage Suggesting the Storage and/or Disposal of Hazardous Materials

Properties within the Fulton Corridor Specific Plan subject site area that currently store or historically stored hazardous materials in large quantities in USTs and/or aboveground storage tanks (ASTs), even in compliance with permitting requirements, may represent the potential for impacts to subject site soils and/or groundwater for the following reasons: 1) Currently operating USTs and ASTs in compliance with permitting requirements may be located in the same locations as previous generations of USTs and ASTs which may have leaked and impacted the subsurface, the circumstances of which would remain unknown in the absence of investigative data; 2) Inactive USTs and ASTs may have been deactivated or decommissioned with residual contamination remaining in place on the property despite regulatory closure, the circumstances of which would remain unknown in the absence of investigative data; and 3) Facilities utilizing USTs and ASTs for the storage of large quantities of hazardous materials in many cases may utilize and/or dispose of those stored hazardous materials in areas on the property other than the UST and/or AST storage locations, which may become the location of hazardous materials contamination, the circumstances of which would remain unknown in the absence of environmental research. Krazan's review of regulatory databases indicates the presence of the following sites of concern meeting this criteria: (UPDATE)

- ACTIVE/OPEN UST AND/OR AST SITES: 120
- CLOSED/INACTIVE UST AND/OR AST SITES: 156

Current and Historical Location of Areas of Potential Environmental Concerns

Based upon review of historical data sources, including Sanborn Fire Insurance Maps and historical business directory records, a significant number of properties in the Fulton Corridor Specific Plan area were occupied by businesses which have the potential to have used, stored and disposed hazardous materials over the course of their existence and, consequently, qualify as RECs and PECs. Geographically, the aforementioned commercial businesses which qualify as RECs and PECs were located along Fresno's main streets rather than throughout residential neighborhoods, and these

commercial thoroughfares continue to represent the highest density of potential historical hazardous materials uses in the subject site area. Therefore, the most significant historical areas of concern for the Fulton Corridor Specific Plan area include the following commercial corridors:

- Broadway
- Van Ness Avenue
- H Street
- Fulton Street
- G Street
- Fresno Street
- Tulare Street
- F Street.

It should be noted that this data refers to the listed commercial corridors as the historical location of potential RECs and PECs. Because a significant number of properties on these corridors have been redeveloped over the course of time, there is a likelihood that potential subsurface impacts from hazardous materials may have been removed and remediated at that time. However, in the absence of site-specific environmental assessment, it is unknown if environmental impacts resulting from historical uses may remain on REC and PEC properties. The site reconnaissance revealed that, generally, the location of businesses likely to currently use, store and dispose of significant quantities of hazardous materials is consistent with the data indicating the historical location of REC and PEC properties along established commercial corridors.

Structures Potentially Containing Asbestos and Lead-Based Paint

According to the City of Fresno, the Fulton Corridor Specific Plan subject site area is comprised of approximately 2,100 properties. Given the subject site's location in the oldest area of Fresno, the majority of the structures in the downtown area are older commercial or residential buildings. Older buildings that predate enactment of environmental regulations are most likely to include asbestos-containing construction materials (ACCMs) and lead-based paint (LBP), both of which represent potential threats to the environment and to human health if ingested or inhaled. Consequently, the extent of the presence of ACCMs and LBP throughout the Fulton Corridor Specific Plan area is unknown but is presumed to be high.

2.0 PURPOSE, BACKGROUND AND SCOPE OF ASSESSMENT

2.1 Purpose

According to ASTM E 1527-05, the purpose of this practice is to define good commercial and customary practice in the United States of America for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601) and petroleum products. As such, this practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitation on CERCLA liability (hereinafter, the landowner liability protections, or LLPs): that is, the practice that constitutes "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined at 42 U.S.C. §9601(35)(B).

However, in addition to addressing the ASTM goals for environmental due diligence, the purpose of this Phase I ESA is to provide data with which to draw conclusions as to the potential for environmental impacts to the subject site which might meet or exceed thresholds of significance as defined by guidance for preparation of an Environmental Impact Report (EIR) according to the California Environmental Quality Act (CEQA) and/or Environmental Impact Statement (EIS) according to the National Environmental Policy Act (NEPA). Therefore, for the purposes of this report in light of the very large subject site area, primary significance has been placed on data related to properties within the subject site with records of documented contamination (RECs). Of secondary significance, but worthy of note, are properties exhibiting a history of past contamination with documentation of remediation and regulatory closure (HRECs) and properties with potential environmental concerns (PECs) which are speculative in nature, based upon review of historical data and observations conducted during a current site reconnaissance. Krazan was authorized to conduct this scope of work by the client Moule & Polyzoides on January 28, 2010 in accordance with the agreement for professional consulting services dated January 28, 2010.

2.2 Hazardous Materials Background

The industrialization of society in the United States and the advent of internal combustion engine vehicles and machinery in the 19th and 20th centuries correspond with Fresno's growth beginning in the late-1800s and accelerating through the 1900s. With advances in science, technology and manufacturing came the increased use of substances needed to support the creation and production of materials and products which were consumed in ever-growing quantities as urban and suburban populations grew over time. As a result, the variety and quantity of these substances, many exhibiting toxic chemical characteristics not

well understood at the time, increased dramatically and became prevalent in a wide variety of industries and commercial applications.

Types of Hazardous Materials

Common hazardous materials include *petroleum hydrocarbon constituents* (PHCs), substances related to fuels such as gasoline, diesel and aviation fuel, and oils used for lubrication, cooling of parts in the manufacturing process, and hydraulic applications. Use of PHCs is widespread as virtually any application related to transportation fueling and maintenance (automobiles, trucks, aircraft, marine vessels, military transport) relies on PHCs. Other applications utilizing PHCs include the powering of internal combustion engines in commercial and industrial settings for cutting, grinding and processing, powering compressors and electrical generators. PHC fuels are used for the generation of heat or steam in boilers, ovens, heating/ventilation/air conditioning systems, steam-driven machinery, and steam-cleaning processes.

A second class of hazardous materials prevalent in industrial and commercial applications are *volatile organic compounds* (VOCs) related to solvents. VOCs are used for parts cleaning, etching of metals, additives for various purposes such as paint mixing, and as cleaning fluids for the removal of grease and oils. Use of VOCs is widespread in industries where cleaning of lubricated metal is required (automobile, truck and aircraft servicing, metal fabricating), manufacturing processes such as circuit board etching, metal plating, printing press plate cleaning, etc. The advent of the clothing and textiles dry cleaning process after WWI included the widespread use of chlorinated solvents. The dry cleaning solvent most commonly used for this purpose since about 1940 up to today is perchloroethylene (PCE). PCE has been categorized as a toxic chemical and is extremely mobile in the environment. PCE can permeate paved surfaces and concrete floors if spilled and significantly impact soils and groundwater because of its volatility. For this reason, PCE can be a significant air pollutant as well.

Many other substances used in commerce and industry qualify as hazardous materials if released in significant quantities or concentrations. Examples would include metals (lead, arsenic, chromium, and mercury), acids, and chemical compounds such as Freon, used in refrigeration systems, polychlorinated biphenyls (PCBs) used in electrical transformers, coolants and hydraulic fluids, and agricultural chemicals formulated to serve as pesticides, herbicides and fertilizers.

Hazardous Materials Impacts to the Environment

Impacts to the environment from hazardous materials occur when contaminants are released in significant quantities into soils, groundwater, surface waters, and the air. Soil-only impacts from non-volatile

constituents would generally remain localized to the area affected by the release. This sort of impact can be characterized by investigative methods as to the maximum extent of the release at the time of investigation. Impacts to groundwater could be expected to migrate with groundwater flow and potentially travel significant distances from the point-source of the original release. Impacts from volatile constituents to both soils and groundwater may migrate in unpredictable patterns through the soils and/or groundwater or from soils into groundwater or groundwater into soils.

Releases can occur due to leaking of stored materials, poor handling or housekeeping procedures, disposal to the ground or waters, whether directly or as a result of failure of surface or subsurface containment features, or from accident events. Furthermore, because of the persistence of numerous hazardous materials in the environment, contamination from past handling or disposal may be present over the course of many years yet remain currently undetected. Consequently, any commercial or industrial activity that currently stores, handles or disposes hazardous materials, or any commercial or industrial activity that historically stored, handled or disposed hazardous materials in the past, may represent the potential to be the source of hazardous materials impacts to the environment. Additionally, operations which currently or historically stored and utilized large quantities of hazardous materials represent a higher potential to create significant impacts to the environment. It is for this reason that storage of hundreds or thousands of gallons of fuel in underground storage tanks (USTs) and neighborhood dry-cleaning businesses storing many gallons of highly volatile PCE have historically represented a very high level of risk to the environment. Lastly, historical hazardous materials storage, handling and disposal prior to the advent of environmental laws in the 1970s have demonstrated higher levels of risk to the environment. This condition is based upon a lack of understanding in the past of the potential threats to human health, the absence of rules and regulations guiding and enforcing proper hazardous materials use, storage and disposal, and the absence of the technologically advanced storage and containment systems in use today.

Potential Threats to Human Health

Regulatory agencies charged with enforcement of laws guiding hazardous materials handling and disposal and the cleanup and remediation of contamination have established limits or thresholds for concentrations of hazardous materials by which to evaluate the potential for threats to human health and the environment. Generally, potential threats to human health exist when individuals are exposed to concentrations of hazardous materials exceeding regulatory action levels. Pathways of exposure to human beings of hazardous materials contamination in the environment exist through dermal contact or ingestion of soils and/or waters, or through inhalation of vapors in the atmosphere. Dermal contact and/or ingestion of contaminated soils or waters can occur when people handle soils and/or waters, through landscaping or farming activities for example, or when children play outdoors in contaminated soils or waters. Workers

are at risk for exposure when excavation, grading and construction activities place these individuals in close proximity to contaminated media. All people can be subject to the potential for inhalation of contaminants in a gaseous state when volatile compounds are present in concentration and proximity such that toxic vapors can migrate into the breathing zone of the populated atmosphere. This condition can be particularly serious in scenarios where significant or elevated concentrations of VOCs in soils and/or groundwater are overlain by, or are in the vicinity of, structures, thereby creating the potential for toxic gases to build up in enclosed spaces through vapor intrusion. Subsurface volatile contaminants in this scenario are of particular concern because vaporous constituents may travel long distances omni-directionally along buried conduits or pipelines or through the interstitial space between grains in soils.

2.3 Definition of Terms

Recognized Environmental Conditions

According to ASTM E 1527-05 Section 1.1.1 Recognized Environmental Conditions, "The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water on the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions."

Historical Recognized Environmental Conditions

ASTM E 1527-05 Section 3.2.39 defines Historical Recognized Environmental Condition (HREC) as: "An environmental condition which in the past would have been considered an REC, but which may or may not be considered an REC currently. The final decision rests with the environmental professional and will be influenced by the current impact of the HREC on the property. If a past release of any hazardous substances or petroleum products has occurred in connection with the property and has been remediated, with such remediation accepted by the responsible regulatory agency (for example, as evidenced by the issuance of a no further action letter or equivalent), this condition shall be considered an HREC and included in the findings section of the Phase I ESA report."

Potential Environmental Concerns

The concept of Potential Environmental Concerns (PECs) is adopted as an alternative designation for a range of environmental issues which might be identified as RECs in some cases but not in others. PECs

may result from current or historical uses of the subject site area suggesting a heightened potential for hazardous materials impacts in the absence of official documentation or visual evidence of an impact. PECs also may be related to potential environmental impacts or impairments related to "additional issues" as defined by ASTM including asbestos-containing construction materials, lead-based paint and indoor air quality.

Hazardous Materials

The California Health and Safety Code, Section 25501, defines a hazardous material as: "Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment."

2.4 Scope of Work

The Fulton Corridor area comprises approximately one square mile of land that focuses around the "Fulton Corridor" extending from Divisadero Street to the north, State Route (SR) 41 to the south, roughly M Street to the east, and the Union Pacific Railroad tracks or SR 99 to the west. The Fulton Corridor area is surrounded by residential neighborhoods to the north, east, south and west, with areas of industrial and commercial development to the southeast and northwest. According to a GIS database search of properties within the subject site area provided by the City of Fresno on March 12, 2010, approximately 2,100 addresses were reported as being located within the subject site area. Given the immense size of the subject site area and the research budget and time constraints imposed by the needs of the client for preparation of the referenced EIR and subsequent Specific Plan, an investigative approach was designed which would be reasonable and practical in striving to identify RECs, HRECs and PECs, thereby providing hazardous materials impacts data for the subject site in order to address CEQA thresholds of significance. Therefore, the scope of work defined herein was intended to provide an inventory of properties located within the subject site area indicating evidence of past, present or potential impacts from hazardous materials handling, storage and/or disposal. In this way, conclusions could be drawn as to the potential for significant impacts to exist in the subject site area and recommendations could be made for follow-up investigation which could serve as measures to mitigate the significance of impacts from hazardous materials in the subject site area.

Given the geographical size, density of development and historical richness of the Fulton Corridor Specific Plan project area, and in light of the property inventory/screening purpose of this Phase I ESA, it is considered reasonable and practical to conduct environmental due diligence research in such a manner so as to limit investigative tasks to those most likely to yield data that is pertinent to the goals of the

overall environmental review rather than duplicating similar research tasks which would yield comparable findings. For example, the process of reviewing and cataloging findings of historical fire insurance maps, aerial photographs and business directories for very large subject sites is extremely time consuming. Given that the three aforementioned research tasks yield similar findings, it is practical to eliminate one task with the understanding that the potential resulting redundant findings would not justify the very high additional research time and cost. Furthermore, certain research tasks involve review of regulatory data, site visits and interviews with property owners or tenants for each specific parcel of property within a subject site. Given the huge number of individual properties which are included in the subject site (approximately 2,100), it is unreasonable and impractical to conduct property-specific research tasks in light of the stated investigative goals. Therefore, the Phase I ESA scope of work for the Fulton Corridor Specific Plan project area includes the following:

1. Site Reconnaissance – A "windshield survey" was conducted of the overall project area to observe properties which may indicate evidence of hazardous materials usage and potential significant environmental impairments from hazardous materials use (gasoline stations, automobile service facilities, dry cleaners, etc.). Limitation: No physical inspection was made of individual properties as a matter of practicality. Furthermore, it is unreasonable to presume that site access could be granted to inspect individual properties.

2. Regulatory Database Review – A review was conducted of local, state, and federal governmental regulatory agency lists compiled by Environmental FirstSearch (EFS) of published documents that list businesses or properties which have handled hazardous materials or waste or may have experienced site contamination in the Fulton Corridor Specific Plan project area. Limitation: No site-specific regulatory agency file review for individual properties was conducted as a matter of practicality.

3. Historic Use Research – A review was conducted of Sanborn Fire Insurance Maps and reasonably ascertainable business directories to compile a list of properties whose historical potential to have handled hazardous materials suggests the potential for significant environmental impacts. Limitation: No site-specific building department or aerial photo review was conducted as a matter of practicality.

4. Interviews – Krazan invited comments from representatives of relevant regulatory agencies as found to be reasonably available which included the California Environmental Protection Agency (EPA) Department of Toxic Substances Control (DTSC) and Regional Water Quality Control Board (RWQCB), and the Fresno County Department of Community Health, Environmental Health System (FCEHS) regarding potential hazardous materials issues in the Fulton Corridor Specific Plan subject site area. Limitations: No interviews were conducted with site-specific property owners or occupants as a matter of practicality.

5. User-Provided Information – In accordance with AAI guidelines, a User Questionnaire was provided to a representative of the City of Fresno Development and Resources Management Department in order to ascertain the Phase I ESA user's knowledge of any hazardous materials issues in the Specific Plan subject site area. Limitations: Based upon the huge area of the subject site and the research goals of this assessment which did not include Landowner Liability Protections (LLPs), responses to the User questionnaire were considered irrelevant and impractical. No property-specific lien searches were conducted as a matter of practicality.

6. Data Gap Summary – As part of the AAI Phase I ESA scope of work, any data gaps in the findings are summarized with an opinion as to whether such data gaps represent the potential to alter the findings of the Phase I ESA. In the context of the regional nature of the overall Phase I ESAs, research tasks and

scope items excluded as a matter of practicality potentially would not yield enough new information to be considered likely to alter the findings of the overall assessments. However, the limited scope of work conducted as outlined herein would address the research goals for environmental due-diligence purposes in conjunction with the goals of the Fulton Corridor Specific Plan process.

The process of screening the resultant inventory of sites of potential concern within the Fulton Corridor Specific Plan subject site area that represent the highest potential for impacts to the environment focused upon highlighting those sites with reported contamination or usage incidents and potential for contamination from usage of hazardous materials. High-risk properties which can typically be expected to include potential environmental contamination issues based upon the types of hazardous materials handled, stored and disposed on a property, such as petroleum products and solvents, along with subsurface features routinely associated with historical and current on-site operations, such as fuel storage tanks, oil/water separators and drains, generally include, but are not limited to, the following:

- Gasoline stations
- Dry cleaning facilities
- Vehicle repairing and servicing facilities
- Vehicle wrecking yards
- Railroad yards
- Lumber yards and mills
- Printing operations
- Furniture stripping and refinishing
- Manufacturing operations generating wastes
- Pesticide and fertilizer production
- Photographic developing laboratories
- Junkyards/landfills
- Mortuaries.

3.0 SITE DESCRIPTION

General property information and property use are summarized in Table I. Refer to Figure No. 1, Vicinity Map, located following the Reference Section.

TABLE I
Summary of Property Information

Topographic Map:	U.S. Geological Survey, 7.5 minute Quadrangles as follows: Fresno North (dated 1965, photorevised 1981); Fresno South (dated 1963, photorevised 1981); Malaga (dated 1964, photo-revised 1981); and Clovis (dated 1964, photorevised 1981).
Topography:	Relatively flat, approximately 290 feet above mean sea level
General Location:	Divisadero Street to the north, State Route 41 to the east and State Route 99 to the west (Figure No. 1).
Assessor's Parcel Number:	Various
Approximate Depth to Groundwater:	Approximately 90-110 feet below ground surface (bgs), State of California Department of Water Resources (DWR)*

TABLE I (cont.)
Summary of Property Information

Regional Groundwater Flow Direction:	Northwest to southwest, DWR*
Existing Use:	Primarily comprised of single- to multi-story commercial buildings bisected and surrounded by major corridors of commercial usage

* State of California, Department of Water Resources, *Lines of Equal Elevation of Water in Wells Unconfined Aquifer, San Joaquin Valley, Spring 2007*.

3.1 Geology and Hydrogeology

The subject site is located within the San Joaquin Valley, a broad structural trough bound by the Sierra Nevada and Coast Ranges of California. The San Joaquin Valley, which comprises the southern portion of the Great Valley of California, has been filled with several thousand feet of sedimentary deposits. Sediments in the eastern valley, derived from the erosion of the Sierra Nevada, have been deposited by major to minor west-flowing drainages and their tributaries. Near-surface sediments are dominated by sands and silty sands with lesser silts, minor clays, and gravel. The sedimentary deposits in the region form large coalescing alluvial fans with gentle slopes. The groundwater in the area is reported to be first encountered at a depth of approximately 90-110 feet bgs. The groundwater flow direction in the area of the subject is variable and has been observed to vary towards the northwest to southwest.

4.0 SITE RECONNAISSANCE

A site reconnaissance windshield survey, which included a visual observation of the subject site and surrounding properties, was conducted by Krazan's environmental assessor over the period from March to May 2010 and July to August 2011. Krazan's environmental assessor was unaccompanied during the site reconnaissance. No physical inspection was made of individual properties within the Fulton Corridor Specific Plan project subject site area as a matter of practicality and concerns regarding site access authorization. The objective of the site reconnaissance was to make observations of circumstances indicating the likelihood of identifying recognized environmental conditions and potential environmental concerns, including the potential for current or historical hazardous materials uses in connection with the subject site, and to document and verify the characteristics of the subject site neighborhoods related to potential hazardous materials issues.

4.1 Observations

Table II summarizes field conditions encountered during our site reconnaissance. A discussion of visual observations follows Table II. Refer to Figure No.2, Site Map, Figure No. 3, Topographic Map, and color photographs following the text for the locations of items discussed in this section of the report.

TABLE II
Summary of Site Reconnaissance

Feature	Observed	Not Observed
Structures (existing)	X	
Evidence of past uses	X	
Hazardous substances and/or petroleum products (including containers)		X
Aboveground storage tanks (ASTs)		X
Underground storage tanks (USTs) or evidence of USTs	X	
Evidence of Underground Pipelines	X	
Strong, pungent, or noxious odors		X
Pools of liquid likely to be hazardous materials or petroleum products		X
Drums		X
Unidentified substance containers		X
Potential polychlorinated biphenyl (PCB) containing equipment		X
Subsurface hydraulic equipment		X
Heating/ventilation/air conditioning (HVAC)	X	
Stains or corrosion on floors, walls, or ceilings		X
Floor drains and sumps		X
Storm Drains		X
Pits, ponds, or lagoons		X
Stained soil and/or pavement		X
Soil Piles		X
Stressed vegetation		X
Waste or wastewater discharges to surface or surface waters on subject site (including stormwater)		X
Wells (irrigation, domestic, dry, injection, abandoned, monitoring wells)		X
Septic Systems		X

Site Reconnaissance Background

The project area subject site is comprised of the central Downtown Fresno area designated as the "Fulton Corridor," the approximate boundaries of which are delineated in Figure No. 2, Site Map. The Fulton Corridor Specific Plan area Subject Site is a very large and old urban area with a high density of intensive historical commercial and industrial uses stretching back to the mid- to late-1800s. This Subject Site includes approximately 175 city blocks in roughly one square mile and a significant number of commercial corridors. According to a GIS database search of properties within the subject site area provided by the City of Fresno on March 12, 2010, approximately 2,100 addresses were reported as being located within the subject site area. This large subject site is primarily composed of single and multi-story commercial buildings with areas of residential neighborhoods, some including historic structures, bisected and surrounded by major corridors of commercial usage.

For the purposes of this report, the subject site is broken down into study "areas" corresponding to their historical community plan designations in order to divide the subject site into manageable units. Because there is a likelihood for businesses which might utilize hazardous materials generally to be located along major thoroughfares within a community, transecting commercial corridors are identified and described (See Figure No. 4, Historical Areas of Concern). To meet the regional screening purposes of this report, a windshield survey was conducted of each study area, with special attention given to commercial clusters. The presence of automotive-related businesses was noted because experience indicates that these sorts of operations represent the highest potential for contamination of the subsurface soils and groundwater related to the storage, use and disposal of fuels, lubricants, solvents, and other substances routinely

utilized in repairing and servicing motor vehicles. Furthermore, evidence of the presence of dry cleaning businesses and industrial applications was noted as the potential for the use, storage and disposal of hazardous materials is also heightened at these types of operations.

It should be noted that the street grid of the Fulton Corridor Specific Plan area is canted or tilted from a north-south trend to a northwest-southeast trend following the alignment of the Union Pacific Railroad track corridor. The study areas are organized in a clockwise circular fashion around the subject site.

Area 1 – *Fulton* area mixed-use neighborhoods, generally described as being located approximately:

- South of Divisadero Street;
- Northwest of Tuolumne Street and Tulare Street west of Van Ness Avenue; and
- Generally southwest of O Street.

Area 1 northeast-southwest trending commercial corridors include:

- Tulare Street between Van Ness Avenue and O Street;
- Fresno Street between Van Ness Avenue and O Street;
- Tuolumne Street between the UPRR alignment and O Street;
- Stanislaus Street between the UPRR alignment and O Street; and
- South of Divisadero Street between the UPRR alignment and O Street.

Area 1 northwest-southeast trending commercial corridors include:

- H Street between Divisadero Street and Tuolumne Street;
- Broadway Street between Divisadero Street and Tuolumne Street;
- Fulton Street between Divisadero Street and Tuolumne Street;
- Van Ness Avenue between Divisadero Street and Tulare Street;
- L Street between Divisadero Street and Tulare Street, and
- M Street between Divisadero Street and Tulare Street.

Area 2 – *Convention Center* area commercial/civic center neighborhoods, generally described as being located approximately:

- Southeast of Tulare Street between Van Ness Avenue and O Street;
- Southeast of Inyo Street between the UPRR alignment and Van Ness Avenue;
- Northeast of the UPRR alignment, and
- Northwest of State Route 41 and Ventura Street northeast of M Street.

Area 2 northeast-southwest trending commercial corridors include:

- Ventura Street between the UPRR Alignment; and
- The south side of Tulare Street between Van Ness Avenue and O Street.

Area 2 northwest-southeast trending commercial corridors include:

- H Street between Inyo Street and Ventura Street;
- Broadway Street between Inyo Street and State Route 41;
- Fulton Street between Inyo Street and State Route 41;
- Van Ness Avenue between Tulare Street and State Route 41; and
- M Street between Tulare Street and State Route 41.

Area 3 – *Central Business District* mixed-use commercial area, generally described as being located approximately:

- Southeast of Tuolumne Street between the UPRR alignment and Van Ness Avenue;
- Southwest of Van Ness Avenue between Tuolumne Street and Inyo Street;
- Northwest of Inyo Street between the UPRR alignment and Van Ness Avenue; and
- Northeast of the UPRR alignment between Tuolumne Street and Inyo Street.

All Area 3 corridors appear to be occupied by commercial businesses, civic buildings and multi-story residential buildings.

Area 4 – *Chinatown* area mixed-use commercial and residential neighborhoods, generally described as being located approximately:

- Southeast of Calaveras Street between State Route 99 and the UPRR alignment;
- Southwest of the UPRR alignment between Calaveras Street and State Route 41;
- Northwest of State Route 41 between Golden State Boulevard and Calaveras Street; and
- Northeast of State Route 99 between Calaveras Street and State Route 41.

Area 4 northeast-southwest trending commercial corridors include:

- Stanislaus Street between State Route 99 and the UPRR alignment;
- Tuolumne Street between State Route 99 and the UPRR alignment;
- Fresno Street between State Route 99 and the UPRR alignment;
- Tulare Street between State Route 99 and the UPRR alignment; and
- Kern Street between State Route 99 and the UPRR alignment.

Area 4 northwest-southeast trending commercial corridors include:

- E Street between Stanislaus Street and Golden State Boulevard;
- F Street between Stanislaus Street and Golden State Boulevard; and
- G Street between Calaveras Street and State Route 41.

Site Reconnaissance Findings

Area 1 – *Fulton* Area Mixed-Use Neighborhoods

The Fulton area is the northern portion of the Fulton Corridor Specific Plan area and is characterized by commercial/industrial uses on its western side, primarily along the H Street and Broadway corridors, with commercial uses throughout the balance of the area, many incorporating adapted reuse of older commercial buildings and classic residence structures. The Fresno Courthouse Square and other municipal/government buildings are included in this area. Evidence of potential hazardous materials use was almost exclusively limited to the aforementioned H Street and Broadway corridors, where some automotive service businesses were noted among numerous older industrial buildings. Former auto dealership buildings which now house commercial businesses were also noted along Tuolumne Street (See Photos No. 1-8).

Area 2 – *Convention Center* Area Commercial/Civic Center Neighborhoods

The Convention Center area of the Fulton Corridor Specific Plan subject site occupies the eastern portion of the plan area and is characterized by a number of government and municipal buildings, including the Fresno Convention Center complex for which it is named, professional office buildings, the BNSF railroad corridor in the eastern portion of this area, and residential neighborhoods in the far northeastern corner of the area. This portion of the plan area also encompasses the industrial/commercial areas south of the Fulton Mall which shares many characteristics of the South Van Ness Industrial Area located farther to the south across State Route 41. Many automotive-related industrial business and various commercial

facilities occupy this area and represent the highest potential for the use, storage and disposal of hazardous materials (See Photos No. 9-15).

Area 3 – *Central Business District* Mixed-Use Commercial Area

The Central Business District area of the Fulton Corridor Specific Plan area is so named due to the presence of the highest density of business and commercial uses in the downtown area. This urban center is characterized by its numerous multi-story high-rise buildings, urban streetscapes, and absence of current industrial uses. The Fulton Mall which dissects this area represents the densest concentration of large commercial and professional buildings and constitutes the city's urban core. In addition to commercial and professional businesses, this area is home to various government offices, high-rise residential buildings, the Greyhound Bus terminal, the Fresno Grizzlies Chukchansi Park baseball stadium, and the UPRR railroad alignment on its western side. Consequently, current hazardous materials use, storage and disposal potential in the CBD is not anticipated to be high. However, a number of old, classic multi-story structures are present in this area which have not been occupied for many years and have remained unredeveloped. Experience has shown that structures such as these may harbor historical hazardous materials issues related to former heating fuel storage, automotive fuel storage in the case of historical parking garages, and historical businesses which utilized hazardous materials but, because they departed long ago, have not been investigated from an environmental perspective (See Photos No. 16-22).

Area 4 – *Chinatown* area mixed-use commercial and residential neighborhoods

The Chinatown area of the Fulton Corridor Specific Plan area derives its name from the historic designation of the southern portion of this area. This rectangular area occupies the far-southwestern side of the Fulton Corridor Specific Plan area and is characterized by commercial/industrial uses to the north of Tulare Street and commercial/residential uses to the south of Tulare Street. The heaviest industrial/commercial uses where the potential for impacts from hazardous materials is the most likely were observed along the UPRR alignment to the east of G Street, north and south of Tulare Street. (See Photos No. 23-26). However, evidence of potential historical hazardous materials usage was observed in the older southern neighborhoods of Chinatown, particularly historic former gasoline service stations and commercial properties, primarily on E and F Streets to the south of Ventura Street (See Photos No. 27-30).

Railroad Corridors

The Fulton Corridor Specific Plan subject site area is occupied by a number of railroad corridors from which numerous track spurs branch off to service various industrial/commercial properties. The presence of railroads has been most significant in the Chinatown and Fulton areas adjacent to the UPRR alignment and the area to the south of Tulare Street along the BNSF alignment. It is Krazan's experience that

railroads may represent the potential for the historical use and storage of hazardous materials related to the maintenance of the track lines, as well as for purposes of servicing the operations of the current or former industries/business located adjacent to the railroad tracks. Examples include the following:

- Railroad companies have historically utilized herbicides, which typically may have contained the metal arsenic, to control weed growth around and in the vicinity of tracks which may have built up in concentration over the course of time.
- The movement of trains over tracks for many years creates the condition where lead and other metals, which are ground from the action of friction in wheels, axles and drive/braking equipment governing the movement of the trains, can be deposited as dust on the ground surface.
- Polychlorinated biphenyls (PCBs), which have historically been a component in hydraulic fluids, may have been discharged from leaking hydraulic lines which are part of the mechanical braking and control systems of trains and have built up concentrations over the course of time.
- Releases of hazardous materials being transported may have occurred due to accidents in the rail yards.

Elevated concentrations of these hazardous materials constituents potentially can build up in shallow soils around train tracks which could represent a potential threat to human health. Health threats would be related to the exposure to or ingestion of these constituents of concern by individuals, particularly in residential settings. Therefore, investigation and potential characterization and remediation of these constituents is recommended at the time of future redevelopment of railroad properties or properties adjacent to railroad lines.

Finally, because railroad lines service industrial/commercial businesses by transporting materials and products into and out of facility properties, it is Krazan's experience that installation of USTs along railroad lines – and particularly along railroad spurs – for storage of fuel and/or other hazardous materials has been common historically. Reasons for locating USTs and subsurface pipelines near railroad tracks include the convenience of fueling of loading and transport equipment, such as forklifts and trucks, or for the dispensing of lubricants or cleaning solutions which could be utilized in the industrial/commercial processes conducted on site. Consequently, investigation and potential remediation of hazardous materials associated with USTs along railroad lines is recommended at the time of redevelopment of railroad properties or properties adjacent to railroad lines.

4.2 Adjacent Property Usage

Given the very large size of the Fulton Corridor Specific Plan project area subject site, research conducted for the purposes of this Phase I ESA was generally focused upon properties within the subject site area.

However, during the windshield survey site reconnaissance, property uses directly adjacent to the subject site boundaries were observed. For the purposes of compiling information from regulatory databases, the database search radius was set at one-eighth of a mile for records lists as the number of off-site listed sites generated by the search at a one-mile radius would be unreasonably huge and of questionable research value. It was determined that the one-eighth-mile radius (660 feet) would be valid to provide data on listed sites in close proximity to the subject site boundaries given the potential for contaminants to migrate in the environment, particularly related to leaking underground storage tanks. With the exception of the aforementioned database search, detailed research focusing on properties adjacent to the subject site boundaries, with the exception of documented regional contamination impacts, was considered to be not practicable.

4.3 Asbestos-Containing Construction Materials

According to the U.S. Environmental Protection Agency (EPA), asbestos is the name given to a number of naturally occurring fibrous minerals with high tensile strength, the ability to be woven, and resistance to heat and most chemicals. Because of these properties, asbestos fibers have been used in a wide range of manufactured goods, including many asbestos-containing construction materials (ACCMs), paper and cement products, textiles, and coatings. Potential ACCMs would include ceiling tiles, blown ceiling material ("popcorn"), floor tiles, mastic, drywall tape/compound, thermal pipe insulation, and roofing materials.

Exposure to asbestos can increase the risk of developing lung disease. In general, the greater the exposure to asbestos, the greater the chance of developing harmful health effects. Exposure to airborne friable asbestos may result in a potential health risk because persons breathing the air may breathe asbestos fibers. Continued exposure can increase the amount of fibers that remain in the lungs. Fibers embedded in lung tissue over time may cause serious lung disease including asbestosis, lung cancer, or mesothelioma.

Asbestos laws, both federal and state, are intended to protect people from exposure to dangerous levels of asbestos fibers in the air. In the federal government, the primary regulating agencies are the EPA, Consumer Product Safety Commission (CSPC), and the Occupation Health and Safety Administration (OSHA). Many states impose additional worker health and safety regulations, and rigorously regulate the construction industry regarding disturbance and removal of asbestos-containing materials in existing residential and commercial buildings. In the 1970s, numerous bans and restrictions were imposed upon the manufacture and use of ACCMs. Consequently, structures built before this time are more likely to have incorporated ACCMs in their construction. However, age alone cannot rule out the presence of

ACCMs in newer structures as the source of ACCMs and the circumstances related to their manufacture would be inconclusive in the absence of sampling and analysis of materials.

Given the age of the community comprising the Fulton Corridor Specific Plan project area, the structures located on the subject site, both residential and commercial, were constructed from approximately the late-1800s to the present day. It is unknown if the on-site structures contain ACCMs. An asbestos survey and sampling of the on-site structures was not included within the scope of this assessment. During Krazan's March-May 2010 and June-August 2011 site reconnaissance, damaged building materials which have the potential to be posing a health hazard were noted in various structures observed to be in states of disrepair throughout the subject site.

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) defines regulated asbestos-containing materials (RACM) as the following: friable materials containing more than one percent asbestos as determined by polarized light microscopy; Category I non-friable materials (i.e., floor tiles, asphalt roofing products) containing more than one percent asbestos that have become friable, have been subjected to or will be subjected to sanding, grinding, cutting, or abrading; and Category II non-friable materials (i.e., non-friable asbestos-containing materials that are not Category I materials) containing more than one percent asbestos that have a high probability of becoming or have already been reduced to a friable condition by demolition or renovation activities. In addition, the California Division of Occupational Safety and Health (Cal-OSHA) defines ACCM as greater than 0.1 percent asbestos

If asbestos-containing materials are left in place, the occupants of the structure should avoid buffing, sanding, grinding, or abrading these materials in any way. These activities could potentially release asbestos fibers. An Operations and Maintenance Program (O&M Program) could be developed for the management of asbestos-containing materials if left in place. The development and implementation of such a program would require the designation and training of an asbestos program manager. The asbestos program manager would be responsible for conducting periodic inspections of the asbestos-containing materials, record keeping requirements, and providing awareness training necessary for any maintenance or custodial personnel required to clean or repair these materials. Furthermore, it is recommended that the asbestos program manager notify all potentially affected individuals.

When building maintenance, repair, renovation, or other activities disturb or damage ACMs, asbestos fibers may be released creating a potential hazard. Therefore, removal of friable and non-friable ACCMs that have the potential to become friable during demolition and/or renovation is federally regulated under the NESHAP. The San Joaquin Valley Unified Air Pollution Control District (APCD) is the responsible

agency on the local level to enforce the NESHAP. The APCD Regional Office requires that asbestos-containing materials (ACM) be removed prior to renovation or demolition activities. Additionally, the APCD must be notified prior to any demolition and/or renovation activities.

Prior to conducting any repair, renovation or demolition of structures located on the subject site, an asbestos survey should be conducted of structures to be affected so as to ascertain the presence or absence of ACCMs. Local, state and federal regulations should be followed related to repair, renovation or demolition activities.

4.4 Lead-Based Paint

According to the U.S. EPA, lead is a toxic metal that was used for many years in products found in and around homes and businesses. Lead exposure may cause a range of health effects, from behavioral problems and learning disabilities, to seizures and death. Children six years old and under are most at risk because of the potential for eating paint chips and dust on surfaces around windows, window sills, doors, stairs and railings. Lead dust can form when LBP is dry scraped, dry sanded, or heated, or when painted surfaces bump or rub together.

Lead has been added to paint during manufacture to speed the drying process, resist moisture, and to benefit durability and appearance. In the United States, regulations exist that prohibit use of lead in paint manufacture, although lead-based paint (LBP) may still be found in older properties painted prior to the introduction of such regulations. The federal government banned LBP from housing in 1978; therefore, many homes built before 1978 may have LBP. However, age alone cannot rule out the presence of LBP in newer structures as the source of paints and the circumstances related to their application would be inconclusive in the absence of sampling and analysis of materials.

During Krazan's windshield survey site reconnaissance of the Fulton Corridor Specific Plan project area conducted in March-May 2010 and June-August 2011, observations of interior and exterior paint condition were found to be unfeasible. Therefore, it is unknown if structures within the subject site contain LBP. A lead-based paint survey was not within the scope of this assessment.

Occupational exposure to lead is regulated by both the Federal Occupational Safety and Health Administration (OSHA) (29 CFR 1926.62) and California OSHA (Title 8, GISO 5198 and CSO 1532.1). Based on Federal and California OSHA, when disturbing paints which contain lead (any amount of detectable lead), the above-noted OSHA and California OSHA regulations should be followed. Furthermore, the United States Department of Housing and Urban Development (HUD) publication

entitled *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing,* dated 1995, outlines specific guidelines for disrupting paint with lead in excess of 5,000 mg/kg (LBP). These guidelines have been developed primarily to address conditions within buildings utilized for residential purposes. In addition, industry accepted standards also suggest that building owners notify occupants regarding the presence, location, and extent of LBP. Records of all notifications and reports must be maintained for the duration of ownership and must be transferred to successive owners.

All construction work where an employee may be occupationally exposed to lead containing paint, including building renovation and demolition, must comply with OSHA Regulation 29 CFR 1926.62 and California OSHA Title 8, CSO 1532.1. This regulation requires initial employee exposure monitoring to evaluate worker exposure during work that disturbs lead containing paint. Krazan suggests that engineering controls and air monitoring for airborne lead be conducted at the start of projects in which worker exposure to lead containing paint is likely.

Demolition of buildings containing lead-based paint is not specifically regulated by the SJVUAPCD. General requirements for building demolition, however, such as dust control, must be strictly followed. Also, building components which have been identified as being coated with LBPs must be handled and disposed of as a Hazardous Waste and cannot be discarded as general construction debris.

4.5 Potable Water Source

Krazan's research indicates that potable water historically has been supplied to the subject site area since at least the early-1900s. The water purveyor for the subject site vicinity is the City of Fresno Public Utilities Department (CFPUD). The City of Fresno's water quality monitoring is an on-going program with water samples obtained on a regular basis. It is the responsibility of the City of Fresno to provide customers with potable water in compliance with the California State Maximum Contaminant Levels (MCLs) for primary drinking water constituents in water supplied to the public. Therefore, active domestic water wells are not expected to be in use in the subject site area. However, it is possible that inactive and/or abandoned domestic water wells may exist in the subject site area.

No information regarding analytical testing or construction specifications of potential on-site wells was researched during the course of this assessment. If inactive/abandoned water wells are found on the subject site, they should be properly destroyed in accordance with State and local guidelines.

4.6 Sewage Disposal System

Krazan's research indicates that municipal sewage disposal service historically has been supplied to the subject site area since at least the early-1900s. The sewage disposal service purveyor for the subject site

vicinity is the CFPUD. However, given the age of the subject site area, septic systems were likely associated with on-site structures. It is unknown if septic systems are currently located in the vicinity of on-site structures.

The presence of abandoned residential septic systems at locations on the Fulton Corridor Specific Plan project area is not anticipated to have adversely impacted the subject site due to their presumed historical use for domestic purposes only. However, based on the presence of businesses and commercial operations historically located on properties in the subject site area back to the late-1800s, particularly along commercial corridors, it is possible that hazardous materials (i.e. petroleum products/waste, solvents, etc.) were utilized in conjunction with a wide array of past commercial/industrial activities on properties which historically utilized septic systems. Primary candidates would include any high-risk businesses that stored and/or dispensed fuels, repaired vehicles, conducted on-site dry-cleaning services, or conducted other commercial/industrial operations that utilized hazardous materials in the course of their activities. Therefore, the potential exists for waste materials to have been disposed within sinks, toilets, drains, sumps, drywells, etc., which may have potentially entered the septic systems and the subsurface of the subject site. However, the specific location of historically utilized septic systems and the condition of the soils related to potential septic systems are unknown. If septic systems are identified during the redevelopment of subject site properties where environmental assessment evidence suggests that the septic systems were utilized in conjunction with high-risk property operations, they should be investigated for the presence or absence of significant environmental impacts. Furthermore, all abandoned septic systems discovered at locations on the subject site should be properly abandoned/closed or destroyed in accordance with State and local guidelines subsequent to environmental investigation, if found to be warranted.

5.0 USER-PROVIDED INFORMATION

5.1 Environmental Lien Search Report/Title Report

A User-required title report and/or Environmental Lien Search was not provided to Krazan for review. The absence of an Environmental Lien Search represents a data gap according to ASTM E 1527-05 Guidance. Because of the regional screening level goals of this Phase I ESA, acquisition of a title report and/or lien search for the large subject site area was deemed to be not reasonably ascertainable.

5.2 Phase I Environmental Site Assessment User Questionnaire

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *user* must

provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiry* is not complete. The user is asked to provide information or knowledge of the following:

1. Environmental cleanup liens that are filed or recorded against the site.
2. Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry.
3. Specialized knowledge or experience of the person seeking to qualify for the LLPs.
4. Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.
5. Commonly known or *reasonably ascertainable* information about the *property*.
6. The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.
7. The reason for preparation of this Phase I ESA.

A User Questionnaire was not provided to Krazan for review. The absence of User Questionnaire represents a data gap according to ASTM E 1527-05 Guidance. Because of the regional screening level goals of this Phase I ESA which did not include LLPs, acquisition of a User Questionnaire for the large subject site area was deemed to be not reasonably ascertainable.

6.0 SITE USAGE SURVEY

The property usage survey included assessing property history, and reviewing local, state, and federal regulatory agency records.

6.1 Site History

As established in Section 2.2 Scope of Work, given the geographical size, density of development and historical richness of the Fulton Corridor Specific Plan project area, and in light of the property inventory/screening purpose of this Phase I ESA, it is considered reasonable and practical to conduct environmental due diligence research in such a manner so as to limit investigative tasks to those most likely to yield data that is pertinent to the goals of the overall environmental review rather than duplicating similar research tasks which would yield comparable findings. Therefore, the process of reviewing and cataloging findings of historical fire insurance maps, aerial photographs and business directories for the massive subject site is not feasible. Given that the three aforementioned research tasks

yield similar findings, it is practical to eliminate one task with the understanding that the potential resulting redundant findings would not justify the very high additional research time and cost. Given the huge number of individual properties which are included in the subject site (approximately 23,000), it is unreasonable and impractical to conduct property-specific research tasks in light of the stated investigative goals. Therefore, a review was conducted of reasonably ascertainable business directories and historical fire insurance maps to compile an inventory of properties whose historical potential to have handled hazardous materials suggests the potential for significant environmental impacts. Consequently, no site-specific building department records or aerial photograph review was conducted as a matter of practicality.

Experience indicates that businesses in the following categories have demonstrated the greatest potential to generate impacts to the environment from the use, storage and disposal of hazardous materials and have therefore been spotlighted in the data review findings presented herein:

- Gasoline/service stations and other businesses that may have stored fuel for on-site dispensing or other uses.
- Automotive repair/service businesses which utilized fuels, lubricants, solvents and hydraulic fluids in the course of their operations. During the period approximately prior to and following the 1940s, vehicle garages commonly engaged in automotive repair activities and may have stored fuel for dispensing to clients. Automotive wrecking yards also represented operations of concern as the storage and disposal of fuels and lubricants drained from salvaged or discarded vehicles was part of their typical operations.
- Garment cleaners, dyers and dry cleaning businesses represent concerns for historical hazardous materials handling and disposal because of the use of dry cleaning fluid, chemicals used in the dyeing process, or the storage of fuels for water heating and steam-generation purposes.

Numerous miscellaneous business activities have historically involved the use, storage and disposal of hazardous materials, such as chemicals related to photographic developing, inks and solvents utilized in the printing process, solvents and oils related to the painting industry, and embalming fluid and other chemicals utilized by mortuaries.

Historical Business Directories

Reasonably ascertainable Haines Criss-Cross Directories (HCCDs), Polk Guide Directories (PGDs) and local telephone directories dated 1891 through 2011 were reviewed utilizing approximately ten-year intervals at the Fresno County Public Library, Central Branch, located in Fresno, California for the subject site area. Ten-year intervals were chosen as the most reasonable approach for review of business

histories in the large subject site area to provide information related to the development trends of businesses according to activity categories most likely to have handled, stored and disposed hazardous materials as discussed above. Therefore, given the huge amount of data reviewed, as a matter of practicality, the possibility for impacts to the subject site from potential historical hazardous materials business uses is presented statistically by business category rather than by cataloging specific businesses by address. Table III demonstrates the number of businesses per ten-year increments having the potential to use, store and dispose hazardous materials by type category. See Appendix A for a compilation of specific properties revealed in the course of business directory review to be potential environmental concerns (PECs).

TABLE III
Historical Business Directory Review Potential Environmental Concerns Summary

Year	Gasoline Service Stations/Fuel Storage	Automotive Repair/Service Facilities/ Garages/ Wreckers	Cleaners/ Laundries/ Dyers	Misc/ Photographic/ Mortuaries	Yearly Totals for All PECs
1891			2		2
1901			11		11
1911	1	14	12	3	30
1921	1	69	29	3	102
1931	58	83	37	7	185
1941	74	68	43	13	198
1951	60	59	37	6	162
1961	51	53	24	7	135
1971	29	32	9	5	75
1981	16	26	5	4	51
1991	10	29	3	3	45
2001	3	25	2	6	36
2011	2	18	2	13	35

As can be seen from the numbers of businesses by categories, trending indicates that peak commercial activity in the Fulton Corridor Specific Plan area, along with the anticipated related presence of businesses representing PECs, occurred in approximately 1941. Based upon further review of the business directory data, the listed commercial corridors in the subject site area were the location of the largest number of PECs for all business types, expressed as a percentage of the total PECs as follows:

- Broadway – 25%
- Van Ness Avenue – 16%
- Fresno Street – 8%
- Fulton Street – 7%
- Tulare Street – 6%
- H Street – 5%

- Kern Street – 5%
- G Street – 5%
- F Street – 4%
- Ventura Street – 3%
- Merced Street – 3%
- L Street – 3%
- Stanislaus Street – 2%

The balance of historical businesses revealed from business directory review to represent PECs in the subject site area were sparsely distributed such that concentrations of PECs in any one area did not exceed 1% of the total historical businesses representing PECs.

Historical Sanborn Fire Insurance Maps

Krazan reviewed Sanborn Fire Insurance Maps (SFIMs) to evaluate prior land use of the subject site properties. SFIMs typically exist for cities with populations of 2,000 or more, the coverage dependent on the location of the subject site within the city limits. Krazan reviewed SFIMs for the subject site area obtained from the Fresno County Public Library, Central Branch, located in Fresno, California and Krazan's archives. Available SFIMs were reviewed for evidence of business histories in the large subject site area to provide information related to the development trends of businesses according to activity categories most likely to have handled, stored and disposed hazardous materials as discussed above. Therefore, given the huge amount of data reviewed, as a matter of practicality, the potential for impacts to the subject site from potential historical hazardous materials business uses is presented statistically by business category rather than by cataloging specific businesses by address. Table IV demonstrates the number of businesses per SFIM date having the potential to use, store and dispose hazardous materials by type category. See Appendix B for a compilation of specific properties revealed in the course of SFIM review to be potential areas of concern (PECs).

TABLE IV
Sanborn Fire Insurance Maps Potential Environmental Concerns Summary

Year	Gasoline Service Stations/Fuel Storage	Automotive Repair/Service Facilities/ Garages/ Wreckers	Cleaners/ Laundries/ Dyers	Boilers for Water/Heat and Steam Generation	Misc/ Photographic/ Mortuaries	Yearly Totals for All PECs
1885				10	5	15
1888			3	12	3	18
1898			1	27	6	34
1906	26		1	26		53
1918	61	7	14	45	8	135

TABLE IV (cont.)
Sanborn Fire Insurance Maps Potential Environmental Concerns Summary

Year	Gasoline Service Stations/Fuel Storage	Automotive Repair/Service Facilities/ Garages/ Wreckers	Cleaners/ Laundries/ Dyers	Boilers for Water/Heat and Steam Generation	Misc/ Photographic/ Mortuaries	Yearly Totals for All PECs
1919						
1948	81	104	4	12	14	215
1950	88	89	4	8	6	195
1968	39	60	4	2	11	116

As can be seen from the numbers of businesses by categories, trending indicates that peak commercial activity in the Fulton Corridor Specific Plan area, along with the anticipated related presence of businesses representing PECs, occurred in approximately 1948. Based upon further review of the business directory data, the listed commercial corridors in the subject site area were the location of the largest number of PECs for all business types, expressed as a percentage of the total PECs as follows:

- Broadway – 14%
- Van Ness Avenue – 10%
- H Street – 8%
- Fulton Street – 8%
- G Street – 7%
- Fresno Street – 5%
- Tulare Street – 5%
- F Street – 4%
- L Street – 3%
- Kern Street – 3%
- Merced Street – 3%
- Ventura Street – 3%
- N Street – 2%
- M Street 2%
- Stanislaus Street – 2%

The balance of historical businesses revealed from SFIM review to represent PECs in the subject site area were sparsely distributed such that concentrations of PECs in any one area did not exceed 1% of the total historical businesses representing PECs.

Phase I Environmental Site Assessment Interview – Regulatory Agencies

As established in Section 2.2 Scope of Work, given the geographical size, density of development and historical richness of the Fulton Corridor Specific Plan project area, and in light of the property inventory/screening purpose of this Phase I ESA, it is considered reasonable and practical to conduct environmental due diligence research in such a manner so as to limit investigative tasks to those most likely to yield data that is pertinent to the goals of the overall environmental review rather than duplicating similar research tasks which would yield comparable findings. Since the number of individual properties which are included in the subject site (approximately 2,100) is huge, it is unreasonable and impractical to conduct property-specific research tasks in light of the stated investigative goals. Therefore, as a matter of practicality, no interviews were conducted with site-specific property owners or occupants.

However, in order to address site-wide environmental conditions, in written correspondences dated March 18, 2010, Krazan invited comments from representatives of relevant regulatory agencies as found to be reasonably available, which included the California Environmental Protection Agency (EPA) Department of Toxic Substances Control (DTSC) and Regional Water Quality Control Board (RWQCB), and the Fresno County Department of Community Health, Environmental Health System (FCEHS) regarding potential hazardous materials issues in the Specific Plan subject site area.

Since the purpose of this Phase I ESA for the subject site is intended to provide hazardous materials research for an EIR being prepared for the Fulton Corridor Specific Plan project area, the goals of the request for comments from the referenced regulatory agencies was stated as follows:

> The Specific Plan EIRs are being prepared in compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). Krazan's Phase I ESAs are intended to address potential hazardous materials issues related to the two Specific Plan areas in support of the CEQA and NEPA guidelines goals. The Specific Plan subject site areas are being assessed following ASTM guidance with research incorporating site reconnaissance, review of historical usage information, regulatory database review, and interviews with key relevant parties. It is for this reason that the DTSC is being contacted herein related to the environmental review process.
>
> In general, the thresholds utilized in the CEQA/NEPA environmental review process for the Specific Plan subject site areas address whether the projects would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; or create a significant hazard to the public or the environment

through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

The DTSC responded to Krazan's request for comments in a March 23, 2010 email correspondence, the contents of which are summarized as follows:

1. Because the Fulton Corridor is a large redevelopment area, individual Phase I ESAs for properties under acquisition should be reviewed by the DTSC.
2. Individual Phase I ESA conducted for subject site properties should consider indoor air from intruding volatile organic compounds (VOCs from past site usage, asbestos and lead-based paints.
3. It was recommended that DTSC files should be reviewed for sites of environmental concern as a component of this Phase I ESA research.

The FCEHS responded to Krazan's request for comments in a March 23, 2010 email correspondence, the contents of which are excerpted as follows:

> Our Division recently received your request for comments in regards to the Fulton Corridor Specific Plan and Downtown Neighborhoods Specific Plan Projects for which your firm is performing a Phase I Environmental Analysis. Unfortunately, due to the large geographic area of your request, we are unable to provide specific comments as we have in the past for single parcel project requests. However, I have attached a copy of the CUPA and Solid Waste Programs Resource List that includes the sites currently found in the Fresno County Department of Public Health, Environmental Health Division database, which may be helpful in completing your evaluation.

On April 15, 2010, a telephone interview was conducted with Mr. John Noonan of the RWQCB. Mr. Noonan stated that he was in agreement with the general inventory-oriented scope of work being conducted for the very large subject site in this Phase I ESA and that, because the findings would be very general, individual site-specific or regional hazardous materials contamination issues would need to be addressed over the course of future development throughout the Fulton Corridor Specific Plan project area.

6.2 Agricultural Chemicals

Krazan's review of historical aerial photographs on numerous environmental assessment projects for properties in the Fulton Corridor Specific Plan subject site area and general background knowledge of the

subject site and vicinity indicates that the specific plan subject site area was not utilized for agricultural purposes from at least the late-1800s through the early 1900s as urban development in and surrounding the Downtown Fresno area progressed. Consequently, the use, storage, and application of agricultural chemicals at the subject site related to agricultural cultivation are not considered an environmental concern. However, it is unknown whether concentrated uses of various agricultural chemicals was historically conducted on the subject site in conjunction with specific properties formerly utilized for the storage, manufacture, retail sale, or disposal of agricultural chemicals. Based upon the length of time since the subject site or portions of the subject site have been used for agricultural purposes, it is not anticipated that elevated concentrations of environmentally persistent pesticides/herbicides would be found in the near-surface soils of the subject site. Generally, Krazan's sampling and analysis of surface soils from properties with similar histories has typically yielded non-detectable results for analysis of environmentally persistent pesticides/herbicides. Therefore, the potential for elevated concentrations of environmentally persistent pesticides/herbicides to exist in the near-surface soils of the subject site, which would require regulatory action, appears to be low.

6.3 Regulatory Agency Interface

Regulatory agencies maintain databases of sites, properties and businesses where contamination incidents have been documented or where hazardous materials usage or storage is monitored, permitted, or may represent a significant risk of potential contamination. A review of a regulatory agency database search report was conducted to help determine if hazardous materials have been handled, stored, or generated on the subject site and/or the adjacent properties and businesses.

Due to the size and complexity of the Fulton Corridor Specific Plan area subject site, a huge number of sites have been listed with regulatory agencies, rendering the task of reviewing files for individual properties or businesses unreasonable and impractical. Therefore, for the purposes of this Phase I ESA, an inventory of listed properties was conducted in an effort to demonstrate the magnitude and frequency of hazardous materials oriented activities related to the subject site. In this manner it is possible to spotlight a subset of sites of "potential concern" which represent the highest potential to impact the subject site environment.

The process of screening sites of potential concern within the Specific Plan area subject site that represent the highest potential for impacts to the environment focused upon highlighting those sites with reported contamination or usage incidents which met the following criteria:

1. The individual case is "open" or regulatory oversight is currently ongoing, suggesting that contamination may still be present and migrating in the environment;

2. The chemical or elemental nature of the contaminants, or constituents of concern (COCs), represent a higher potential for impacts to human health or migration in the environment, such as volatile constituents; and
3. Groundwater was reported to have been impacted, typically in addition to soils, increasing the potential for contaminants to migrate with groundwater flow resulting in off-site impacts.

The results of the listed-property screening process are presented as an inventory of potential properties of concern according to the specific regulatory agency consulted. It should be noted that, because similar environmental conditions may be tracked by different regulatory agencies, many sites are reported in multiple databases.

California Environmental Protection Agency, Department of Toxic Substances Control

Acting within the California Environmental Protection Agency (Cal/EPA), the Department of Toxic Substances Control (DTSC) is primarily responsible for implementation and enforcement of laws and regulations related to the handling, utilization and disposal of hazardous materials and wastes in California. These laws include the Hazardous Waste Control Act and the Hazardous Substance Account Act along with regulations contained in the California Code of Regulations (CCR) Title 27. The DTSC acts as the lead agency for soils and groundwater remediation and cleanup projects and has the authority to require investigations and remedial actions. In March 2010, Krazan reviewed the DTSC Envirostor California cleanup sites database available via the DTSC Internet website for records of cleanup sites on file with the DTSC for the Fulton Corridor Specific Plan project area subject site. Two active cleanup listings were revealed. Additionally, no Federal Superfund National Priorities List (NPL) sites were determined to be located within a one-mile radius of the subject site (See Table No. V and Figure No. 5).

Table No. V
DTSC Envirostor Data Summary – Fulton Corridor Area

Street Name	Street Number	Facility Name/ Site Type	Contaminant	Comments
G Street	1131	PG&E Substation	PHC/M+/BaP	Site certified no further removal/remedial action on 1/19/10; impacted soil
		Voluntary Cleanup		excavated to 2 feet bgs and subsequently over-excavated where necessary,
				residual COC levels confirmed below site cleanup goals, site suitable for
				unrestricted use
G/F/Fresno/	"Block"	PG&E Man. Gas Plant	PHC/PAH/M+	Site appears to be adjacent to the certified PG&E Substation site;

Table No. V (cont.)
DTSC Envirostor Data Summary – Fulton Corridor Area

Street Name	Street Number	Facility Name/ Site Type	Contaminant	Comments
Tulare Streets		Evaluation Site		Inactive Evaluation Site - DTSC working with PG&E to develop a priority list
				of sites to address - DTSC will request that this site is on the list
				No known investigation of this site done to date
				Above information from Envirostor - effective date unknown , estimated 5/15/07

South Fresno Regional Groundwater Plume

According to the DTSC Envirostor Website, a co-mingled groundwater plume identified as "South Fresno Regional Groundwater Plume" (SFRGWP) is present adjacent to the south and hydraulically upgradient of the Fulton Corridor Specific Plan subject site area. The plume generally is estimated to occupy the area south of East Church Avenue to the south, north of East California Avenue to the north, west of South Orange Avenue to the east, and east of Golden State Boulevard to the west. The SFRGWP is located within the South Van Ness Industrial Area, which lies in a highly industrialized area of South Fresno. Many of the industrial facilities within the South Van Ness Industrial Area have been operating since before World War II, and some of the properties have been used for industrial purposes since the early 1900s. Responsible parties (RPs) for the groundwater plume have been identified as FMC Corporation (FMC) and The Vendo Company/Weir Floway, Inc., located generally hydraulically up-gradient to the southwest of the Specific Plan area subject site. Groundwater monitoring confirms the presence of separate sources of TCE, PCE, and other constituents of concern in groundwater that came from different sources than the Floway/Vendo facility.

The SFRGWP site has been divided into two operable units (OU-1 and OU-2), both of which encroach upon the subject site. Constituents of concern (COCs) identified in association with the SFRGWP include dissolved chromium, 1,2,3-trichlorpropane (TCP), trichloroethylene (TCE), tetrachlorethylene (PCE), Freon-11, Cis-1,2-dichloroethene (DCE), toluene, and 1,1-dichloroethene (1,1-DCE). COCs identified in association with the OU-2 portion of the SFRGWP include pesticide-related compounds such as 1,2-dibromo-3-chloropropane (DBCP) and TCP, among others. The SFRGWP extends from the RP facilities to the north/northwest approximately 4,500 feet. Groundwater monitoring wells (MWs) and groundwater extraction systems have been implemented in order to address and remediate the groundwater plume. Previous investigations to characterize the extent of impacts have shown that drinking water sources have not been affected. As an interim remedial measure, a removal action was initiated with the startup of two groundwater extraction wells as a pilot study in May 2003 and subsequently expanded with the startup of two additional wells in December 2005. The impacted groundwater is extracted and discharged to the

sewer where the water is combined with residential and industrial wastewater and treated at the Fresno-Clovis Wastewater Treatment Plant in South Fresno. Groundwater samples collected from MW-31 and MW-53 in 2006 and 2007 as part of the groundwater monitoring program have been analyzed for volatile organic compounds (VOCs), chromium, organochlorine pesticides, Dinoseb, DBCP, TCP, Monuran, and nitrates. Analytical results of the groundwater samples collected from monitoring wells MW-31 and MW-53 in 2006 and 2007 have generally revealed nondetect to trace concentrations of the analytes. Maximum concentrations of DBCP in MW-31 and MW-53 have been detected at concentrations of 0.078 parts per billion (ppb) and 0.59 ppb, respectively. According to records on file with the DTSC, the groundwater extraction system is working effectively to remove contaminants from the leading edge of the groundwater plume. The RPs are currently involved in the active investigation and remediation of the SFRGWP.

California Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) is the lead agency in California that regulates discharge of potentially hazardous materials to waterways and aquifers. The Regional Water Quality Control Board (RWQCB) Region 5 is the local lead regulatory agency for surface discharge and groundwater leaking underground fuel tank (LUFT) sites located within the Central San Joaquin Valley. The RWQCB provides oversight for sites at which the quality of groundwater or surface waters is threatened and has the authority to require investigations and remedial actions. In March 2010, Krazan reviewed the RWQCB LUFT database available via the RWQCB Internet Geotracker website for records of LUFT sites on file with the RWQCB for the Fulton Corridor Specific Plan project area subject site. Eleven active LUFT and cleanup sites were revealed. Additionally, no Federal Superfund National Priorities List (NPL) sites were determined to be located within a one-mile radius of the subject site (See Table No. VI and Figures No. 6 and 7).

Table No. VI
RWQCB Geotracker Data Summary – Fulton Corridor Area

Street Name	Street No.	Facility Name	Release Type	Contaminant	Media Impacted	Case Status	Comments
Broadway	1033	Greyhound Bus Depot	LUST	PHCs	Soil	OPEN	Further char. required, residual contam remains; unlikely GW impact, RWQCB wants to look at in situ remediation for naphthalene/methylnaphth
Fresno	1406	Fire Station # 3	LUST	PHCs	Soil/GW?	OPEN	Refer RWQCB 01/10, appears to be low level soil impact but limited info online
Fulton	742	Archives Record Strge	LUST	Naphth/PAH	Soil/SV	OPEN	Soil gas survey WP summary only doc online (5/13/19), samples beneath basement of bldg
G Street	1152	Van Waters & Rogers	Cleanup	PCE	Soil/GW	OPEN	PCE release, SVE system operating, indoor air quality/soil vapor apparently done, no data online

Table No. VI (cont.)
RWQCB Geotracker Data Summary – Fulton Corridor Area

Street Name	Street No.	Facilty Name	Release Type	Contaminant	Media Impacted	Case Status	Comments
G Street	1131	PG&E G Street	Cleanup	PHC/Metals	?	OPEN	Nothing online-this now DTSC Site
G Street	655	Abandoned Srvc Statn	LUST	PHC's	Soil/GW?	OPEN	10/22/08 letter requesting WP to characterize extent of release, nothing else online
G Street	603	Trini's Beacon	LUST	PHC's	Soil/GW?	OPEN	1/27/09 WP summary-lateral & vertical extent of release to be defined; no data, if any, online
M Street	1155	Fresno County Jail	LUST	PHCs	Soil/GW?	OPEN	Appears to be low-moderate PHC impact to soil; RWQCB requesting pilot SVE test (12/09)
Tulare	2650	BNSF/AmTrak Depot	LUST	WO/MO/Diesl	Soil	OPEN	Near closure, no significant impact
Van Ness	812	Tutelian & Co	LUST	Heating Oil	Soil/GW?	OPEN	Apparently low-level release, WP submitted- to define extent - results due 4/7/10

Fresno County Department of Community Health, Environmental Health System

The Fresno County Department of Community Health, Environmental Health System (FCEHS) is the local lead regulatory agency or Certified Unified Program Agency (CUPA) for hazardous materials handling facilities in Fresno County. Hazardous materials oversight programs administered by the CUPA include the Underground Storage Tank Program, Hazardous Waste Generator Program, Accidental Release Program and Hazardous Materials Business Plan Program. The California Health and Safety Code Division 20, Chapter 6.5 Program administration activities include inspections of businesses and review of permit conditions and procedures for the handling, storage, use and disposal of hazardous materials. Businesses are required to keep track of the use of hazardous materials utilizing Hazardous Materials Business Plans in accordance with both state and federal laws.

Krazan's review of the FCEHS Hazardous Materials Resource List dated March 2010, including Miscellaneous Site Files (U.S. EPA, Cal-EPA, Fresno County Agency Files, etc.), UST/leaking underground storage tank (LUST) files and Hazardous Materials Business Plan (HMBP) files, indicated that records are on file with the FCEHS for the subject site. However, due to the huge number of subject site addresses listed with the FCEHS and redundancy of data caused by FCEHS sites being listed within the EFS regulatory database search report (Section 6.4), FCEHS records for the subject site were not reviewed as a matter of practicality.

City of Fresno Fire Department

The City of Fresno Fire Department (CFFD) was the historical repository for records of historical hazardous/flammable permits, hazardous material handling, or hazardous/flammable incidents for the Fulton Corridor Specific Plan project area subject site. Hazardous/flammable incidents are filed with the CFFD according to the date of occurrence and not by the location of occurrence. Consequently, a review

of CFFD records for the subject site was determined to be not reasonable or practicable and a review was not conducted. However, in Krazan's experience, UST and hazardous materials records on file with the CFFD are typically on file with the FCEHS. Therefore, no UST or hazardous materials records for the subject site were obtained from the FCEHS.

Local Area Tribal Records

No Indian reservations, USTs on Indian land, or leaking USTs (LUSTs) on Indian land were reported on the subject site, adjacent properties, or vicinity properties in the EFS-provided government database report.

California Department of Conservation, Division of Oil, Gas and Geothermal Resources - DOMS

Krazan's review of the State of California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) Online Mapping System (DOMS) indicated that no plugged and abandoned or producing oil wells are located on or adjacent to the subject site.

6.4 Regulatory Agency Lists Review

As described in Section 6.3 of this report, numerous regulatory agencies have published databases that list businesses or properties which have handled hazardous materials or waste or may have experienced site contamination. The lists consulted in the course of our assessment were compiled by EFS and Krazan on March 15, 2010, and represent reasonably ascertainable listings. Krazan did not verify the locations and distances of every property listed by EFS. In some cases, Krazan verified the location and distances of the properties Krazan deemed as having the potential to represent a significant impact to the Fulton Corridor Specific Plan project area subject site. The actual location of the listed properties may differ from the EFS listing.

Given the very large size of the Fulton Corridor Specific Plan project area subject site, the database search radius was set at one-eighth of a mile for all records lists as the number of off-site listed sites generated by the search at a one-mile radius would be unreasonably huge and of questionable research value. It was determined that the one-eighth-mile radius (660 feet) would be valid to provide data on listed sites in close proximity to the subject site boundaries given the potential for contaminants to migrate in the environment, particularly related to leaking underground storage tanks. However, because NPL sites generally are associated with impacts that may have migrated regionally, the search radius for the NPL list was set at one mile from the subject site boundaries.

Fulton Corridor Specific Plan Project Subject Site Area

Figure I presents a graphic representation mapping the location of sites listed on regulatory agency databases in the Fulton Corridor Specific Plan subject site area.

FIGURE I
Listed Properties Map

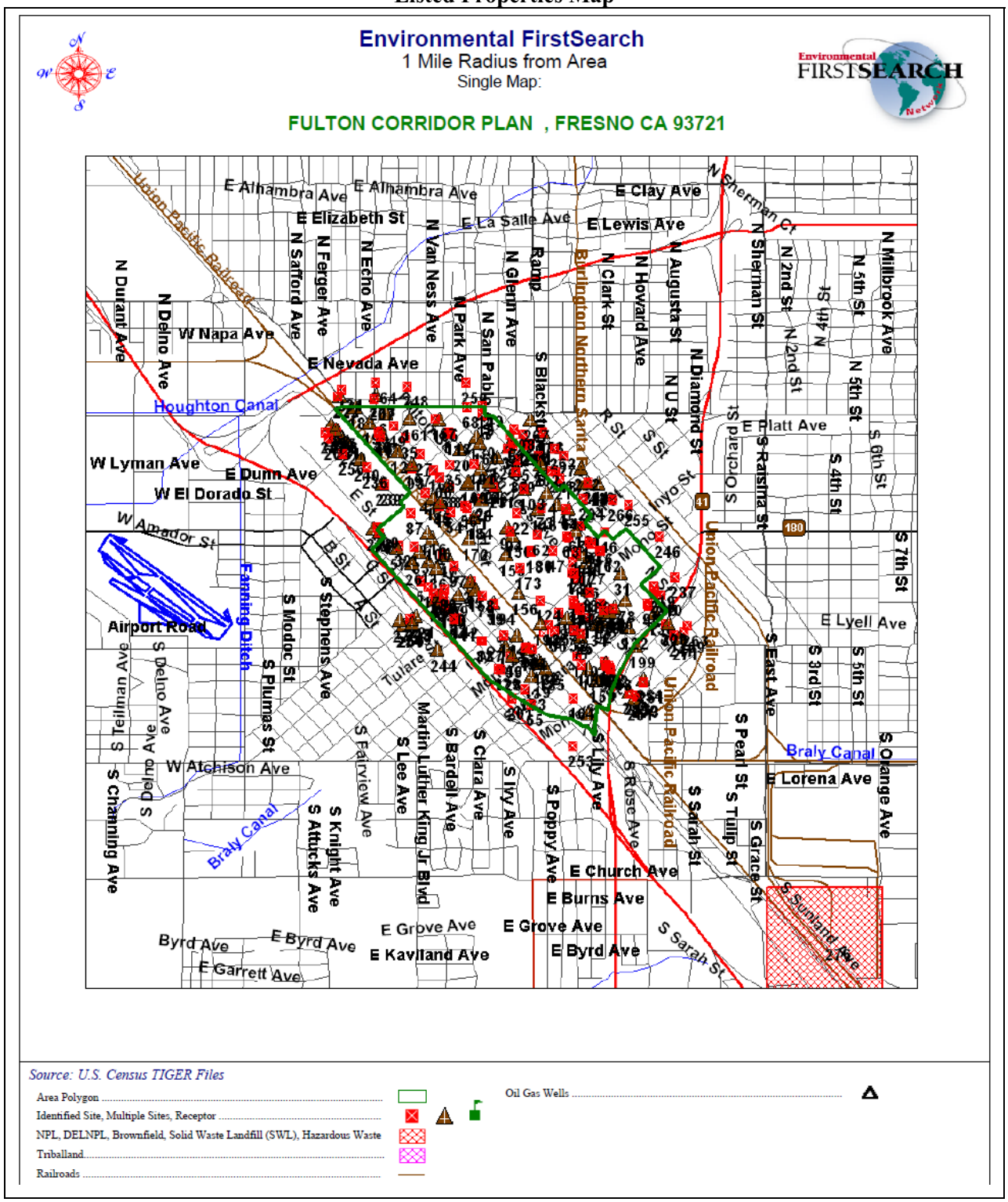

Table VII summarizes the listed properties located within the EFS Search Radii for the Fulton Corridor Specific Plan subject site area. The EFS Radius Map report summary is included in Appendix C.

TABLE VII
Listed Properties Summary

Environmental FirstSearch
Search Summary Report

Target Site: FULTON CORRIDOR PLAN
FRESNO CA 93721

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	02-23-10	1.00	0	0	0	0	1	0	1
NPL Delisted	Y	02-23-10	0.12	0	0	-	-	-	0	0
CERCLIS	Y	01-29-10	0.12	0	0	-	-	-	3	3
NFRAP	Y	01-29-10	0.12	1	0	-	-	-	1	2
RCRA COR ACT	Y	01-13-10	0.12	1	0	-	-	-	0	1
RCRA TSD	Y	01-13-10	0.12	1	0	-	-	-	0	1
RCRA GEN	Y	12-11-09	0.12	37	15	-	-	-	1	53
RCRA NLR	Y	12-11-09	0.12	4	3	-	-	-	0	7
Federal Brownfield	Y	01-19-10	0.12	0	0	-	-	-	0	0
ERNS	Y	02-08-10	0.12	2	2	-	-	-	27	31
Tribal Lands	Y	12-01-05	0.12	0	0	-	-	-	3	3
State/Tribal Sites	Y	02-08-10	0.12	4	0	-	-	-	5	9
State Spills 90	Y	03-11-10	0.12	4	0	-	-	-	2	6
State/Tribal SWL	Y	02-22-10	0.12	1	0	-	-	-	1	2
State/Tribal LUST	Y	03-01-10	0.12	33	12	-	-	-	2	47
State/Tribal UST/AST	Y	05-13-09	0.12	185	77	-	-	-	14	276
State/Tribal EC	Y	NA	0.12	0	0	-	-	-	0	0
State/Tribal IC	Y	03-02-10	0.12	0	0	-	-	-	0	0
State/Tribal VCP	Y	02-08-10	0.12	1	0	-	-	-	0	1
State/Tribal Brownfields	Y	NA	0.12	0	0	-	-	-	0	0
State Permits	Y	02-19-10	0.12	56	11	-	-	-	3	70
State Other	Y	02-08-10	0.12	3	0	-	-	-	1	4
Oil & Gas Wells	Y	01-08-01	0.12	0	0	-	-	-	0	0
Federal IC/EC	Y	03-12-10	0.12	0	0	-	-	-	0	0
Meth Labs	Y	03-01-09	0.12	0	0	-	-	-	0	0
HW Manifest	Y	02-19-10	0.12	28	34	-	-	-	2	64
- TOTALS -				361	154	0	0	1	65	581

Summary

A total of 516 sites were listed in the Fulton Corridor Specific Plan subject site area on the EFS database report, 361 on the subject site, 154 sites within one-eighth mile of the subject site boundaries, and one formerly proposed NPL site greater than one-half mile from the subject site boundaries. A description of relevant regulatory databases searched by EFS followed by a listing of sites of potential concern within the database, if any, reported by EFS within the Fulton Corridor Specific Plan subject site area follows.

NPL – EPA National Priority List

The National Priorities List is a list of the most severe hazardous waste sites that have been identified by Superfund. Sites are only put on the list after they have been scored using the Hazard Ranking System (HRS), and have been subject to public comment. Any site on the HPL is eligible for cleanup using Superfund Trust money. A Superfund site is any land in the United States that has been contaminated by hazardous waste and identified by the EPA as a candidate for cleanup because it poses a risk to human health and/or the environment.

No NPL sites were listed within the Fulton Corridor Specific Plan subject site area, or within one-half mile of the subject site.

NPL DELISTED – EPA National Priority List subset
This is a database of delisted NPL sites. The National Oil and Hazardous substances pollution contingency plan (NCP establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425(e), sites may be deleted from the NPL where no further response is appropriate; however, deleted sites may represent ongoing hazardous materials impacts to the subject site.

No NPL DELISTED sites were listed within the Fulton Corridor Specific Plan subject site area, or within one-half mile of the subject site.

CERCLIS – EPA Comprehensive Environmental Response Compensation and Liability Information System
CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the NPL as well as sites that are in the screening and assessment phase for possible inclusion on the NPL.

No CERCLIS sites were listed within the Fulton Corridor Specific Plan subject site area, or within one-half mile of the subject site.

RCRA COR ACT – EPA Resource Conservation and Recovery Information System Sites
This is a database of hazardous waste information on facilities that have reported violations and are subject to corrective actions contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn, pass on the information to regional and national EPA offices. This regulation is governed by the RCRA, as amended by the Hazardous and Solid Waste Amendments of 1984.

One RCRA COR ACT site was listed within the Fulton Corridor Specific Plan subject site area, or within one-half mile of the subject site.

Database	Status	Name	Address
RCRACOR	CA	UNIVAR USA, INC	1152 G ST

*STATE SPILLS 90 – CA EPA SLIC Regions 1-9
The California Regional Water Quality Control Boards maintains a report of sites that have records of spills, leaks, investigation, and cleanups. A total of 6 sites were listed in the Fulton Corridor Specific Plan subject site area on the EFS database report, 4 on the subject site, and 2 sites within one-eighth mile of the subject site boundaries. Six Spills sites of potential concern are listed below.

Database	Status	Name	Address
SPILLS	OPEN - REMEDIATION	VAN WATERS and ROGERS INC - FRESNO	1152 G ST
SPILLS	OPEN - SITE ASSESSMENT	PGandE - G STREET FRESNO	1131 G ST
SPILLS	OPEN	FMC	P.O. BOX 1669
SPILLS	OPEN - REMEDIATION	AUTO DISMANTLER (FORMER)	317 CALIFORNIA WEST
SPILLS	OPEN - SITE ASSESSMENT	LAMOURE S CLEANERS	1304 G ST
SPILLS	OPEN - REMEDIATION	VAN WATERS and ROGERS INC - FRESNO	1152 G ST

*STATE/TRIBAL LUST – California SWRCB/County LUSTIS
The State Water Resources Control Board (SWRCB) maintains a database of sites with confirmed or unconfirmed leaking underground storage tanks. Listed sites represent current and/or historical impacts to the subject site subsurface. Information for this database is collected from the state's Regional Water Quality Board regional offices quarterly and is updated within this database. A total of 45 sites were listed

in the Fulton Corridor Specific Plan subject site area on the EFS database report, 33 on the subject site, and 12 sites within one-eighth mile of the subject site boundaries. Twelve LUST sites of potential concern are listed below.

Database	Status	Name	Address
LUST	OPEN - SITE ASSESSMENT	ABANDONED SERVICE STATION	655 G ST
LUST	OPEN - SITE ASSESSMENT	ARCHIVES RECORD STORAGE BLDG.	742 FULTON ST
LUST	OPEN - SITE ASSESSMENT	FIRE DEPT HEADQUARTERS	450 M ST
LUST	OPEN - SITE ASSESSMENT	FRESNO COUNTY JAIL	1155 M ST
LUST	OPEN - SITE ASSESSMENT	GREYHOUND BUS DEPOT	1033 BROADWAY
LUST	OPEN - SITE ASSESSMENT	TRINI S BEACON	603 G ST
LUST	OPEN - REFERRED	TUTELIAN and COMPANY	812 VAN NESS
LUST	OPEN - SITE ASSESSMENT	UNOCAL BULK PLANT 221	101 ROOSEVELT N
LUST	OPEN - SITE ASSESSMENT	FORMER ICE HOUSE	702 P ST
LUST	OPEN - REMEDIATION	CHEVRON 9-4374	1160 FRESNO ST
LUST	OPEN - REFERRED	BNSF/AMTRAK DEPOT	2650 TULARE ST. E
LUST	OPEN - REFERRED	FIRE STATION 3	1406 FRESNO ST

STATE/TRIBAL UST/AST – CA EPA/County/City Storage Tanks

Aboveground Storage Tanks Listing: The Aboveground Petroleum Storage Act became State Law effective January 1, 1990. In general, the law requires owners or operators of ASTs with petroleum products to file a storage statement and pay a fee by July 1, 1990 and every two years thereafter, take specific action to prevent spills, and in certain instances implement a groundwater monitoring program. This law does not apply to that portion of a tank facility associated with the production oil as regulated by the State Division of Oil and Gas of the Department of Conservation. Sites listed as owners or operators of ASTs do not necessarily represent hazardous materials impacts to the subject site but, rather, suggest the potential for impacts from spills, leaks, improper handling, etc.

SWEEPs/FIDS State Registered Underground Storage Tanks: Until 1994, the SWRCB maintained a database of registered underground storage tanks statewide referred to as the SWEEPS System. The SWEEPS UST information was integrated with the CAL EPA's Facility Index System database (FIDS) which is a master index of information from numerous California agency environmental databases, which was last updated in 1994. EFS includes the UST information from the FIDS database in its reports for historical purposes to help identify where tanks may possibly have existed.

Indian Lands Underground Storage Tanks List: A listing of underground storage tanks currently on Indian Lands under federal jurisdiction. California Indian Land USTs are administered by US EPA Region 9.

CUPA Databases and Sources: The CUPA is a local agency that has been certified by the CAL EPA to implement six state environmental programs within the local agency's jurisdiction, including UST and hazardous materials handling programs. A participating Agency (PA) is a local agency that has been designated by the local CUPA to administer one or more Unified Programs within their jurisdiction on behalf of the CUPA. A Designated Agency (DA) is an agency that has not been certified by the CUPA but is the responsible local agency that would implement the six unified programs until they are certified.

Sites listed as owners or operators of USTs, even under compliance with regulations and proper permitting, do not necessarily represent hazardous materials impacts to the subject site but, rather, suggest the potential for impacts from unreported or unknown spills, leaks, improper handling, etc. A total of 262 sites were listed in the Fulton Corridor Specific Plan subject site area on the EFS database report, 185 on the subject site, and 75 sites within one-eighth mile of the subject site boundaries. 96 sites were listed as "Inactive," indicating that permitting was discontinued because tanks may have been removed and/or hazardous materials storage ceased with no indication of whether any leak confirmation investigations

were conducted. Approximately 120 listed sites with permitted tanks and/or active status which could represent a potential concern are listed below.

Database	Status	Name	Address
UST	ACTIVE	FRESNO CO EMPLOYEES CREDIT UN	2211 MERCED
UST	ACTIVE	LAMOURES CLEANERS	1304 G
UST	UNDERGROUND TANK FACILITY/UPGR	PACIFIC BELL	1420 TUOLUMNE
UST	ACTIVE	PACIFIC BELL (SB-659)	1420 TUOLOMNE
UST	ACTIVE	CONVENTION CENTER	700 M
UST	ACTIVE	STANDARD BRANDS PAINT- 8	2010 VENTURA
UST	ACTIVE	DANISH CREAMERY ASSOCIATION	755 F
UST	UNDERGROUND TANK FACILITY/EXIS	HALL OF RECORDS	2281 TULARE ST
UST	UNDERGROUND TANK FACILITY/EXIS	HALL OF RECORDS	2281 TULARE ST
UST	UNDERGROUND TANK FACILITY/UNCO	PHIL S AUTOMOTIVE CENTER	1142 F ST
UST	ACTIVE	SANTIS INC.	1142 F
UST	UNDERGROUND TANK FACILITY/UNCO	PHIL S AUTOMOTIVE CENTER	1142 F ST
UST	ACTIVE	COUNTY JAIL (NEW)	1225 M
UST	UNDERGROUND TANK FACILITY/UPGR	MAIN JAIL	1225 M ST
UST	UNDERGROUND TANK FACILITY/UNCO	GEORGES AUTO CARE	603 BROADWAY
UST	UNDERGROUND TANK FACILITY/UNCO	GEORGES AUTO CARE	603 BROADWAY
UST	ACTIVE	DUNAVANT W B CO	1410 F
UST	CLOSED UST FACILITY/DATA VAULT	O BRIEN S BRAKE SERVICE	1515 MERCED ST
UST	UNDERGROUND TANK FACILITY/UPGR	PEP BOYS 624	716 BROADWAY
UST	ACTIVE	PEP BOYS 624	716 BROADWAY
UST	ACTIVE	A and A PRODUCE	1418 G
UST	UNDERGROUND TANK FACILITY/EXIS	AandA PRODUCE	1418 G ST
UST	ACTIVE	ACE SERVICE	1502 FULTON
UST	UNDERGROUND TANK FACILITY/UNCO	BALO PROPERTY/TRIANGLE GRAIN	808 G ST
UST	UNDERGROUND TANK FACILITY/UNCO	BALO PROPERTY/TRIANGLE GRAIN	808 G ST
UST	ACTIVE	TRIANGLE GRAIN CO.	808 G
UST	ACTIVE	BEDROSIAN TRUCK SER. INC	1454 G
UST	ACTIVE	BLOSSER S SPORTS EQUIP. CO.	1728 VAN NESS
UST	ACTIVE	TOSCANA BAKERY	620 F
UST	UNDERGROUND TANK FACILITY/UPGR	DOWNTOWN CHEVRON	1506 VAN NESS
UST	ACTIVE	CHEVRON STATION	1506 VAN NESS
UST	UNDERGROUND STORAGE TANK FACIL	C L BRYANT	1506 VAN NESS
UST	UNDERGROUND TANK FACILITY/UNCO	CALIFORNIA FOOD EQUIPMENT	2401 STANISLAUS
UST	UNDERGROUND TANK FACILITY/UPGR	DANISH CREAMERY	745 E ST
UST	ACTIVE	DANISH CREAMERY ASSOCIATION	745 E
UST	ACTIVE	ELECTROHEAT DIV, GLENN ELECTRI	641 G
UST	ACTIVE	FELIX AUTO MECHANIC	804 F
UST	ACTIVE	FIRE DEPARTMENT SHOP	1420 FRESNO
UST	ACTIVE	SAN JOAQUIN MEMORIAL H S	1406 FRESNO
UST	ACTIVE	FRANKS EXXON	1060 E
UST	UNDERGROUND TANK FACILITY/UPGR	FRESNO BEE, THE	1626 E ST
UST	ACTIVE	POLICE DEPT	2323 MARIPOSA
UST	UNDERGROUND TANK FACILITY/UPGR	FRESNO CITY POLICE DEPT	2323 MARIPOSA
UST	UNDERGROUND TANK FACILITY/UPGR	FRESNO COUNTY JAIL	1155 M ST
UST	ACTIVE	FRESNO CO MAINTENANCE YARD	1155 M
UST	ACTIVE	FRESNO COUNTY	2200 FRESNO

(cont.)

Database	Status	Name	Address
UST	UNDERGROUND TANK FACILITY/UPGR	FRESNO COUNTY SHERIFFS ADMIN	2200 FRESNO
UST	ACTIVE	FRESNO OFFICE MACHINES	660 VAN NESS
UST	UNDERGROUND TANK FACILITY/UNCO	GLENFED BUILDING	1177 FULTON MALL
UST	UNDERGROUND TANK FACILITY/UNCO	GLENFED BUILDING	1177 FULTON MALL
UST	ACTIVE	GOLDEN STATE PLAZA	2220 TULARE
UST	ACTIVE	GREYHOUND BUS DEPOT	1033 BROADWAY
UST	ACTIVE	HALWOOD SERVICE	2149 VENTURA
UST	ACTIVE	LOUIE GENNUSO SERVICE STATION	1350 FRESNO
UST	UNDERGROUND TANK FACILITY/EXIS	LOUIE GENNUSO SERVICE STATION	1350 FRESNO
UST	UNDERGROUND TANK FACILITY/UPGR	PACIFIC BELL	1445 VAN NESS 236
UST	UNDERGROUND STORAGE TANK FACIL	PACIFIC BELL	1445 VAN NESS 236
UST	ACTIVE	PACIFIC BELL (SB-025)	1445 VAN NESS
UST	ACTIVE	PATTERSON TIRE CO.	2240 TUOLUMNE
UST	ACTIVE	PMT FACILITY	1301 H
UST	UNDERGROUND TANK FACILITY/UPGR	PRUDENTIAL OVERALL SUPPLY	1260 E NORTH
UST	ACTIVE	TRIANGLE STATION 0006	476 H
UST	ACTIVE	SECURITY BANK GARAGE	1060 FULTON MALL
UST	ACTIVE	TY BOYS MINI MART	2111 VENTURA
UST	UNDERGROUND TANK FACILITY/UPGR	SNAPPY FOOD and LIQUOR	2111 VENTURA
UST	ACTIVE	TRAILWAYS LINES INC	1333 BROADWAY
UST	UNDERGROUND TANK FACILITY/EXIS	TRAILWAY LINES	1333 BROADWAY
UST	UNDERGROUND TANK FACILITY/UPGR	TRINI S BEACON	603 G ST
UST	ACTIVE	TRINIS OIL INC	603 G
UST	UNDERGROUND STORAGE TANK FACIL	UNOCAL SS 30317-250354	2121 H ST
UST	UNDERGROUND TANK FACILITY/UPGR	UNOCAL SS 30317	2121 H ST
UST	ACTIVE	UNOCAL SS 0354	2121 H
UST	ACTIVE	WILLIARD LUMBER COMPANY	2021 H
UST	ACTIVE	DESIGNER FABRICS, INC.	525 N
UST	ACTIVE	FRESNO CO. OFFICE OF ED.-MOTOR	1455 N
UST	ACTIVE	P.E. O HAIR and CO.	1220 N.
UST	UNDERGROUND TANK FACILITY/UPGR	CALTRANS-MAINTENANCE STATION	1283 N WEST
UST	ACTIVE	PRUDENTIAL OVERALL SUPPLY	1260 N.
UST	ACTIVE	RED TRIANGLE	546 N
UST	UNDERGROUND TANK FACILITY/UNCO	CALIFORNIA FOOD EQUIPMENT	2401 STANISLAUS
UST	ACTIVE	UNOCAL BULK PLANT	101 ROOSEVELT
UST	ACTIVE	FRESNO TRANSIT	2223 G
UST	UNDERGROUND STORAGE TANK FACIL	FRESNO AREA EXPRESS/FAX	2223 G ST
UST	UNDERGROUND TANK FACILITY/UPGR	FRESNO AREA EXPRESS/FAX	2223 G ST
UST	ACTIVE	CALIFORNIA FUND RAISING	2040 G
UST	ACTIVE	FLEET MANAGEMENT, BLDG T ,MSC	2175 G
UST	ACTIVE	CITY OF FRESNO-FLEET DIVISION	2175 G
UST	UNDERGROUND TANK FACILITY/UPGR	FLEET MANAGEMENT DIVISION	2101 G ST BLDG F
UST	UNDERGROUND TANK FACILITY/UPGR	SHELL	1212 FRESNO
UST	ACTIVE	FRESNO SHELL	1212 FRESNO
UST	ACTIVE	MCKESSON DRUG DISTRIBUTION	1931 G
UST	CLOSED UST FACILITY/DATA VAULT	MCKESSON DRUG DISTRIBUTION	1931 G ST
UST	ACTIVE	AMERICAN AMBULANCE	245 BOADWAY

(cont.)

Database	Status	Name	Address
UST	ACTIVE	BIG CREEK STATION	1130 O
UST	ACTIVE	MT REST WORK STATION	1130 O
UST	ACTIVE	FJERSEYDALE	1130 O
UST	ACTIVE	TRIMMER RANGER STATION	1130 O
UST	ACTIVE	WESTFALL G.S.	1130 O
UST	ACTIVE	FHIGH SIERRA G.S.	1130 O
UST	ACTIVE	LIBERTY AUTO SERVICE	1008 C
UST	ACTIVE	RISER S, INC.	223 BROADWAY
UST	ACTIVE	ELECTRIC MOTOR SHOP	253 FULTON
UST	CLOSED UST FACILITY/DATA VAULT	ELECTRIC MOTOR SHOP	253 FULTON
UST	CLOSED UST FACILITY/NO CLOSURE	FORMER OWL TRANS and STORAGE	921 P ST
UST	UNDERGROUND STORAGE TANK FACIL	FLEET MANAGEMENT DIVISION	2101 G ST BLDG F
UST	ACTIVE	VALLEY ALARM	1543 O
UST	ACTIVE	DEPT OF GENERAL SERVICES	2550 MARIPOSA MALL
UST	UNDERGROUND TANK FACILITY/UPGR	CA DEPT OF GENERAL SERVICES	2550 MARIPOSA MALL
UST	ACTIVE	BOB HILL CRANE INC	1450 O
UST	ACTIVE	CURRIE BROTHERS	1147 FRESNO
UST	UNDERGROUND STORAGE TANK FACIL	SHELL*	1212 FRESNO
UST	UNDERGROUND STORAGE TANK FACIL	SHELL	1212 FRESNO
UST	UNDERGROUND TANK FACILITY/UPGR	SHELL	1212 FRESNO
UST	ACTIVE	FIRE ALARM STATION	0 FRESNO AND DIVISADERO
UST	UNDERGROUND TANK FACILITY/EXIS	SUBURBAN STEEL	706 W CALIFORNIA
UST	ACTIVE	SUBURBAN STEEL INC.	706 CALIFORNIA
UST	ACTIVE	FRESNO COMMUNITY HOSPITAL	0 FRESNO AND R ST
UST	ACTIVE	T. G. SCHMEISER CO., INC.	3160 CALIFORNIA

*STATE/TRIBAL SWL – CA IWMB/SWRCB/County SWIS Solid Waste Information System

The California Integrated Waste Management Board (IWMB) maintains a database on solid waste facilities, operations, and disposal sites throughout the state of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste time sites, and closed disposal sites. A total of 1 site was listed in the Fulton Corridor Specific Plan subject site area on the EFS database report. No active landfill sites were determined to be present within the subject site area. Fourteen SWL sites of potential concern are listed below.

Database	Status	Name	Address
SWL	ACTIVE	FALCON TIRES I	735 NORTH H STREET

STATE/TRIBAL VCP – CA EPA SMBRPD/CAL Sites Site Mitigation and Brownfields Reuse Program

The California DTSC has developed an electronic database system with information about sites that are known to be contaminated with hazardous substances as well as information on uncharacterized properties where further studies may reveal problems. The Site Mitigation and Brownfields Reuse Program Database (SMBRPD), also known as CalSites, is used primarily by DTSC staff as an information tool to evaluate and track activities at properties that may have been affected by the release of hazardous substances. The Voluntary Cleanup Program (VCP) category contains only those properties undergoing voluntary investigation and/or cleanup and which are listed in the VCP. One VCP site was listed on the Fulton Corridor Specific Plan subject site in the EFS report as follows:

Database	Status	Name	Address
VCP	CERTIFIED	PGandE G STREET SUBSTATION	1131 G ST

Total Regulatory Agency Active/Open Listed Sites for Fulton Corridor Specific Plan Area

Subject Site Area	Fulton Corridor Specific Plan Area
Database	
NPL	
CERCLIS	
RCRA COR ACT	1
State Spills 90	6
State/Tribal LUST	12
State/Tribal SWL	1
State/Tribal VCP	1
Totals	21

Total Regulatory Agency Active/Open UST Sites for Fulton Corridor Specific Plan Area

Subject Site Area	Fulton Corridor Specific Plan Area
Database	
State /Tribal UST/AST	120

7.0 DISCUSSION OF FINDINGS

Historical Uses

The Fulton Corridor Specific Plan area has been in the process of urban development expanding outward from the Union Pacific Railroad corridor at Tulare Street since the mid-1800s. As technology progressed, businesses which stored, utilized and disposed hazardous materials expanded in number over the course of time in order to serve the increasing commercial market of Fresno's citizens. Examples included the use of heating oil to power boilers for steam generation in the late-1800s to early 1900s and the advent of dry-cleaning technology in approximately the 1920s to 1930s which utilized a form of dry cleaning solvent solution that has been proven to be highly invasive in the subsurface soils and groundwater when released through improper handling. The arrival of the automobile and internal combustion engine powered vehicles in the early 1900s set the stage for a burgeoning industry serving the use of cars and trucks utilizing and disposing hazardous materials related to this industry, including fuels, lubricants, hydraulic fluids, and solvents. Consequently, a proliferation of gasoline service stations and auto repair facilities occurred through the ensuing decades, businesses which commonly stored large quantities of

fuels underground for dispensing purposes and disposed of hazardous materials, whether intentionally or unwittingly, through spills or wastes discharged into subsurface sumps, drains and pipelines, during the course of their operations.

As technologies improved in other areas of commerce, numerous miscellaneous businesses developed which also handled and disposed of hazardous materials in the course of their operations representing potential environmental concerns. Such businesses included those conducting printing, photographic developing, industrial manufacturing, agricultural processing operations, mortuaries, agricultural chemical storage for application to crops, etc. Prior to a common awareness of the consequences of the uncontrolled disposal and release of chemicals and substances related to the aforementioned operations and the advent of laws and regulations designed to protect the environment through permitting and oversight, evidence indicates that historical businesses may have conducted unauthorized releases of hazardous materials into the soils and groundwater of the subject site area which remain undetected in the absence of site-specific environmental assessment.

Based upon review of historical data sources, including Sanborn Fire Insurance Maps and historical business directory records, a significant number of properties in the Fulton Corridor Specific Plan area were occupied by businesses which have the potential to have used, stored and disposed hazardous materials over the course of their existence and, consequently, qualify as recognized environmental conditions (RECs) and potential environmental concerns (PECs). Geographically, the aforementioned commercial businesses which qualify as RECs and PECs were located along Fresno's main streets rather than throughout residential neighborhoods, and these commercial thoroughfares continue to represent the highest density of potential historical hazardous materials uses in the subject site area. Therefore, the most significant historical areas of concern for the Fulton Corridor Specific Plan area include the following commercial corridors:

- Broadway
- Van Ness Avenue
- H Street
- Fulton Street
- G Street
- Fresno Street
- Tulare Street
- F Street.

It should be noted that this data refers to the listed commercial corridors as the historical location of potential RECs and PECs. Because a significant number of properties on these corridors have been

redeveloped over the course of time, there is a likelihood that potential subsurface impacts from hazardous materials may have been removed and remediated at that time. However, in the absence of site-specific environmental assessment, it is unknown if environmental impacts resulting from historical uses may remain on REC and PEC properties.

Current Uses

Review of regulatory databases and observations made during the site reconnaissance of the Fulton Corridor Specific Plan areas reveal the presence of a significant number of properties which apparently currently utilize and/or store hazardous materials. In the absence of site-specific environmental assessment of these properties, it is unknown if these businesses have conducted unauthorized releases of hazardous materials on their properties, despite evidence of proper permitting with regulatory agencies. The site reconnaissance revealed that, generally, the current location of businesses likely to use, store and dispose of significant quantities of hazardous materials is consistent with the data indicating the historical location of properties with RECs and PECs along established commercial corridors.

SUMMARY OF CONCLUSIONS

Apparent Evidence of RECs From:	Not Noted	Noted
Past Uses		X
Current Uses		X
Adjacent or Vicinity Properties		X

7.1 Evaluation of Data Gaps/Data Failure

In accordance with ASTM E 1527-05 guidance, data gaps represent a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice. Data failure represents the failure to achieve the historical research objectives of this practice even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

The following is a summary of data gaps encountered in the process of preparing this report including an observation as to the presumed significance of that data gap to the conclusions of this assessment.

- <u>Unknown Date of First Development</u>

  Site history prior to 1885 was not reasonably ascertainable based upon review of standard historical sources. Consequently, data failure was encountered relative to date of first development of the subject site. Taken in consideration with the available information obtained

in the course of preparing this report in conjunction with professional experience and the screening goals of this process, there is no evidence to suggest that this data gap might alter the conclusions of this assessment.

- Absence of Final Title Report or Environmental Lien Search

  A Final Title Report or Environmental Lien Search was not provided by the Phase I ESA User, therefore a data gap exists. Because of the immense size of the subject site area and the screening goals of this process, acquisition of title reports and/or environmental lien searches was excluded from the scope of work. Taken in consideration with the available information obtained in the course of preparing this report in conjunction with professional experience and the screening goals of this process, there is no evidence to suggest that this data gap might alter the conclusions of this assessment.

- Absence of Interview with Property Owners

  Based upon the huge number of properties included in the Fulton Corridor Specific Plan area, Phase I ESA interviews with the owners of specific subject site properties was not reasonably ascertainable and therefore not included in the scope of work for this assessment. Consequently, information regarding the history and historical uses of the subject site obtained from interviews of specific property owners constitutes a data gap. Taken in consideration with the available information obtained in the course of preparing this report in conjunction with professional experience and the screening goals of this process, there is no evidence to suggest that this data gap might alter the conclusions of this assessment**.**

- Absence of Completed User Questionnaire and Environmental Lien Search

  Based upon the huge number of properties included in the Fulton Corridor Specific Plan area, and the screening goals of this process which do not included a requirement for Landowner Liability Protections (LLPs) for the user, submission of a User Questionnaire and Environmental Lien Search for the subject site area was considered not reasonably ascertainable and therefore not included in the scope of work for this assessment. Consequently, information not received from User Questionnaire responses and the findings of an Environmental Lien Search constitutes a data gap. Taken in consideration with the available information obtained in the course of preparing this report in conjunction with professional experience and the screening goals of this process, there is no evidence to suggest that this data gap might alter the conclusions of this assessment**.**

8.0 CONCLUSIONS AND RECOMMENDATIONS

Because of the age, diversity of uses and size of the Fulton Corridor Specific Plan subject site, a significant amount of current and historical hazardous materials usage is documented throughout the entire area. Primary risks from hazardous materials are associated with properties having documented releases to the soils and groundwater from leaking USTs and spills. Secondary risks from hazardous materials are associated with sites having documentation of contamination issues which have received regulatory agency closure but may retain residual contamination which remains unknown, along with the presence of the existing groundwater plume adjacent and hydraulically upgradient to the southeastern area of the subject site. Finally, potential risks exist from properties with current or past storage of large quantities of hazardous materials in USTs and ASTs, whether in compliance with current permitting requirements or not, which suggests the possibility that improper handling and/or disposal of hazardous materials may have caused contamination to the environment and potential threats to human health. Potential risks also exist from the likely presence of ACCMs and LBP in the predominantly older residential and commercial structures located throughout the subject site area.

Therefore, because of the wide range of potential issues and unique characteristics of properties, based upon the particular circumstances of the property being examined within the subject site, further investigation of hazardous materials environmental issues is warranted on a site-specific basis. The following recommendations are presented which should be considered on a property-by-property basis as development and/or redevelopment progresses throughout the Fulton Corridor Specific Plan subject site area:

1. A Phase I ESA should be conducted for each individual property prior to development or redevelopment to ascertain the presence or absence of RECs, HRECs and PECs as defined herein relevant to the property under consideration. The findings and conclusions of the Phase I ESA will become the basis for potential recommendations for follow-up investigation, if found to be warranted.

2. In the event that the findings and conclusions of the Phase I ESA for a property result in evidence of RECs, HRECs and/or PECs warranting further investigation, a Phase II ESA should be conducted to determine the presence or absence of a significant impact to the subject site from hazardous materials. The Phase II ESA may include, but not be limited to the following: 1) Collection and laboratory analysis of soils and/or groundwater samples to ascertain the presence or absence of significant concentrations of constituents of concern; 2) Collection and laboratory analysis of soil vapors and/or indoor air to ascertain the presence or absence of significant concentrations of volatile constituents of

concern; and/or 3) Geophysical surveys to ascertain the presence or absence of subsurface features of concern such as USTs, drywells, drains, plumbing, and septic systems. The findings and conclusions of the Phase II ESA will become the basis for potential recommendations for follow-up investigation, site characterization, and/or remedial activities, if found to be warranted.

3. In the event the findings and conclusions of the Phase II ESA reveal the presence of significant concentrations of hazardous materials warranting further investigation, site characterization should be conducted in the form of step-wise additional Phase II ESAs in order to characterize the source and maximum extent of impacts from constituents of concern. The findings and conclusions of the site characterization will become the basis for formation of a remedial action plan and/or risk assessment.

4. If the findings and conclusions of the step-wise Phase II ESAs, site characterization and/or risk assessment demonstrate the presence of concentrations of hazardous materials exceeding regulatory threshold levels, property owners and/or developers of properties shall complete site remediation and potential risk assessment with oversight from the applicable regulatory agency including, but not limited to, the Cal-EPA Department of Toxic Substances Control (DTSC) or Regional Water Quality Control Board (RWQCB), and Fresno County Department of Environmental Health Services (FCEHS). Cooperation and collaboration with relevant regulatory agencies would seek to culminate in site closure, or findings of no further action necessary, in the interest of the protection of human health and the subject site environment.

5. In the event of planned renovation or demolition of residential and/or commercial structures on the subject site, asbestos and LBP surveys should be conducted in order to determine the presence or absence of ACCMs and/or LBP. The National Emissions Standards for Hazardous Air Pollutants (NESHAP) defines regulated asbestos-containing materials. When building maintenance, repair, renovation, or other activities disturb or damage ACCMs, asbestos fibers may be released creating a potential hazard. Therefore, removal of friable and non-friable ACCMs that have the potential to become friable during demolition and/or renovation is federally regulated under the NESHAP. The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is the responsible agency on the local level to enforce the NESHAP and must be notified prior to any demolition and/or renovation activities. If asbestos-containing materials are left in place, an Operations and Maintenance Program (O&M Program) could be developed for the management of asbestos-containing materials if left in place.

9.0 LIMITATIONS

The site reconnaissance and research of the subject site has been limited in scope. This type of assessment is undertaken with the calculated risk that the presence, full nature, and extent of contamination would not be revealed by visual observation alone. Although a site reconnaissance was conducted in accordance with ASTM Guidelines and employing a professional standard of care, no warranty is given, either expressed or implied, that hazardous material contamination or buried structures, which would not have been disclosed through this investigation, do not exist at the subject site. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used.

The subject site area boundaries researched in the course of this assessment were estimated to the best of our ability based upon the project description presented. It is possible that the subject site boundaries may vary from those of other related studies. Based upon the generalized regional screening goals for the very large subject site of this report which was not intended to focus upon individual, specific properties, it is presumed that slight variations in the subject site would not invalidate the findings or alter the conclusions and recommendations presented herein.

Written descriptions and photographic representations of properties observed in the course of this research are presented for example purposes only based upon environmental due-diligence standards within the industry at the time this report was prepared. Therefore, the descriptions and photographs are not intended to imply or specify that the properties depicted are contaminated. Site-specific investigation as recommended herein would be required to ascertain the environmental condition of properties.

The findings presented in this report were based upon limited field observations, review of reasonably ascertainable available data, and consultation of regulatory and advisory agency information. Observations describe only the conditions present at the time of this investigation. The data reviewed and observations made are limited to accessible areas and currently available records searched. Based upon the large volume of data reviewed, inventory totals and statistical calculations may be approximate. Krazan cannot guarantee the completeness or accuracy of the regulatory agency records reviewed. Additionally, in evaluating the property, Krazan has relied in good faith upon representations and information provided by individuals noted in the report with respect to present operations and existing property conditions, and the historical uses of the property. It must also be understood that changing circumstances in the property usage, proposed property usage, subject site zoning, and changes in the

environmental status of the other nearby properties can alter the validity of conclusions and information contained in this report. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used.

Conclusions and recommendations contained in this report are based on the evaluation of information made available during the course of this assessment. It is not warranted that such data cannot be superseded by future environmental, legal, geotechnical or technical developments.

10.0 QUALIFICATIONS

This Phase I ESA was conducted under the supervision or responsible charge of Krazan's undersigned environmental assessor with oversight from the undersigned environmental professional. The work was conducted in accordance with ASTM E 1527-05, generally accepted industry standards for environmental due diligence in place at the time of the preparation of this report, and Krazan's quality-control policies.

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in §312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Arthur C. Farkas
Environmental Professional
REA No. 07818

Michael H. Bowery, MS
Professional Geologist
PG No. 5027

ACF/MHB/apl

2c: herewith

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REFERENCES

Aerial photographs located at the California State University Fresno (CSUF) – Henry Madden Library, Fresno, California, and within the Krazan archives.

California Environmental Protection Agency (Cal-EPA), Department of Toxic Substances Control (DTSC) Envirostor Website.

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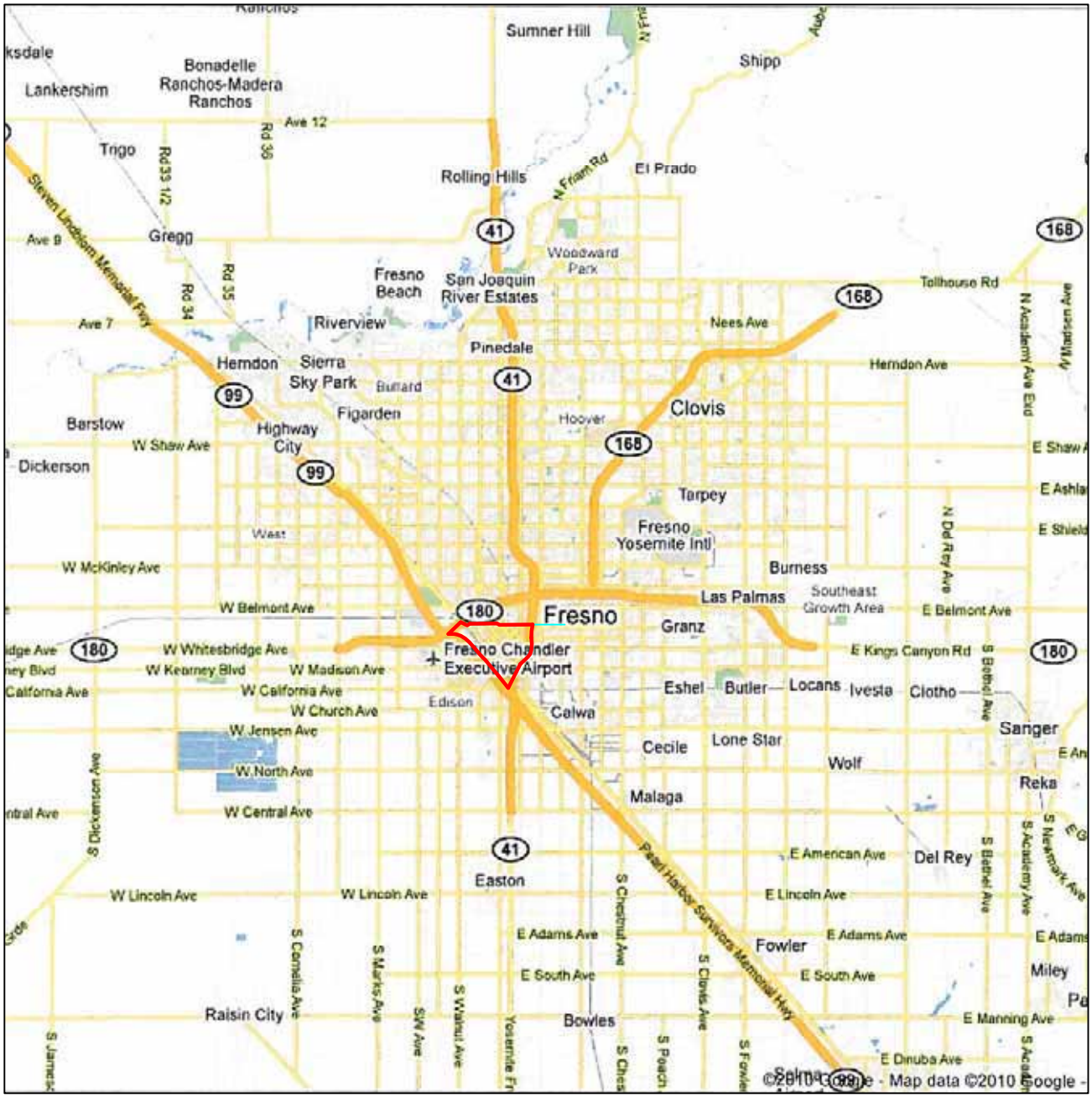
State of California, Department of Water Resources, *Lines of Equal Elevation of Water in Wells Unconfined Aquifer, San Joaquin Valley, Spring 2005*.

State of California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) Online Mapping System (DOMS).

U.S. Geological Survey, 7.5 minute Quadrangles as follows: Fresno North (dated 1965, photorevised 1981); Fresno South (dated 1963, photorevised 1981); Malaga (dated 1964, photorevised 1981); and Clovis (dated 1964, photorevised 1981).

GLOSSARY OF TERMS

AAI	All Appropriate Inquiries
AC	Asphalt Concrete
ACCM	Asbestos-Containing Construction Materials
AOC	Area of Concern
APN	Assessor's Parcel Number
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
AS	Air Sparging
AUL	Activity & Use Limitations
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulations
CMU	Concrete Masonry Unit
COCs	Constituents of Concern
DEULs	Declaration of Environmental Use Restrictions
DOGGR	Division of Oil, Gas & Geothermal Resources (CA)
DTSC	Department of Toxic Substances Control (CA)
EC	Engineering Control
EFS	Environmental FirstSearch
EP	Environmental Professional
EPA	United States Environmental Protection Agency
ERP	Emergency Response Plan
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
FOIA	Freedom of Information Act
GPR	Ground Penetrating Radar
HCCD	Haines Criss-Cross Directory
HFIM	Historical Fire Insurance Map
HMBP	Hazardous Materials Business Plan
HREC	Historical Recognized Environmental Condition
HVAC	Heating, Ventilation, Air Conditioning
IC	Institutional Control
LBP	Lead-Based Paint
LLP	Landowner Liability Protection
LQG	Large Quantity Generator
LUC	Land Use Control
LUST	Leaking Underground Storage Tank
MCL	Maximum Contaminant Level
µg/L	Micrograms Per Liter
mg/kg	Milligrams Per Kilogram
mg/L	Milligrams Per Liter
MSDS	Material Safety Data Sheet
MTBE	Methyl Tertiary Butyl Ether
MFR	Multi-Family Residential
ND	Nondetectable
NFA	No Further Action (letter)
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
O&M	Operations & Maintenance Plan
PAOC	Potential Area of Concern
PCB	Polychlorinated Biphenyl
PCC	Portland Cement Concrete
PCE	Perchloroethylene
PEC	Potential Environmental Concern (TS)
PGD	Polk Guide Directory
PG&E	Pacific Gas & Electric
PHCs	Petroleum Hydrocarbon Constituents
PID	Photoionization Detector
ppb	Parts Per Billion
ppm	Parts Per Million
PRG	Preliminary Remediation Goal
PRP	Potentially Responsible Party
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RP	Responsible Party
RWQCB	Regional Water Quality Control Board (CA)
SBA	Small Business Administration
SFR	Single-Family Residential
SPCC	Spill Prevention Control and Countermeasure Plan
SQG	Small Quantity Generator
SCE	Southern California Edison
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compound
SWRCB	State Water Resources Control Board
TCE	Trichloroethylene
TPH	Total Petroleum Hydrocarbons
TPH-D	Total Petroleum Hydrocarbons as Diesel
TPH-G	Total Petroleum Hydrocarbons as Gasoline
TPH-MO	Total Petroleum Hydrocarbons as Motor Oil
TS	Transaction Screen
USGS	United States Geological Survey
USFWS	United States Fish & Wildlife Service
UST	Underground Storage Tank
VEC	Vapor Encroachment Condition
VES	Vapor Encroachment Screening
VOCs	Volatile Organic Compounds

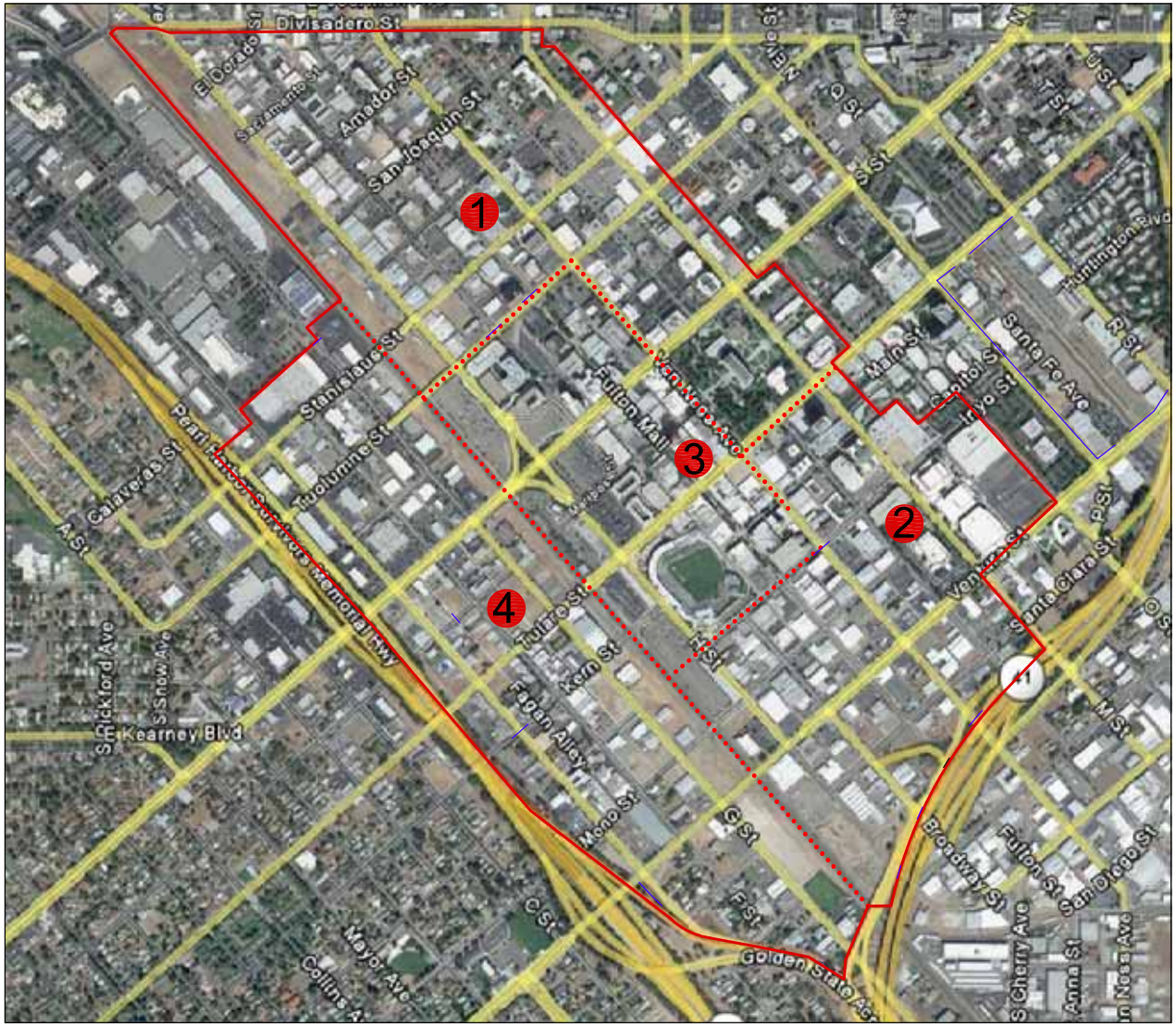


EXPLANATION

APPROXIMATE PLAN AREA

*ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE

VICINITY MAP	Scale: N. T. S.	Date: 8/11	Krazan SITE DEVELOPMENT ENGINEERS Conducting Assessments Nationwide
FULTON CORRIDOR SPECIFIC PLAN AREAS	Drawn by: S. A.	Approved by: A. F.	
	Project No. 014-10022B	Figure No. 1	



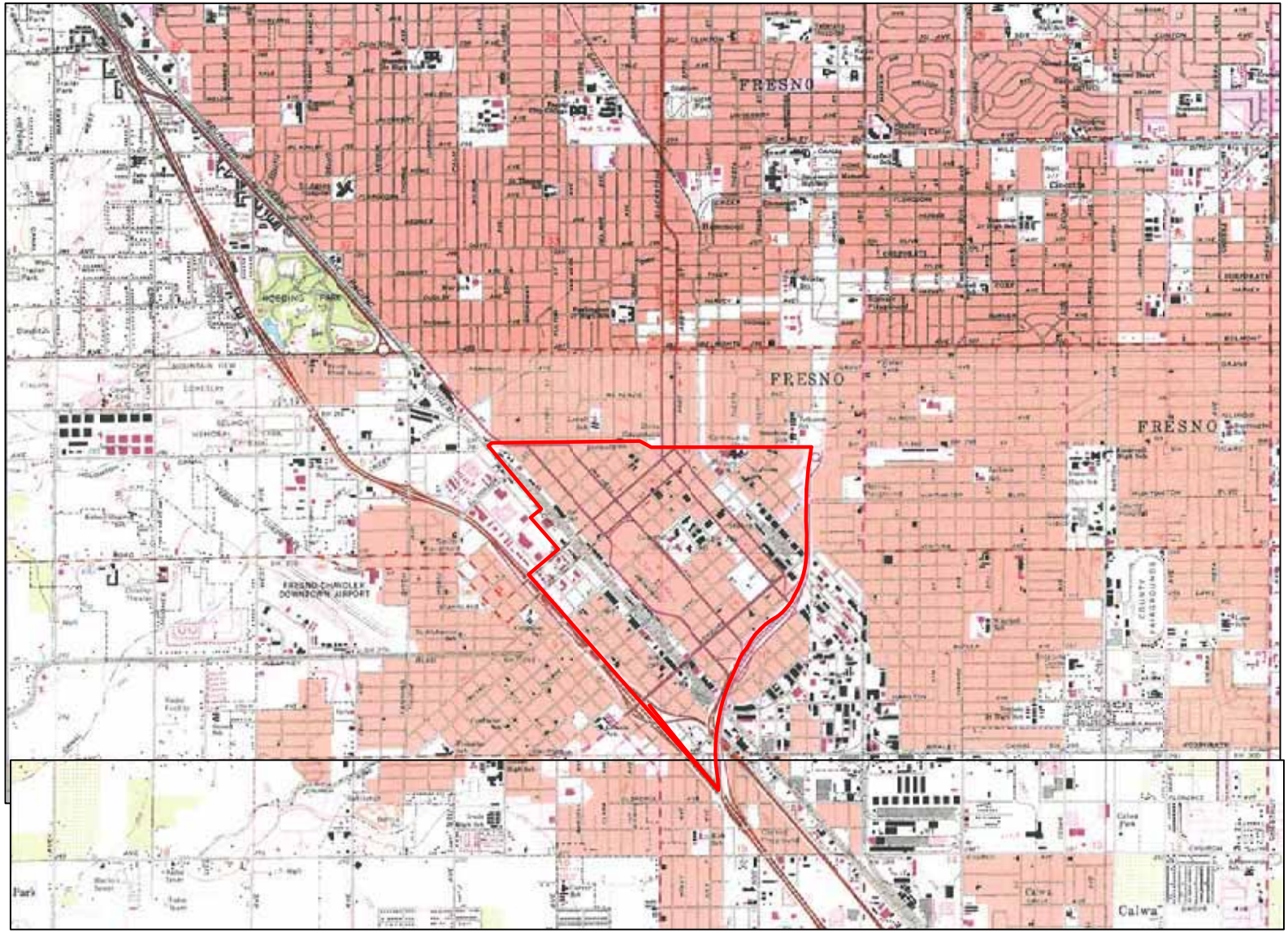
*ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE

EXPLANATION

SUBJECT SITE BOUNDARY

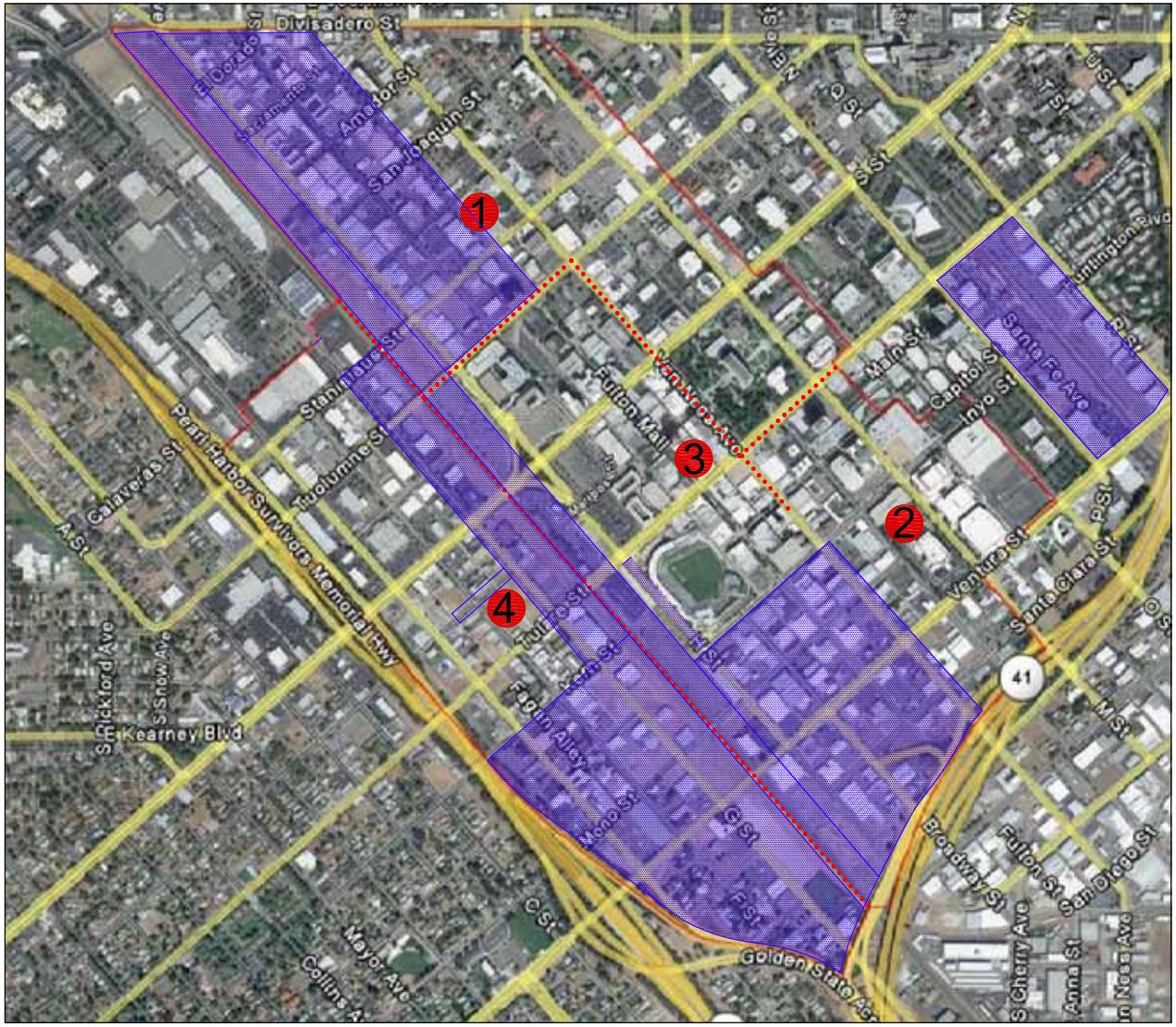
AREA 1- FULTON
AREA 2- CONVENTION CENTER
AREA 3- CENTRAL BUSINESS DISTRICT
AREA 4- CHINATOWN

SITE MAP	Scale: N. T. S.	Date: 8/11	Krazan
FULTON CORRIDOR SPECIFIC PLAN AREAS	Drawn by: S. A.	Approved by: A. F.	SITE DEVELOPMENT ENGINEERS Conducting Assessments Nationwide
	Project No. 014-10022B	Figure No. 2	



MAP SOURCE: (4) USGS 7.5-minute Quadrangles as follows: Fresno North (dated 1965, photo revised 1981) Fresno South (dated 1963, photo revised 1981), Malaga (dated 1964, photo revised 1981) and Clovis (dated 1964, photo revised 1981).

VICINITY MAP	Scale: NTS	Date: 8/11	Krazan
	Drawn by: S. A.	Approved by: A. F.	SITE DEVELOPMENT ENGINEERS
FULTON CORRIDOR SPECIFIC PLAN AREAS	Project No. 014-10022B	Figure No. 3	Conducting Assessments Nationwide



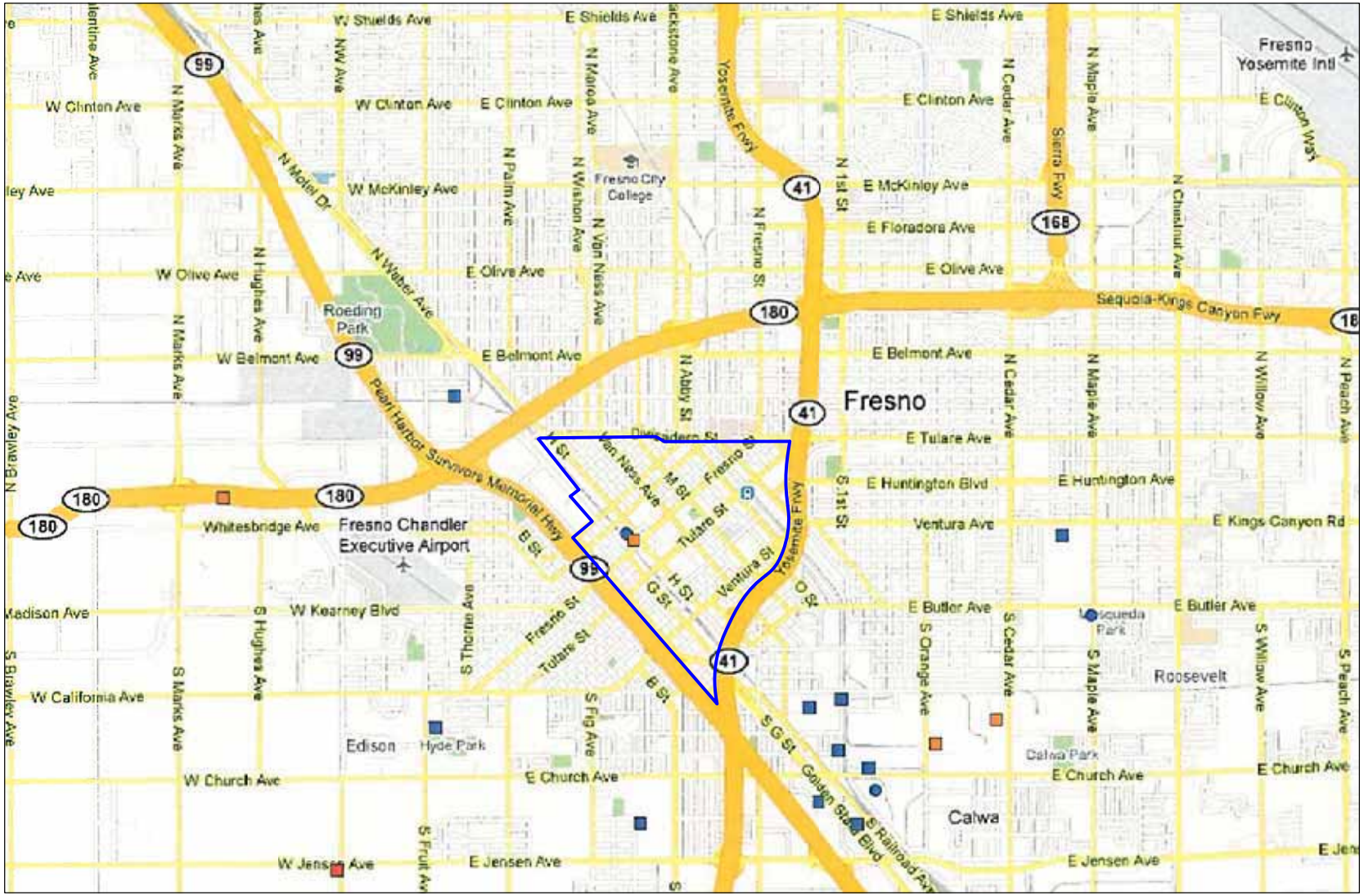
*ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE

EXPLANATION

SUBJECT SITE BOUNDARY
AREAS OF CONCERN

AREA 1- FULTON
AREA 2- CONVENTION CENTER
AREA 3- CENTRAL BUSINESS DISTRICT
AREA 4- CHINATOWN

HISTORICAL AREAS OF CONCERN	Scale: N. T. S.	Date: 8/11	Krazan
FULTON CORRIDOR SPECIFIC PLAN AREAS	Drawn by: S. A.	Approved by: A. F.	SITE DEVELOPMENT ENGINEERS
	Project No. 014-10022B	Figure No. 4	Conducting Assessments Nationwide



LAYERS

- ☑ Federal Superfund
- ☑ State Response
- ☑ Voluntary Cleanup
- ☐ School Cleanup
- ☐ Evaluation
- ☐ School Investigation
- ☐ Military Evaluation
- ☑ Corrective Action
- ☐ Haz Waste Permit
- ☐ GeoTracker LUFT
- ☐ GeoTracker SLIC

South Fresno Regional Groundwater Plume

Subject Site Boundary

MAP SOURCE:
DTSC ENVIROSTOR DATABASE

*ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE

DTSC CLEANUP SITES	SITE MAP	Scale: N.T.S	Date: 8/11	Krazan
	FULTON CORRIDOR SPECIFIC PLAN AREAS	Drawn by: S. A.	Approved by: A. F.	SITE DEVELOPMENT ENGINEERS
		Project No. 014-10022B	Figure No. 5	Conducting Assessments Nationwide

LAYERS

- ☑ Leaking Underground Tank (LUST) Cleanup Sites
- ☐ Other Cleanup Sites
- ☐ Land Disposal Sites
- ☐ Military Sites
- ☐ Permitted Underground Storage Tank (UST) Facilities
- ☐ Monitoring Wells
- ☐ DTSC Cleanup Sites
- ☐ DTSC Haz Waste Permit

Indicates closed site

South Fresno Regional Groundwater Plume

Subject Site Boundary

SOURCE:
RWQCB GEOTRACKER DATABASE

N

*ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE

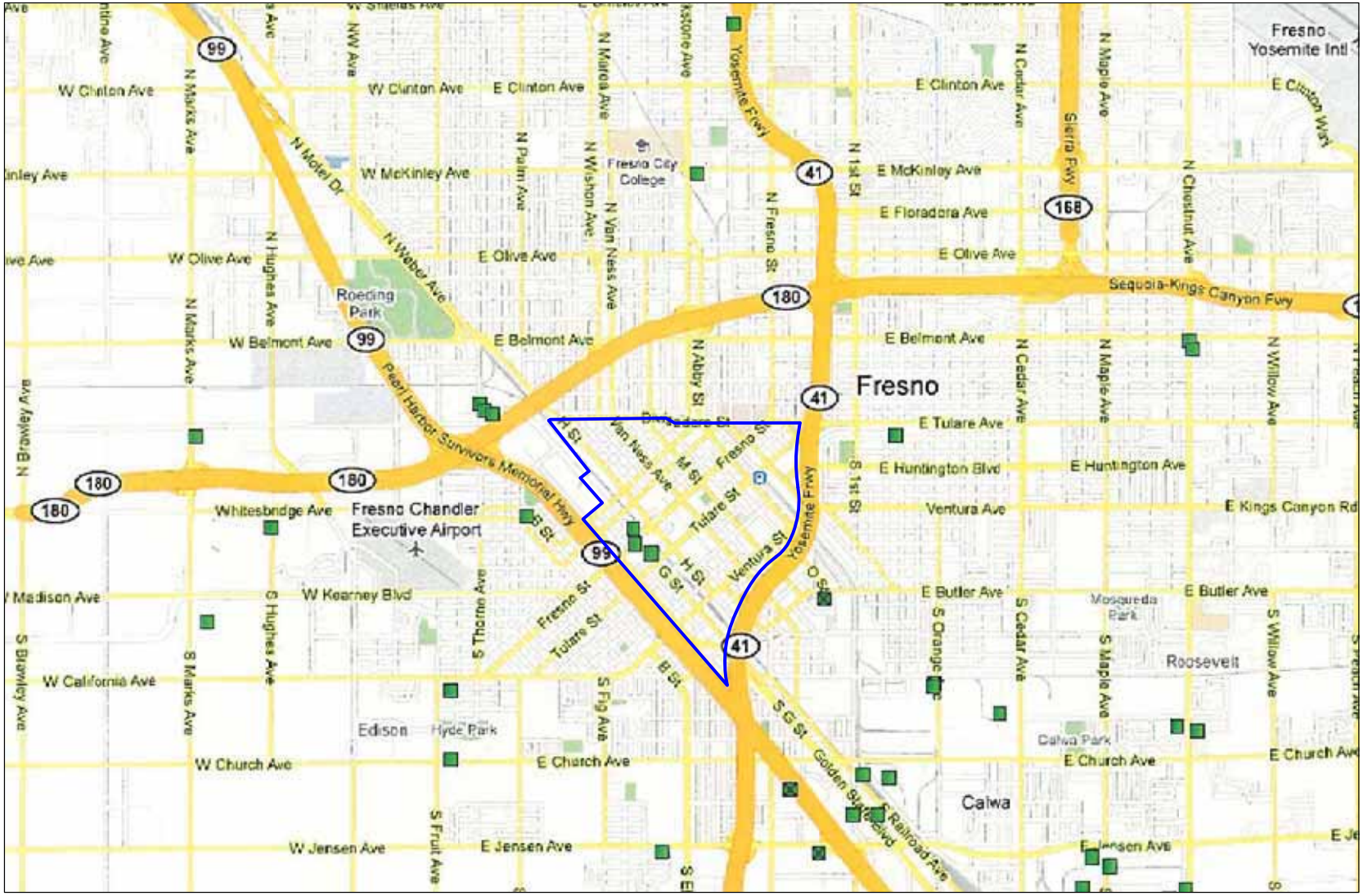
RWQCB OPEN AND CLOSED LEAKING UST SITES

SITE MAP

FULTON CORRIDOR SPECIFIC PLAN AREAS

Scale:	Date:
N.T.S	8/11
Drawn by: S. A.	Approved by: A. F.
Project No. 014-10022B	Figure No. 6

Krazan
SITE DEVELOPMENT ENGINEERS
Conducting Assessments Nationwide



LAYERS

- Leaking Underground Tank (LUST) Cleanup Sites
- Other Cleanup Sites
- Land Disposal Sites
- Military Sites
- Permitted Underground Storage Tank (UST) Facilities
- Monitoring Wells
- DTSC Cleanup Sites
- DTSC Haz Waste Permit

South Fresno Regional Groundwater Plume

Subject Site Boundary

SOURCE:
RWQCB GEOTRACKER DATABASE

*ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE

RWQCB CLEANUP SITES	SITE MAP	Scale: N.T.S	Date: 8/11	Krazan
	FULTON CORRIDOR SPECIFIC PLAN AREAS	Drawn by: S. A.	Approved by: A. F.	SITE DEVELOPMENT ENGINEERS
		Project No. 014-10022B	Figure No. 7	Conducting Assessments Nationwide

Photo 1: Automotive repair facility occupying potential former gasoline station property located on H Street in the Fulton area (note canopy and garage door).

Photo 2: Industrial/commercial building occupying older structure located on H Street in the Fulton area.

Photo 3: Commercial/industrial building located on H Street in the Fulton area.

Photo 4: Commercial/industrial building with multiple loading docks occupying an older structure located on H Street in the Fulton area.

Photo 5: Vacant former commercial/industrial property on H Street in the Fulton area.

Photo 6: Commercial business occupying historic former automobile dealership located at the intersection of M Street and East Tuolumne Street in the Fulton area.

Photo 7: Vacant former carwash facility with potential former fueling station located on P Street south of Divisadero Street in the Fulton area.

Photo 8: Modern gasoline station/convenience store located at the southeast corner of P Street and Divisadero Street in the Fulton area.

Photo 9: Historic warehouse structure adjacent to the Burlington/Northern/Santa Fe (BNSF) railroad corridor on "warehouse row" on R Street in the eastern Convention Center area.

Photo 10: Facing northwest along the BNSF railroad corridor on the eastern side of the Convention Center area.

Photo 11: Automobile repair facility located on Fulton Street in the western Convention Center area.

Photo 12: Vacant automobile repair facility located on Fulton Street in the western Convention Center area.

Photo 13: Apparently vacant former automotive-related facility occupying older structure located on Broadway in the western Convention Center area.

Photo 14: Automobile repair/service facility located on Broadway in the western Convention Center area.

Photo 15: Automobile repair facility located on Inyo Street in the western Convention Center area.

Photo 16: Greyhound Bus depot located at the intersection of Broadway and Tulare Street in the Central Business District area.

Photo 17: Facing northwest along the Union Pacific Railroad corridor on the western side of the Central Business District. Note industrial development along the corridor to the west.

Photo 18: The historic Bank of Italy building located on the corner of Tulare Street and the Fulton Mall in the Central Business District.

Photo 19: Vacant former parking garage occupying a historic structure located at the corner of Van Ness Avenue and Kern Street in the Central Business District.

Photo 20: Vacant historic building located at the intersection of Van Ness Avenue and Inyo Street in the Central Business District. Note historic "Cleaning, Pressing, Laundry" signage.

Photo 21: Alleyway located in the Central Business District with historic signage indicating the location of a former "Dry Cleaning" business.

Photo 22: Alleyway located in the Central Business District behind historic brick commercial/retail buildings. Note the potential storage tank vent pipe trending to the top of the building on the right.

Photo 23: Commercial business occupying potential former historic industrial structure located on G Street near Ventura Street in the Chinatown area. Note the garage door on the left.

Photo 24: Vacant former dry cleaning business located on G Street in the Chinatown area.

Photo 25: Vacant property located at the intersection of F Street and Mariposa Street in the Chinatown area, the site of the former PG&E manufactured gas plant.

Photo 26: Modern gasoline station located at the intersection of G Street and Ventura Street in the Chinatown area.

Photo 27: Vacant former gasoline station property located on F Street near Inyo Street in the Chinatown area (note canopy and garage door).

Photo 28: Automobile repair facility occupying potential former gasoline station property located on E Street south of Tulare Street in the Chinatown area (note canopy and garage doors).

Photo 29: Industrial dairy facility located on E Street south of Tulare Street in the Chinatown area.

Photo 30: Automobile repair facility located on F Street at the intersection of Fresno Street in the Chinatown area.

Appendix A

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	1891	10	Clothes Cleaners/Laundry	1045		I Street	Grand Central Steam Laundry
B	1901	15	Clothes Cleaners/Laundry	1361		N Street	Fresno French Laundry
B	1901	15	Clothes Cleaners/Laundry	634		H Street	Fresno Steam Laundry
B	1901	15	Clothes Cleaners/Laundry	2900		Kern	Mary Geyterou
B	1901	15	Clothes Cleaners/Laundry	1045		J Street	Grand Central Steam Laundry
B	1901	15	Clothes Cleaners/Laundry	1153		G Street	Lee Hing
B	1901	15	Clothes Cleaners/Laundry			Tulare	Hughes Hotel Laundry
B	1901	15	Clothes Cleaners/Laundry	1728		Tulare	Johnson & Steger
B	1901	15	Clothes Cleaners/Laundry	2203		Merced	Kohler's Steam Laundry
B	1901	15	Clothes Cleaners/Laundry	604		I Street	Sam Lee
B	1901	15	Clothes Cleaners/Laundry	1031		G Street	Charley Kee Nem
B	1901	15	Clothes Cleaners/Laundry	1206		Kern	C.K. Ogi
B	1911	21	Vehicle Repair/Service	1245-51		K Street	Haven Auto Co.
B	1911	21	Vehicle Repair/Service	1402-12		I Street	JD Morgan
B	1911	21	Vehicle Repair/Service	1216		I Street	Warner Auto Co.
B	1911	21	Vehicle Repair/Service			Tulare	Waterman Bros. Co. Inc
B	1911	21	Vehicle Repair/Service	1361		I Street	White Motor Car Co.
B	1911	22	Vehicle Repair/Service	1361		I Street	Franklin Sales Agency
B	1911	22	Vehicle Repair/Service	1402-12		I Street	JD Morgan
B	1911	22	Vehicle Repair/Service	921		L Street	JD Morgan
B	1911	22	Vehicle Repair/Service	1245-51		K Street	Haven Auto Co.
B	1911	22	Vehicle Repair/Service	1232		I Street	Emil Shultz
B	1911	22	Vehicle Repair/Service	700-736		H Street	Valley Foundry & Machine Works
B	1911	22	Vehicle Repair/Service	1216		I Street	Warner Auto Co.
B	1911	22	Vehicle Repair/Service			Tulare	Waterman Bros. Co. Inc
B	1911	22	Vehicle Repair/Service	1250		K Street	Marvin Weger
B	1911	22	Vehicle Repair/Service	1361		I Street	White Motor Car Co.
B	1911	23	Clothes Cleaners/Laundry	939		J Street	French Dye Works
B	1911	24	Gas Station			I Street	Doresey-Robinson Co.
B	1911	26	Clothes Cleaners/Laundry	946		E Street	East Laundry
B	1911	26	Clothes Cleaners/Laundry	950		H Street	Fresno Steam Laundry

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	1911	26	Clothes Cleaners/Laundry	925		G Street	Fuji Laundry
B	1911	26	Clothes Cleaners/Laundry	1408		Kern	K. Iwasaki
B	1911	26	Clothes Cleaners/Laundry	760		H Street	Kohler's Steam Laundry
B	1911	26	Clothes Cleaners/Laundry	840		I Street	Mikado Laundry
B	1911	26	Clothes Cleaners/Laundry	1203		San Joaquin	Joshua Mills
B	1911	26	Clothes Cleaners/Laundry	3104		Kern	Persian French Laundry
B	1911	26	Clothes Cleaners/Laundry	602		I Street	Lee Sam
B	1911	26	Clothes Cleaners/Laundry	913		G Street	Sunrise Laundry
B	1911	26	Clothes Cleaners/Laundry	1248		Tulare	Yosemite Laundry
B	1911	27	Mortuary	2033		Fresno	Fresno Undertaking Co. Inc.
B	1911	27	Mortuary	1250		J Street	A B Hopkins
B	1911	27	Mortuary	1405		I Street	Stephens & Bean
B	1921	1	Vehicle Repair/Service	1610		H Street	Adams & Ellithorpe
B	1921	1	Vehicle Repair/Service	2119		Fresno	D E Agnew
B	1921	1	Vehicle Repair/Service	1249		Van Ness	Angelich & Pabst
B	1921	1	Vehicle Repair/Service	631		Broadway	Arrow Radiator Works
B	1921	1	Vehicle Repair/Service	463		Fresno	Bellevue Garage
B	1921	1	Vehicle Repair/Service	459		Ventura	F E Beven
B	1921	1	Vehicle Repair/Service	823		Broadway	Broadway Radiator Works
B	1921	1	Vehicle Repair/Service	745		Broadway	Brown & Schellinger
B	1921	1	Vehicle Repair/Service	2320		Merced	E J Camy
B	1921	1	Vehicle Repair/Service	1014		R Street	A L Childs
B	1921	2	Vehicle Repair/Service			Stanislaus	Dependable Service Station
B	1921	2	Vehicle Repair/Service	1600		H Street	Edwin M. Einstein Co
B	1921	2	Vehicle Repair/Service	1429		Van Ness	Lee Foreman
B	1921	2	Vehicle Repair/Service	560		Broadway	Fresno Auto Wrecking Co.
B	1921	2	Vehicle Repair/Service	1462		Broadway	Giffen-Wolfe Agency
B	1921	2	Vehicle Repair/Service	1347		J Street	M R Haid
B	1921	2	Vehicle Repair/Service	1142		H Street	M R Haid
B	1921	2	Vehicle Repair/Service	1616		J Street	Mammat & Co.
B	1921	2	Vehicle Repair/Service	612		Broadway	Emiel Hansen
B	1921	2	Vehicle Repair/Service	2027		Merced	F W Hansen

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	1921	2	Vehicle Repair/Service	322		N Street	Dick Harrison
B	1921	2	Vehicle Repair/Service	1919		Calaveras	A L Hixson
B	1921	2	Vehicle Repair/Service	2020		Inyo	Hollenbeck Bros
B	1921	2	Vehicle Repair/Service	806		Broadway	L A Holingsworth
B	1921	2	Vehicle Repair/Service	1815		Tuolumne	Jackson & Epperson
B	1921	2	Vehicle Repair/Service	2134		Merced	Jones-Lish Auto Repair Co.
B	1921	2	Vehicle Repair/Service	1236		Belmont	Joyce & Harrison
B	1921	2	Vehicle Repair/Service	635		Broadway	Ed Lawrence
B	1921	2	Vehicle Repair/Service	3003		Tulare	J W Lunsdon
B	1921	2	Vehicle Repair/Service	801		Broadway	Robt Lushey
B	1921	2	Vehicle Repair/Service	1527		Merced	McClendon King & Lyons
B	1921	2	Vehicle Repair/Service	734		Van Ness	H B McFarland
B	1921	2	Vehicle Repair/Service	1449		Broadway	JG McKelvy
B	1921	2	Vehicle Repair/Service	760		J Street	McQueen & Frallson
B	1921	2	Vehicle Repair/Service	1224		L Street	Marshall & Ariey
B	1921	2	Vehicle Repair/Service	1433		Broadway	H E Milton
B	1921	2	Vehicle Repair/Service	1753		Broadway	H L Mullen
B	1921	2	Vehicle Repair/Service	2021		Stanislaus	C W Newkirk
B	1921	2	Vehicle Repair/Service	1401		Fresno	H C Nielson
B	1921	2	Vehicle Repair/Service	651		Broadway	Orphan Bros.
B	1921	2	Vehicle Repair/Service	736		Van Ness	D A Payne
B	1921	2	Vehicle Repair/Service	921		L Street	Quinley & Doore
B	1921	2	Vehicle Repair/Service	1920		Inyo	Kal Schultz
B	1921	2	Vehicle Repair/Service	2011		Broadway	Shattuck & Possehn
B	1921	2	Vehicle Repair/Service	735		Broadway	Krikor Thomasian
B	1921	2	Vehicle Repair/Service			Tulare	Waterman Bros. Co.
B	1921	2	Vehicle Repair/Service			Divisadero	C C Williams
B	1921	2	Vehicle Repair/Service	2116		Kern	J M Wortman
B	1921	3	Clothes Cleaners/Laundry	8050		J Street	Geo Barberian
B	1921	3	Clothes Cleaners/Laundry	1237		Broadway	L B Bixler
B	1921	3	Clothes Cleaners/Laundry	827		Broadway	Boss Dye Works
B	1921	3	Clothes Cleaners/Laundry	1037		J Street	H R Brownson

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	1921	3	Clothes Cleaners/Laundry	1956		Broadway	Cash and Carry Cleaners
B	1921	3	Clothes Cleaners/Laundry	2645 1/2		Tulare	Alex Donabed
B	1921	3	Clothes Cleaners/Laundry	2330		Fresno	Harry Eomurian
B	1921	3	Clothes Cleaners/Laundry	2242		Tulare	L A Erickson
B	1921	3	Clothes Cleaners/Laundry	2629		Tulare	Antonio Goliti
B	1921	3	Clothes Cleaners/Laundry	1225		J Street	Walter Hagopian
B	1921	3	Clothes Cleaners/Laundry	2948		Tulare	Johnson's Cleaning Works
B	1921	3	Clothes Cleaners/Laundry	1426		Kern	Harry Kalakian
B	1921	3	Clothes Cleaners/Laundry	215		Broadway	W N Kavoian
B	1921	3	Clothes Cleaners/Laundry	803		G Street	Parisian Cleaners & Dyers
B	1921	3	Clothes Cleaners/Laundry	856		Broadway	Petersen & Bogosian
B	1921	3	Clothes Cleaners/Laundry	1834		Merced	Conrad Rehn
B	1921	3	Clothes Cleaners/Laundry	1046 1/2		H Street	S P Cleaners
B	1921	3	Clothes Cleaners/Laundry	1153		Broadway	Stewart Bros.
B	1921	3	Clothes Cleaners/Laundry	2501		Merced	Harry Tashjy
B	1921	3	Clothes Cleaners/Laundry	721		J Street	United Cleaners & Dyers
B	1921	3	Clothes Cleaners/Laundry	1830		Fresno	Aristakis Yessayan
B	1921	4	Gas Station	1401		F Street	J G Scales
B	1921	4	Mortuary	1408		L Street	Beall-Clements Co
B	1921	4	Mortuary	1805		Van Ness	Lisle & Ross Inc.
B	1921	4	Mortuary			Broadway	Stephens & Bean
B	1921	5	Vehicle Repair/Service	1818		Merced	ABC
B	1921	5	Vehicle Repair/Service	836		Broadway	B & L
B	1921	5	Vehicle Repair/Service	1827		Kern	Black Bros.
B	1921	5	Vehicle Repair/Service	835		Van Ness	A B Burrows
B	1921	5	Vehicle Repair/Service	801		Broadway	E S Edwards
B	1921	5	Vehicle Repair/Service	717		Broadway	Fresno
B	1921	5	Vehicle Repair/Service	1462		Broadway	Giffen-Wolfe Agency
B	1921	5	Vehicle Repair/Service	806		H Street	Hilerman & Jack
B	1921	5	Vehicle Repair/Service	628		Broadway	R G Hollister
B	1921	5	Vehicle Repair/Service	950		H Street	Hughes Hotel
B	1921	5	Vehicle Repair/Service	818-20		Broadway	M-B Service Station

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	1921	5	Vehicle Repair/Service	1144		F Street	Tony Miranda
B	1921	5	Vehicle Repair/Service	1530		H Street	Perkins
B	1921	5	Vehicle Repair/Service	700		J Street	Rellahle
B	1921	5	Vehicle Repair/Service	1232		Broadway	Emil Schultz
B	1921	5	Vehicle Repair/Service	745		G Street	Speedway
B	1921	5	Vehicle Repair/Service	2116		California	Steitz
B	1921	5	Vehicle Repair/Service	1612		H Street	Swobe & Littlefield
B	1921	5	Vehicle Repair/Service	1312		Tulare	T Y
B	1921	5	Vehicle Repair/Service	461		Broadway	Tourist
B	1921	5	Vehicle Repair/Service			Tulare	Waterman Bros. Co.
B	1921	5	Vehicle Repair/Service	1228		Van Ness	Wright & Hambleton
B	1921	8	Clothes Cleaners/Laundry	400		O Street	Fresno Steam
B	1921	8	Clothes Cleaners/Laundry	925		G Street	Fuji
B	1921	8	Clothes Cleaners/Laundry	764		H Street	Kohler Steam
B	1921	8	Clothes Cleaners/Laundry	739		N Street	Liberty
B	1921	8	Clothes Cleaners/Laundry	1338		Tulare	Mikado
B	1921	8	Clothes Cleaners/Laundry	1153		F Street	Model
B	1921	8	Clothes Cleaners/Laundry	3104		Kern	Parisian French
B	1921	8	Clothes Cleaners/Laundry	913		F Street	Sunrise
B	1931	59	Vehicle Repair/Service	932		L Street	Auditorium Garage
B	1931	59	Vehicle Repair/Service	836		Broadway	G E Becker
B	1931	59	Vehicle Repair/Service	835		Van Ness	G A Bramhall
B	1931	59	Vehicle Repair/Service	1219		Broadway	Dolson & Anderson
B	1931	59	Vehicle Repair/Service	917		L Street	Dolson & Anderson
B	1931	59	Vehicle Repair/Service	800		H Street	Fresno Garage
B	1931	59	Vehicle Repair/Service	1333		Broadway	L G Freund
B	1931	59	Vehicle Repair/Service	2412		Fresno	Hansen - Thompson Ltd.
B	1931	59	Vehicle Repair/Service	635		Broadway	L A holingsworth
B	1931	59	Vehicle Repair/Service	1025		Fulton	New Wilson Garage
B	1931	59	Vehicle Repair/Service	1403		Kern	O K Garage
B	1931	59	Vehicle Repair/Service	1061		Federal Alley	Pacific Southwest Garage
B	1931	59	Vehicle Repair/Service	1048		Broadway	Harry Rose

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	1931	59	Vehicle Repair/Service	1232		Broadway	Emil Shultz
B	1931	60	Vehicle Repair/Service	1200		H Street	Subway Garage
B	1931	60	Vehicle Repair/Service	1818		Merced	Subway Garage
B	1931	60	Vehicle Repair/Service	732		Van Ness	Van Ness Garage
B	1931	60	Vehicle Repair/Service	1331-1347		L Street	Waterman Bros. Co. Inc.
B	1931	60	Vehicle Repair/Service	854		Van Ness	Wesley L C Auto Service
B	1931	60	Vehicle Repair/Service	1502		Kern	West Side Garage
B	1931	60	Vehicle Repair/Service	700		Van Ness	Williams T J Co. Ltd.
B	1931	61	Vehicle Repair/Service	850		L Street	D R Adams
B	1931	61	Vehicle Repair/Service	925		Broadway	M J Angelich
B	1931	61	Vehicle Repair/Service	1121		F Street	Refugio Apodaca
B	1931	61	Vehicle Repair/Service	1400		Van Ness	Appaling & Rodman
B	1931	61	Vehicle Repair/Service	1205	North	Van Ness	B J Barton
B	1931	61	Vehicle Repair/Service	1941	South	Broadway	C A Barton & Son
B	1931	61	Vehicle Repair/Service	651		Broadway	Bill's Garage
B	1931	61	Vehicle Repair/Service	1320		H Street	Jack Blayney
B	1931	61	Vehicle Repair/Service	950		H Street	E K Boyajian
B	1931	62	Vehicle Repair/Service	1216		L Street	E J Bresee
B	1931	62	Vehicle Repair/Service	2121		Merced	Chittum & Feuerstein
B	1931	62	Vehicle Repair/Service	1919		Calaveras	G O Dimock
B	1931	62	Vehicle Repair/Service	1422		Van Ness	Electric Laboratories Inc.
B	1931	62	Vehicle Repair/Service	1103		M Street	F F Enns
B	1931	62	Vehicle Repair/Service	1919		Calaveras	Erickson Bros.
B	1931	62	Vehicle Repair/Service	446	North	Broadway	Wm Feurestein
B	1931	63	Vehicle Repair/Service	1242		Van Ness	R J Foreman
B	1931	63	Vehicle Repair/Service	560		Broadway	Fresno Auto Wreaking Co.
B	1931	63	Vehicle Repair/Service	1601		F Street	Thos Gibson
B	1931	63	Vehicle Repair/Service	1535		Fresno	Gonzalez & Vasquez
B	1931	63	Vehicle Repair/Service	717		Van Ness	Hagan & Ede
B	1931	63	Vehicle Repair/Service	811		G Street	S Hamasumi
B	1931	63	Vehicle Repair/Service	2412		Fresno	Hansen-Thompson Ltd.
B	1931	63	Vehicle Repair/Service	1527		Merced	A B Harper

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	1931	63	Vehicle Repair/Service	2011		Broadway	Arthur Hosetmeier
B	1931	63	Vehicle Repair/Service	1526		Fulton	Huges & Bernard
B	1931	64	Vehicle Repair/Service	1014		R Street	Jansen & Jansen
B	1931	64	Vehicle Repair/Service	836		Broadway	Jorgensen & Oldham
B	1931	64	Vehicle Repair/Service	1831		Kern	W E King
B	1931	64	Vehicle Repair/Service	2220		Inyo	R W Kroupa
B	1931	64	Vehicle Repair/Service	1740		Van Ness	Lee Don Inc.
B	1931	64	Vehicle Repair/Service	1445		Van Ness	A P Lish
B	1931	64	Vehicle Repair/Service	1138 1/2	North	Van Ness	Lynn & Christiansen
B	1931	64	Vehicle Repair/Service	2124		Merced	G W Marty
B	1931	64	Vehicle Repair/Service	1616		Fulton	Mc Clellan & Green
B	1931	64	Vehicle Repair/Service	1425		Fulton	McKelvy & Sorenson
B	1931	64	Vehicle Repair/Service	1250		Van Ness	J C Medaris
B	1931	64	Vehicle Repair/Service	1330		Van Ness	H E Milton
B	1931	64	Vehicle Repair/Service	1612	North	H Street	Morrow H E Spring Works
B	1931	65	Vehicle Repair/Service	1145		Fresno	H C Nielsen
B	1931	65	Vehicle Repair/Service	717		Van Ness	A W Reimer
B	1931	65	Vehicle Repair/Service	1818		San Joaquin	Reliable Auto Repair Shop
B	1931	65	Vehicle Repair/Service	1142		F Street	Santi's Garage
B	1931	65	Vehicle Repair/Service	1449		Broadway	H B Schwarz
B	1931	65	Vehicle Repair/Service	461		Broadway	Chas Sefer
B	1931	66	Vehicle Repair/Service	1429		Van Ness	Ray Snow
B	1931	66	Vehicle Repair/Service	1357		Van Ness	W E Stephenson
B	1931	66	Vehicle Repair/Service	1234		H Street	Sterling Service
B	1931	66	Vehicle Repair/Service	1465	North	Van Ness	Stivers & Morris
B	1931	66	Vehicle Repair/Service	2617		Tulare	E L Todd
B	1931	66	Vehicle Repair/Service	740		Broadway	A H Vartanian
B	1931	66	Vehicle Repair/Service	1520		O Street	Voice Bros
B	1931	66	Vehicle Repair/Service	1311-1347		L Street	Waterman Bros. Co. Inc
B	1931	66	Vehicle Repair/Service	854-862		Van Ness	Wesley L C Auto Service
B	1931	67	Junkyard/Auto Wrecking	626		Broadway	Ralph Abrams
B	1931	67	Junkyard/Auto Wrecking	624		Broadway	Barnard Berry

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	1931	67	Junkyard/Auto Wrecking	560		Broadway	Fresno Auto Wrecking Co.
B	1931	67	Junkyard/Auto Wrecking	315		Broadway	Emiel Hansen
B	1931	67	Junkyard/Auto Wrecking	745		Broadway	Wm Jaffe
B	1913	67	Junkyard/Auto Wrecking	617		Broadway	Open Air Auto Wrecking Co.
B	1913	67	Junkyard/Auto Wrecking	729		Broadway	G Z Preston
B	1913	67	Junkyard/Auto Wrecking	318		Broadway	South Broadway Auto Wrecking Co.
B	1913	67	Junkyard/Auto Wrecking	612		Broadway	Abr Werfel
B	1931	69	Mortuary	1408		L Street	Clements & Riker
B	1931	69	Mortuary	1805		Van Ness	John N. Lisle
B	1931	69	Mortuary	475	North	Broadway	Mission Undertaking Co.
B	1931	70	Mortuary	1405		Broadway	Stephens & Bean
B	1931	70	Mortuary	2055		San Joaquin	Sullivan Funeral Home
B	1931	70	Mortuary	404		F Street	West Side Undertakers
B	1931	71	Gas Station	215		Broadway	Ace Service Stations
B	1931	71	Gas Station	1502		O Street	Theo Bailey
B	1931	71	Gas Station	1145	North	Van Ness	Stanley Barnes
B	1931	71	Gas Station			Van Ness	Brix Rubber Co. Inc.
B	1931	71	Gas Station	2021		Broadway	Broadway Super Service
B	1931	71	Gas Station	489	North	Fresno	J R Brown
B	1931	71	Gas Station	2201		H Street	Cady's Service
B	1931	72	Gas Station	559		Van Ness	California - Fresno Oil Co.
B	1931	72	Gas Station	1510		Fulton	California - Fresno Oil Co.
B	1931	72	Gas Station	1101		Fresno	A F Connelly
B	1931	72	Gas Station	1320		H Street	L H Corse
B	1931	72	Gas Station	2711		Tulare	B H Delk
B	1931	73	Gas Station	2247		Ventura	Nish Eksoojian
B	1931	73	Gas Station	1901		Fulton	M M Eliceche
B	1931	73	Gas Station	2504		Kern	Frenchou Bros
B	1931	73	Gas Station	2800		Tulare	Ida Fries
B	1931	73	Gas Station	1510		Fulton	R H Gerard
B	1931	73	Gas Station	1361		Broadway	Heftzig & Shirkey
B	1931	74	Gas Station	1829		Fresno	Richard Hepner

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B	1931	74	Gas Station	703		Van Ness	P J Nicks
B	1931	74	Gas Station	1810		Kern	Hughes Hotel Service Station
B	1931	74	Gas Station	2210		Kern	Dick Keosheyan
B	1931	74	Gas Station	2332		Fresno	E A Lavis
B	1931	74	Gas Station	2015		Broadway	Milton Malicoat
B	1931	75	Gas Station	2758		Tulare	W H McCaslin
B	1931	75	Gas Station	1010		M Street	E B McFarland
B	1931	75	Gas Station	1492	North	Van Ness	Frank Neil
B	1931	75	Gas Station	2345		Stanislaus	Neilan & Mansfield
B	1931	75	Gas Station	601		Broadway	O J Normart
B	1931	76	Gas Station	1941		Ventura	J M Reid
B	1931	76	Gas Station	407		G Street	Conrad Scheidt
B	1931	76	Gas Station	481	North	Fulton	Ernest Schmitz Jr
B	1931	76	Gas Station	1570		H Street	F M Shuck
B	1931	77	Gas Station	1501		Van Ness	Thompson & Ducey
B	1931	77	Gas Station	1303		F Street	Louis Tognoni
B	1931	77	Gas Station	2246		Merced	J R Van Fleet
B	1931	77	Gas Station	1041		Fresno	Vucovich & Jordan
B	1931	77	Gas Station	2546		Tulare	F M Webb
B	1931	78	Gas Station	854-862		Van Ness	Wesley L C Auto Service
B	1931	78	Gas Station	2115		H Street	Ralph White
B	1931	78	Gas Station	1902		Mariposa	W C Williams
B	1931	78	Gas Station	1801		Merced	Wilson Bros.
B	1931	78	Gas Station	2102		California	Vic Wollert
B	1931	78	Gas Station	607		Van Ness	W O Wright
B	1931	79	Clothes Cleaners/Laundry	400-424		O Street	Fresno Steam Laundry
B	1931	79	Clothes Cleaners/Laundry	760		H Street	Kohler Steam Laundry
B	1931	79	Clothes Cleaners/Laundry	1830		Inyo	Liberty Laundry
B	1931	79	Clothes Cleaners/Laundry	1531		G Street	Sterling Towel Supply Co.
B	1931	80	Clothes Cleaners/Laundry	1835		Mariposa	J H Alchin
B	1931	80	Clothes Cleaners/Laundry	2045		Broadway	Vapor Dry Cleaning Co.
B	1931	80	Clothes Cleaners/Laundry	1920		Mariposa	Bartho Choohopian

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B	1931	80	Clothes Cleaners/Laundry	2242		Tulare	Misok Cross
B	1931	81	Clothes Cleaners/Laundry	1440		Kern	David
B	1931	81	Clothes Cleaners/Laundry	903		Broadway	Alex Donabed
B	1931	81	Clothes Cleaners/Laundry	1217		Van Ness	Fashion Cleaners Ltd
B	1931	81	Clothes Cleaners/Laundry	400-424		O Street	Fresno Steam Laundry
B	1931	81	Clothes Cleaners/Laundry	1012		Fulton	H S Camijian
B	1931	81	Clothes Cleaners/Laundry	2021		Tuolumne	S A Gogosian
B	1931	81	Clothes Cleaners/Laundry	848		L Street	Dick Hooninian
B	1931	81	Clothes Cleaners/Laundry	859		Broadway	V S Isakoolian
B	1931	81	Clothes Cleaners/Laundry	1910		Kern	V S Isakoolian
B	1931	81	Clothes Cleaners/Laundry	2948	East	Tulare	Johnson Cleaning Works
B	1931	81	Clothes Cleaners/Laundry	1127		Broadway	Levon Kaspar
B	1931	81	Clothes Cleaners/Laundry	827		Broadway	H N Kavoian
B	1931	81	Clothes Cleaners/Laundry	2507		Tulare	Richard Malkasan
B	1931	81	Clothes Cleaners/Laundry	2645		Tulare	Kachadoor Mooradian
B	1931	81	Clothes Cleaners/Laundry	1055		Van Ness	M D Naman
B	1931	81	Clothes Cleaners/Laundry	1436		Tulare	A Okamura
B	1931	81	Clothes Cleaners/Laundry	1153		Broadway	J A Papageorge
B	1931	81	Clothes Cleaners/Laundry	803		G Street	Parisian Cleaners & Dyers
B	1931	81	Clothes Cleaners/Laundry	1302		Broadway	Conrad Rehn
B	1931	81	Clothes Cleaners/Laundry	1517		Fresno	J R Reyes
B	1931	81	Clothes Cleaners/Laundry	1517		O Street	A C Riddle
B	1931	81	Clothes Cleaners/Laundry	1533		Fulton	Karl Shehrian
B	1931	81	Clothes Cleaners/Laundry	1863		Van Ness	Abet Shekoyan
B	1931	81	Clothes Cleaners/Laundry	818		Fulton	J L Stewart
B	1931	81	Clothes Cleaners/Laundry	1141	North	Fulton	W R Tufts
B	1931	81	Clothes Cleaners/Laundry	929		Broadway	Simon Vartanian
B	1931	81	Clothes Cleaners/Laundry	1302		Broadway	Wardrobe Cleaners
B	1931	81	Clothes Cleaners/Laundry	1834		Merced	Wardrobe Cleaners
B	1931	81	Clothes Cleaners/Laundry	808		Broadway	D Zadian
B	1931	82	Petroleum Storage/UST	707		Van Ness	Associated Oil Co.
B	1931	82	Petroleum Storage/UST	2014		Tulare	Associated Pipe Line Co.

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B	1931	82	Petroleum Storage/UST	2019		H Street	Pennzoil Co.
B	1931	82	Petroleum Storage/UST	1111		Fulton	Seneca Oil Co.
B	1931	84	Photographic	1222		Van Ness	Western Blue Print
B	1941	108	Vehicle Repair/Service	1061		Federal	John Ashley
B	1941	108	Vehicle Repair/Service	917		L Street	H C Bitters
B	1941	108	Vehicle Repair/Service	836		Broadway	Central City Garage
B	1941	108	Vehicle Repair/Service	801		Van Ness	Davenport's Servicenter
B	1941	108	Vehicle Repair/Service	820		Van Ness	Davenport's Servicenter
B	1941	108	Vehicle Repair/Service	1219		Broadway	Dolsen & Anderson Inc.
B	1941	108	Vehicle Repair/Service	925		Broadway	Downtown Nite 'n Day Garage and Service
B	1941	108	Vehicle Repair/Service	926		H Street	Downtown Nite 'n Day Garage and Service
B	1941	108	Vehicle Repair/Service	838		Van Ness	Golden West Garage
B	1941	108	Vehicle Repair/Service	920		Van Ness	Sequoia Garage
B	1941	108	Vehicle Repair/Service	1140		Fulton	Silva & Noel Garage
B	1941	108	Vehicle Repair/Service	1200		H Street	Subway Garage
B	1941	108	Vehicle Repair/Service	932		L Street	Sun Maid Garage
B	1941	108	Vehicle Repair/Service	835		Van Ness	L C Wesley
B	1941	109	Vehicle Repair/Service	220		Broadway	A T Abram
B	1941	109	Vehicle Repair/Service	1922		Santa Clara	Michl Basmajian
B	1941	109	Vehicle Repair/Service	2504		Kern	P F Binger
B	1941	109	Vehicle Repair/Service	1320		F Street	J V Capozzi
B	1941	109	Vehicle Repair/Service	1357		Broadway	C W Carstens
B	1941	109	Vehicle Repair/Service	806		Broadway	W A Chittum
B	1941	109	Vehicle Repair/Service	1138 1/2	North	Van Ness	L G Christiansen
B	1941	109	Vehicle Repair/Service	1326		Fresno	Frank Civiello
B	1941	109	Vehicle Repair/Service	1330		Van Ness	Cowan Brake & Wheel Service
B	1941	109	Vehicle Repair/Service	1501		Broadway	Crocket Bros.
B	1941	110	Vehicle Repair/Service	2070		Merced	Dillman & Sharp
B	1941	110	Vehicle Repair/Service	1142		F Street	S D Egidio
B	1941	110	Vehicle Repair/Service	2330		Kern	C E Erickson
B	1941	110	Vehicle Repair/Service	1616		Fulton	H A Erickson
B	1941	110	Vehicle Repair/Service	625		Broadway	L E Evans

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B	1941	110	Vehicle Repair/Service	727		Fulton	L W Farris
B	1941	110	Vehicle Repair/Service	2121		Merced	Alex Feuerstein
B	1941	110	Vehicle Repair/Service	466		Broadway	W M Feuerstein
B	1941	110	Vehicle Repair/Service	560		Broadway	Fresno Automotive Engineering
B	1941	110	Vehicle Repair/Service			Van Ness	Fresno Motor Sales
B	1941	110	Vehicle Repair/Service	1919		Calaveras	Al Gomas
B	1941	110	Vehicle Repair/Service	318		Broadway	Joseph Hagopian
B	1941	110	Vehicle Repair/Service	811		G Street	S Hamasumi
B	1941	110	Vehicle Repair/Service	1462		Broadway	Walter M High
B	1941	110	Vehicle Repair/Service	1526		Fulton	M G Hughes
B	1941	110	Vehicle Repair/Service	1402		Kern	Thos Inouye
B	1941	110	Vehicle Repair/Service	2015		Ventura	John Jamgoichian
B	1941	110	Vehicle Repair/Service	1014		R Street	Jansen & Jansen
B	1941	110	Vehicle Repair/Service	1427		Broadway	A P Lish
B	1941	110	Vehicle Repair/Service	1224		San Benito	W F Lockwood
B	1941	111	Vehicle Repair/Service	301		Broadway	M K Mirigian
B	1941	111	Vehicle Repair/Service	651		Broadway	Pete Misakian
B	1941	111	Vehicle Repair/Service	838		Van Ness	D O Nail
B	1941	111	Vehicle Repair/Service	1056		F Street	New China Garage & Service
B	1941	111	Vehicle Repair/Service	827		G Street	Paul Oaxaca
B	1941	111	Vehicle Repair/Service	1319		L Street	O'Brien & O'Brien
B	1941	111	Vehicle Repair/Service	2447		Tulare	A C Possehn
B	1941	111	Vehicle Repair/Service	2240		Tuolumne	A H Riebschlager
B	1941	111	Vehicle Repair/Service	1400		Van Ness	Rodman Chevrolet Co.
B	1941	111	Vehicle Repair/Service	1449		Broadway	H B Schwarz
B	1941	111	Vehicle Repair/Service	2424		Stanislaus	G C Siegfried
B	1941	111	Vehicle Repair/Service	1440		Fulton	Silva & Noel Garage
B	1941	111	Vehicle Repair/Service	1502		Kern	K Takemoto
B	1941	111	Vehicle Repair/Service	1215		G Street	Terminal Garage
B	1941	112	Vehicle Repair/Service	1449		Broadway	Jos Vaccaro
B	1941	112	Vehicle Repair/Service	1330		Fresno	Roberto Vasquez
B	1941	112	Vehicle Repair/Service	1562	North	Calaveras	R E Ward

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B	1941	112	Vehicle Repair/Service	230		Broadway	J L Williams
B	1941	112	Vehicle Repair/Service	612		Divisadero	Winther Bros.
B	1941	112	Junkyard/Auto Wrecking	717		Broadway	Baskin Auto Wrecking
B	1941	112	Junkyard/Auto Wrecking	560		Broadway	Fresno Auto Parts
B	1941	112	Junkyard/Auto Wrecking	300		Broadway	Edward Garabedian
B	1941	112	Junkyard/Auto Wrecking	729		Broadway	Preston's Auto Salvage
B	1941	112	Junkyard/Auto Wrecking	602		Broadway	Reliable Auto Wrecking Co.
B	1941	112	Junkyard/Auto Wrecking	645		Broadway	San Joaquin Auto Parts & Wrecking Co.
B	1941	112	Junkyard/Auto Wrecking	626		Broadway	Abr Werfel
B	1941	114	Clothes Cleaners/Laundry	1447		Fulton	H H Ajojan
B	1941	114	Clothes Cleaners/Laundry	1841		Mariposa	J H Alchian
B	1941	114	Clothes Cleaners/Laundry	1916		Mariposa	Sarkis Bagigian
B	1941	114	Clothes Cleaners/Laundry	1526		Kern	Gosten Bargigian
B	1941	114	Clothes Cleaners/Laundry	1324		R Street	Le Roy Biggs
B	1941	114	Clothes Cleaners/Laundry	2924		Tulare	Le Roy Biggs
B	1941	114	Clothes Cleaners/Laundry	2049		Broadway	L B H Bixler
B	1941	114	Clothes Cleaners/Laundry	1509		O Street	G M Cobb
B	1941	114	Clothes Cleaners/Laundry	1515		Van Ness	L L Crane
B	1941	114	Clothes Cleaners/Laundry	2242		Tulare	Misak Cross
B	1941	114	Clothes Cleaners/Laundry	2428		Stanislaus	David Dashjian
B	1941	114	Clothes Cleaners/Laundry	2645 1/2		Tulare	Gabriel Derzakarian
B	1941	114	Clothes Cleaners/Laundry	330	North	Broadway	Dodge Laundry & Linen Supply Co.
B	1941	114	Clothes Cleaners/Laundry	465	North	Fulton	Fashion Cleaners Ltd.
B	1941	114	Clothes Cleaners/Laundry	959		Broadway	Fresno Cleaners & Hatters
B	1941	114	Clothes Cleaners/Laundry	844		Van Ness	Carney Hoonanian
B	1941	114	Clothes Cleaners/Laundry	1912		Kern	V S Isakoolian
B	1941	114	Clothes Cleaners/Laundry	915		Olive	J L Johnson
B	1941	114	Clothes Cleaners/Laundry	2948	East	Tulare	J L Johnson
B	1941	114	Clothes Cleaners/Laundry	2309		Fresno	L N Kalam
B	1941	114	Clothes Cleaners/Laundry	1815		Tulare	Vaske Karoglanian
B	1941	114	Clothes Cleaners/Laundry	1304		Fresno	C H Kratly
B	1941	114	Clothes Cleaners/Laundry	1141	North	Fulton	H J Kuhn

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B	1941	114	Clothes Cleaners/Laundry	602		Fulton	J E Legler
B	1941	114	Clothes Cleaners/Laundry	1440		Kern	John Legler
B	1941	114	Clothes Cleaners/Laundry	949		G Street	Avedis Maranian
B	1941	114	Clothes Cleaners/Laundry	1530		Fresno	R B McAlister
B	1941	114	Clothes Cleaners/Laundry	2715		Tulare	Paul Najimian
B	1941	114	Clothes Cleaners/Laundry	738		Van Ness	Paul Najimian
B	1941	114	Clothes Cleaners/Laundry	1055		Van Ness	D M Naman
B	1941	114	Clothes Cleaners/Laundry	402	North	Broadway	Owl Cleaners
B	1941	114	Clothes Cleaners/Laundry	1219	North	Van Ness	Owl Cleaners
B	1941	115	Clothes Cleaners/Laundry	803		G Street	Parisian Cleaners & Dyers
B	1941	115	Clothes Cleaners/Laundry	1205		Van Ness	Harry Pinajian
B	1941	115	Clothes Cleaners/Laundry	843		Van Ness	H C Rehn
B	1941	115	Clothes Cleaners/Laundry	1460		Fresno	J R Reyes
B	1941	115	Clothes Cleaners/Laundry	905		Broadway	Kachadoor Sadoian
B	1941	115	Clothes Cleaners/Laundry	1446	North	Van Ness	C O Seaman
B	1941	115	Clothes Cleaners/Laundry	1475		Van Ness	Karl Sherhrian
B	1941	115	Clothes Cleaners/Laundry	1863		Van Ness	Abet Shekoyan
B	1941	115	Clothes Cleaners/Laundry	1562		F Street	Chas Smith
B	1941	115	Clothes Cleaners/Laundry	1925		Fresno	Star Cleaners
B	1941	115	Clothes Cleaners/Laundry	903		G Street	John Uribe
B	1941	115	Clothes Cleaners/Laundry	1127		Broadway	Aris Yessaian
B	1941	115	Mortuary	1605		L Street	Lisle Funeral Home
B	1941	115	Mortuary	475	North	Broadway	Mission Chapel
B	1941	115	Mortuary	1762		Van Ness	Dale Orr
B	1941	115	Mortuary	404		F Street	Rest Haven Chapel
B	1941	115	Mortuary	1405		Broadway	Stephens & Bean
B	1941	115	Mortuary	2055		San Joaquin	Sullivan, Burns & Blair
B	1941	115	Mortuary	1701		E Street	Valley Funeral Home
B	1941	117	Gas Station/Vehicle Repair Service	1133		Olive	A W Amick
B	1941	117	Gas Station/Vehicle Repair Service	603		G Street	Steve Avakian
B	1941	118	Gas Station/Vehicle Repair Service	1898		G Street	H A Bedrosian
B	1941	118	Gas Station/Vehicle Repair Service	1303		F Street	T N Booras

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B	1941	118	Gas Station/Vehicle Repair Service	1320		H Street	Bowen's Auto Laundry & Service Station
B	1941	118	Gas Station/Vehicle Repair Service	2211		Merced	Buck & Freeland
B	1941	118	Gas Station/Vehicle Repair Service	1058		Broadway	N H Casler
B	1941	118	Gas Station/Vehicle Repair Service	1760		Broadway	Christensen Tom Associated Service
B	1941	118	Gas Station/Vehicle Repair Service	1605		F Street	Hobert Cooley
B	1941	119	Gas Station/Vehicle Repair Service	2246		Tuolumne	J R Davis
B	1941	119	Gas Station/Vehicle Repair Service	406		Van Ness	A G De Orian
B	1941	119	Gas Station/Vehicle Repair Service	2758		Tulare	John De Young
B	1941	119	Gas Station/Vehicle Repair Service	1861		Broadway	Stanley Dye
B	1941	119	Gas Station/Vehicle Repair Service	761		Broadway	Ed and Emmett Service
B	1941	119	Gas Station/Vehicle Repair Service	2204		Ventura	Nishian Eksoozian
B	1941	119	Gas Station/Vehicle Repair Service	1662		Van Ness	B C Ferguson
B	1941	119	Gas Station/Vehicle Repair Service	2504		Kern	Frechou Bros
B	1941	119	Gas Station/Vehicle Repair Service	1503		Van Ness	Augie Fries
B	1941	119	Gas Station/Vehicle Repair Service	1101		Fresno	L J Gennuso
B	1941	119	Gas Station/Vehicle Repair Service	1603		Broadway	R H Gerard
B	1941	119	Gas Station/Vehicle Repair Service	602		Van Ness	Geo Goode
B	1941	119	Gas Station/Vehicle Repair Service	1413		Van Ness	Goodrich Silvertown Stores
B	1941	119	Gas Station/Vehicle Repair Service	1550		Van Ness	Goodyear Service
B	1941	119	Gas Station/Vehicle Repair Service	432	North	H Street	F M Gray
B	1941	120	Gas Station/Vehicle Repair Service	464		Broadway	Halwood Service
B	1941	120	Gas Station/Vehicle Repair Service	1659		Broadway	Hatfiel & Hilton
B	1941	120	Gas Station/Vehicle Repair Service	1829		Fresno	Heppner Service Station
B	1941	120	Gas Station/Vehicle Repair Service	2120		H Street	E P Heslin
B	1941	120	Gas Station/Vehicle Repair Service	1941		Ventura	T H Hill
B	1941	120	Gas Station/Vehicle Repair Service	1822		Kern	Hughes Hotel Super Service Station
B	1941	120	Gas Station/Vehicle Repair Service	251		Broadway	W M Jacobsen
B	1941	120	Gas Station/Vehicle Repair Service	1901		Fulton	C Z Johnson
B	1941	120	Gas Station/Vehicle Repair Service	2345		Stanislaus	E I Johnson
B	1941	120	Gas Station/Vehicle Repair Service	850	North	Fresno	G L Johnson
B	1941	120	Gas Station/Vehicle Repair Service	1202	North	Van Ness	A J Kennedy
B	1941	120	Gas Station/Vehicle Repair Service	2210		Kern	Dick Keosheyan

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B	1941	120	Gas Station/Vehicle Repair Service	1959		G Street	Sun Lang
B	1941	120	Gas Station/Vehicle Repair Service	2902		Tulare	Irving Lewis
B	1941	121	Gas Station/Vehicle Repair Service	380	North	H Street	B F Lomier
B	1941	121	Gas Station/Vehicle Repair Service	2247		Ventura	Geo Malakian
B	1941	121	Gas Station/Vehicle Repair Service	2545		Ventura	Hompick Manchesian
B	1941	121	Gas Station/Vehicle Repair Service	1804		H Street	W B Mayer
B	1941	121	Gas Station/Vehicle Repair Service	2246		Merced	McCaslin Service Station
B	1941	121	Gas Station/Vehicle Repair Service	105	North	H Street	C S McCollum
B	1941	121	Gas Station/Vehicle Repair Service	2447		Tulare	McGuire & Cox
B	1941	121	Gas Station/Vehicle Repair Service	1861		G Street	John Monney
B	1941	121	Gas Station/Vehicle Repair Service	1535		Fresno	Manuel Musachio
B	1941	121	Gas Station/Vehicle Repair Service	407		G Street	Nagel Bros
B	1941	121	Gas Station/Vehicle Repair Service	1056		F Street	New China Garage & Service
B	1941	121	Gas Station/Vehicle Repair Service	603		Broadway	O J Normart
B	1941	121	Gas Station/Vehicle Repair Service	1762		B Street	John Okada
B	1941	121	Gas Station/Vehicle Repair Service	215		Broadway	C S Pashayan
B	1941	122	Gas Station/Vehicle Repair Service	1558		Broadway	Red Horse Service Station
B	1941	122	Gas Station/Vehicle Repair Service	1064	North	Fulton	G M Reid
B	1941	122	Gas Station/Vehicle Repair Service	862		Van Ness	Richfield Super Garage
B	1941	122	Gas Station/Vehicle Repair Service	1204		San Benito	Henry Rothermel
B	1941	122	Gas Station/Vehicle Repair Service	2800		Tulare	R H Russell
B	1941	122	Gas Station/Vehicle Repair Service	2443		Ventura	Vahan Rustigian
B	1941	122	Gas Station/Vehicle Repair Service	355		Broadway	Conrad Scheidt
B	1941	122	Gas Station/Vehicle Repair Service	205		Fulton	Ralph Shamshoian
B	1941	122	Gas Station/Vehicle Repair Service	1815		Broadway	J P Simons
B	1941	122	Gas Station/Vehicle Repair Service	240	North	H Street	Roger Steele
B	1941	122	Gas Station/Vehicle Repair Service	305	North	H Street	Superior Service
B	1941	122	Gas Station/Vehicle Repair Service	1350		Fresno	J A Tacchino
B	1941	122	Gas Station/Vehicle Repair Service	1502		Fresno	J C Telesco
B	1941	122	Gas Station/Vehicle Repair Service	1955		Broadway	Thompson & Ducey
B	1941	122	Gas Station/Vehicle Repair Service	2115		H Street	Tornell & Snow
B	1941	122	Gas Station/Vehicle Repair Service	1069		F Street	F C Tuck

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B	1941	123	Gas Station/Vehicle Repair Service	2004		Van Ness	R L Tupper
B	1941	123	Gas Station/Vehicle Repair Service	1805		Van Ness	K A Tyler
B	1941	123	Gas Station/Vehicle Repair Service	2506		Fresno	J J Villanueva
B	1941	123	Gas Station/Vehicle Repair Service	308	North	First	J J Villanueva
B	1941	123	Gas Station/Vehicle Repair Service	1041		Fresno	Vucovich & Jordan
B	1941	123	Gas Station/Vehicle Repair Service	1502		Broadway	Wilson Bros.
B	1941	124	Mortuary	1605		L Street	Lisle Funeral Home
B	1941	124	Mortuary	475	North	Broadway	Mission Chapel
B	1941	124	Mortuary	1762		Van Ness	Dale Orr
B	1941	124	Mortuary	404		F Street	Rest Haven Chapel
B	1941	124	Mortuary	1405		Broadway	Stephens & Bean
B	1941	124	Mortuary	2055		San Joaquin	Sullivan, Burns & Blair
B	1941	124	Mortuary	1701		E Street	Valley Funeral Home
B	1941	124	Mortuary	1002		T Street	Yost & Webb Mortuary
B	1941	132	Photographic	1164		Fulton	Casner Drug Co.
B	1941	132	Photographic	2036		Mariposa	J D Clark
B	1941	132	Photographic	2037		Merced	Fresno Camera Exchange
B	1941	132	Photographic	1045		Van Ness	Floyd C. Lynn
B	1941	132	Photographic	2120		Tuolumne	G A Sullivan
B	1941	132	Photographic	1044		Fulton	C A Thompson
B	1951	153	Vehicle Repair/Service	850		L Street	Aldrich Pontiac Co.
B	1951	153	Vehicle Repair/Service	940		N Street	C M Allen
B	1951	153	Vehicle Repair/Service	950		H Street	E B Amrine
B	1951	153	Vehicle Repair/Service	806		Broadway	B F Angelo
B	1951	153	Vehicle Repair/Service	2537		Ventura	N M Bagdigian
B	1951	153	Vehicle Repair/Service	701		Van Ness	Frank E Beckett Co
B	1951	153	Vehicle Repair/Service	2504		Kern	P F Binger
B	1951	153	Vehicle Repair/Service	1140	North	Van Ness	Holmes Bingham
B	1951	153	Vehicle Repair/Service	1320		F Street	S S Brown
B	1951	153	Vehicle Repair/Service	836		Broadway	Central City Garage
B	1951	153	Vehicle Repair/Service	466	North	Broadway	L J Christiansen
B	1951	153	Vehicle Repair/Service	1326		Fresno	Frank Civiello

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B	1951	153	Vehicle Repair/Service	1330		Van Ness	Cowan's Break & Wheel Service
B	1951	153	Vehicle Repair/Service	1219		Broadway	Dalma Garage
B	1951	153	Vehicle Repair/Service	2240		Tuolumne	L J Dauderman
B	1951	153	Vehicle Repair/Service	2027		Merced	Dillaman & Sharp
B	1951	153	Vehicle Repair/Service	2422		Kern	Forrest Noel Garage
B	1951	153	Vehicle Repair/Service	560		Broadway	Fresno Auto Parts Co.
B	1951	153	Vehicle Repair/Service	560		Broadway	Fresno Automotive Engineering Co.
B	1951	154	Vehicle Repair/Service			Van Ness	Fresno Motor Sales
B	1951	154	Vehicle Repair/Service	1333		Broadway	Fresno Speedometer Co.
B	1951	154	Vehicle Repair/Service	701		L Street	Fresno Trailer Co.
B	1951	154	Vehicle Repair/Service	635		Broadway	Al Gomas Company
B	1951	154	Vehicle Repair/Service	701		Fulton	Saml Goodman Inc.
B	1951	154	Vehicle Repair/Service	2222		Ventura	Haron Motor Sales
B	1951	154	Vehicle Repair/Service	1033		Fresno	Chris Heintz
B	1951	154	Vehicle Repair/Service	1801		Merced	M G Hughes
B	1951	154	Vehicle Repair/Service	1402		Kern	Tom Inouye
B	1951	154	Vehicle Repair/Service	2440		Inyo	J D Jamison
B	1951	154	Vehicle Repair/Service	1014		R Street	Jansen & Jansen
B	1951	154	Vehicle Repair/Service	1526		Fulton	P R Klein
B	1951	154	Vehicle Repair/Service	2201		Stanislaus	Fred Kurz Motors
B	1951	154	Vehicle Repair/Service	1659		F Street	Buddy Lang's Garage
B	1951	154	Vehicle Repair/Service	2548		Tulare	H J Lindegren
B	1951	154	Vehicle Repair/Service	1427		Broadway	A P Lish
B	1951	154	Vehicle Repair/Service	2412		Fresno	James W. McAlister Inc.
B	1951	155	Vehicle Repair/Service	1333		Broadway	J M McCormack
B	1951	155	Vehicle Repair/Service	727		Fulton	Leon Missirlian
B	1951	155	Vehicle Repair/Service	862		Van Ness	R E Morris
B	1951	155	Vehicle Repair/Service	1224		San Benito	A L Noblitt
B	1951	155	Vehicle Repair/Service	1501		Fulton	Ray Prior and Ted Shelton
B	1951	155	Vehicle Repair/Service	2522		Ventura	J H Real
B	1951	155	Vehicle Repair/Service	1400		Van Ness	Rodman Chevrolet Co
B	1951	156	Vehicle Repair/Service	2420		Ventura	D D Sahagian

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B	1951	156	Vehicle Repair/Service	1482		Broadway	Ted Schmall & Son
B	1951	156	Vehicle Repair/Service	1333		Broadway	Harry Schwartz
B	1951	156	Vehicle Repair/Service	806		Broadway	J S Shahbazian
B	1951	156	Vehicle Repair/Service	304		N Street	John Shirinian
B	1951	156	Vehicle Repair/Service			Stanislaus	Slavich Bros. Inc.
B	1951	156	Vehicle Repair/Service	1727		G Street	W C Smith
B	1951	156	Vehicle Repair/Service	940		D Street	Frank Tashima
B	1951	156	Vehicle Repair/Service	2345		Stanislaus	Tex Hodge Motors Inc.
B	1951	156	Vehicle Repair/Service	1444		Van Ness	A F Thorp
B	1951	156	Vehicle Repair/Service	412		Broadway	John Torik
B	1951	156	Vehicle Repair/Service	1330		Fresno	Robt Vasquez
B	1951	157	Vehicle Repair/Service	612		Divisadero	Winther Bros. Inc.
B	1951	158	Junkyard/Auto Wrecking	626		Broadway	California Auto Wrecking Co.
B	1951	158	Junkyard/Auto Wrecking	560		Broadway	Fresno Auto Parts Co.
B	1951	158	Junkyard/Auto Wrecking	1142		F Street	Santi's Incorporated
B	1951	159	Clothes Cleaners/Laundry	338		Fresno	Carl Amoruso
B	1951	159	Clothes Cleaners/Laundry	2514		Tulare	A R Baumgartner
B	1951	159	Clothes Cleaners/Laundry	2428		Tulare	G K Belemjian
B	1951	159	Clothes Cleaners/Laundry	2031		Stanislaus	Bell Cleaners
B	1951	159	Clothes Cleaners/Laundry	2918		Tulare	Leroy Biggs
B	1951	159	Clothes Cleaners/Laundry	2029		Broadway	Bixler's
B	1951	159	Clothes Cleaners/Laundry	2432		Stanislaus	Janice Carlton
B	1951	159	Clothes Cleaners/Laundry	2538		Ventura	Chas Casparian
B	1951	159	Clothes Cleaners/Laundry	961		E Street	City of Paris Cleaners
B	1951	159	Clothes Cleaners/Laundry	2242		Tulare	Frank Cross
B	1951	160	Clothes Cleaners/Laundry	330	North	Broadway	Dodge Laundry & Linen Supply
B	1951	160	Clothes Cleaners/Laundry	465	North	Fulton	Fashion Cleaners
B	1951	160	Clothes Cleaners/Laundry	959		Broadway	Fresno Cleaners & Hatters
B	1951	160	Clothes Cleaners/Laundry	1435	North	Van Ness	G L Jaire
B	1951	160	Clothes Cleaners/Laundry	1815		Tulare	Vaske Karoglanian
B	1951	160	Clothes Cleaners/Laundry	1916		Mariposa	Leon Kasper
B	1951	160	Clothes Cleaners/Laundry	1809		Kern	Kay's Cleaners

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B	1951	160	Clothes Cleaners/Laundry	935		E Street	G J Koda
B	1951	160	Clothes Cleaners/Laundry	1937		Inyo	Victor Kuljian
B	1951	160	Clothes Cleaners/Laundry	803		G Street	J B Lamoure
B	1951	161	Clothes Cleaners/Laundry	1320		Fresno	F L Mandella
B	1951	161	Clothes Cleaners/Laundry	1910		Kern	Ruben Minasian
B	1951	161	Clothes Cleaners/Laundry	2715		Tulare	C G Najimian
B	1951	161	Clothes Cleaners/Laundry	738		Van Ness	Paul Najimian
B	1951	161	Clothes Cleaners/Laundry	1152		Broadway	national Cleaners & Laundry
B	1951	161	Clothes Cleaners/Laundry	1530		Fresno	Owl Cleaners
B	1951	161	Clothes Cleaners/Laundry	1211		Van Ness	Harry Pinajian
B	1951	161	Clothes Cleaners/Laundry	1219		E Street	J R Reyes
B	1951	161	Clothes Cleaners/Laundry	1151		F Street	E A St. James
B	1951	161	Clothes Cleaners/Laundry	1360		E Street	Scott's Cleaners
B	1951	161	Clothes Cleaners/Laundry	843		Van Ness	O V Simon
B	1951	161	Clothes Cleaners/Laundry	853		Broadway	Simon & Son
B	1951	161	Clothes Cleaners/Laundry	2736		Divisadero	Sudden Service Laundry & Cleaning
B	1951	161	Clothes Cleaners/Laundry	1055		Van Ness	Sudden Service Laundry & Cleaning
B	1951	161	Clothes Cleaners/Laundry	949		G Street	J E Uribe
B	1951	162	Gas Station	2347		Ventura	A T Abram
B	1951	162	Gas Station	2545		Ventura	N M Badigian
B	1951	162	Gas Station	1898		G Street	H A Bedrosian
B	1951	162	Gas Station	755		Broadway	W R Benedict
B	1951	162	Gas Station	2548		Tulare	R E Bergman
B	1951	162	Gas Station	603		Van Ness	David Bettencourt
B	1951	162	Gas Station	1502		Fresno	Betty's Shell Service
B	1951	162	Gas Station	2211		Merced	Buck's Service Station
B	1951	163	Gas Station	896	North	First	J O Chamberlain
B	1951	163	Gas Station	1901		Fulton	C V Clark
B	1951	163	Gas Station	1659		Broadway	Reno Coletti
B	1951	163	Gas Station	1257		G Street	D & L Truck Service
B	1951	163	Gas Station	2210		Kern	Dick's Service
B	1951	163	Gas Station	1350		Fresno	Anthony DiViccaro

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B	1951	163	Gas Station	1101		Fresno	Louis Equivel
B	1951	163	Gas Station	2148		Kern	Howard Fullerton
B	1951	163	Gas Station	1503		Van Ness	R H Gerard
B	1951	163	Gas Station	2445		Tulare	Woodrow Gregorian
B	1951	163	Gas Station	1815		Broadway	M F Hansen
B	1951	163	Gas Station	2545		Tulare	Harry Haroutian
B	1951	164	Gas Station	1829		Fresno	R D Heppner
B	1951	164	Gas Station	1133		H Street	F D Jones
B	1951	164	Gas Station	464		Broadway	H A Jouroyan
B	1951	164	Gas Station	1501		Fresno	R R Lencioni
B	1951	164	Gas Station	3004	East	Tulare	M T Little
B	1951	164	Gas Station	602		Van Ness	Victor Maghakian
B	1951	164	Gas Station	1605		Van Ness	S P McCormick
B	1951	165	Gas Station	1861		G Street	R L McTier
B	1951	165	Gas Station	1303		F Street	G F Melfe
B	1951	165	Gas Station	1822		Kern	Louis Mendieta
B	1951	165	Gas Station	603		Broadway	S G Misakian
B	1951	165	Gas Station	1810		Van Ness	D W Moore
B	1951	165	Gas Station	655		G Street	Reinholt Nagel
B	1951	165	Gas Station	1056		F Street	New China Garage & Service
B	1951	165	Gas Station	1069		F Street	H D Newman
B	1951	165	Gas Station	2204		Ventura	J K Osborn
B	1951	165	Gas Station	447		Belmont	Peer & Wood
B	1951	165	Gas Station	2405		Tulare	Victor Pinnecker
B	1951	165	Gas Station	801		Van Ness	R & L Shell Station
B	1951	165	Gas Station	1818		Broadway	Regal Petroleum Corp
B	1951	165	Gas Station	1064	North	Fulton	G M Reid
B	1951	165	Gas Station	1457		B Street	Jos Repape
B	1951	165	Gas Station	1762		B Street	Jos Repape
B	1951	165	Gas Station	289	North	H Street	Tho Sagatelian
B	1951	165	Gas Station	1568		Broadway	Scheidt & Kramer
B	1951	165	Gas Station	1760		Broadway	L W Schmidt

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B	1951	165	Gas Station	3229		Tulare	H L Schreiner
B	1951	165	Gas Station	406		Van Ness	Seibert Petroleum Co.
B	1951	166	Gas Station	2246		Merced	Andrew Simensen
B	1951	166	Gas Station	2443		Ventura	Archie Simonian
B	1951	166	Gas Station	2115		H Street	H K Snow
B	1951	166	Gas Station	1805		Van Ness	Paul Starnes
B	1951	166	Gas Station	1058		Broadway	J H Stiers
B	1951	166	Gas Station	4902		Belmont	L A Stoudt
B	1951	167	Gas Station	1102		Fresno	Pat Sylvester
B	1951	167	Gas Station	1060		E Street	Frank Tashima
B	1951	167	Gas Station	3006		Fresno	H H Thurston
B	1951	167	Gas Station	1201		Van Ness	Tornell & Pinckney
B	1951	167	Gas Station	1302		H Street	Frank Volanti
B	1951	167	Gas Station	1041		Fresno	Vucovich & Jura
B	1951	167	Gas Station	2100		H Street	Winther Bros
B	1951	167	Gas Station	1250		Tulare	Henry Wong
B	1951	167	Gas Station	2748		Tulare	T N Woodward
B	1951	168	Photographic	1164		Fulton	Casner Drug Co.
B	1951	168	Photographic	1218		Van Ness	Harry Freedman
B	1951	169	Mortuary	1605		L Street	Lisle Funeral Home
B	1951	169	Mortuary	2055		San Joaquin	Sullivan, Burns & Blair
B	1951	169	Mortuary	475	North	Broadway	Tinkler Mission Chapel
B	1951	169	Mortuary	1002		T Street	Yost & Webb Mortuary
B	1961	192	Vehicle Repair/Service	806		Broadway	Angelo's Brake Service
B	1961	192	Vehicle Repair/Service	2017		Santa Clara	Ara's Auto Service
B	1961	192	Vehicle Repair/Service	1333		Broadway	Automatic Transmission Center
B	1961	192	Vehicle Repair/Service	832		N Street	B & L Speedometer
B	1961	192	Vehicle Repair/Service	1804		H Street	Bingham's Garage
B	1961	192	Vehicle Repair/Service	2535		Ventura	Brownie Muffler Service
B	1961	192	Vehicle Repair/Service	1320		F Street	Cal State Automatic Transmission
B	1961	192	Vehicle Repair/Service	730		F Street	California Garage
B	1961	192	Vehicle Repair/Service	836		Broadway	Central City Garage

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B	1961	192	Vehicle Repair/Service	1837	East	Amador	Chittum's Brake & Wheel Service
B	1961	193	Vehicle Repair/Service	1330		Van Ness	Cowan's Brake & Wheel Service
B	1961	193	Vehicle Repair/Service	1224	North	San Benito	John DeBoer Auto Repair
B	1961	193	Vehicle Repair/Service	2027		Merced	Dillman & Sharp
B	1961	193	Vehicle Repair/Service	925		Broadway	Downtown Day N' Nite Garage
B	1961	193	Vehicle Repair/Service	2429		Ventura	Duey Auto Service
B	1961	193	Vehicle Repair/Service	436	North	H Street	Duke's Service Garage
B	1961	193	Vehicle Repair/Service	1821		Calaveras	Eberwein Bud Brake Service
B	1961	193	Vehicle Repair/Service	1444		Van Ness	Ed's Automotive Repair
B	1961	193	Vehicle Repair/Service	1740		Van Ness	Electric Laboratories Inc.
B	1961	193	Vehicle Repair/Service	2240		Tuolumne	Fresno Auto Electric
B	1961	193	Vehicle Repair/Service	2522		Ventura	Fresno Automatic Transmission Service
B	1961	193	Vehicle Repair/Service	350	North	H Street	Fresno Garage
B	1961	193	Vehicle Repair/Service	806		Broadway	Fresno Speedometer & Electric Shop
B	1961	193	Vehicle Repair/Service	539		P Street	Friction Materials
B	1961	194	Vehicle Repair/Service	1514		Van Ness	Hughes Manley Garage
B	1961	194	Vehicle Repair/Service	732		Van Ness	Jacobs Garage
B	1961	194	Vehicle Repair/Service	1014		R Street	Henry Jansen
B	1961	194	Vehicle Repair/Service	1444		Van Ness	Joe's Auto Electric
B	1961	194	Vehicle Repair/Service	1827	East	Amador	Johnnie's Speedometer Service
B	1961	194	Vehicle Repair/Service	2548		Tulare	Kleim Automotive Service
B	1961	194	Vehicle Repair/Service	1659		F Street	Lang's Buddy Garage
B	1961	194	Vehicle Repair/Service	2545		Ventura	Lee's Auto Repair Service
B	1961	194	Vehicle Repair/Service	1449		Broadway	Lish Automotive
B	1961	194	Vehicle Repair/Service	1224		San Benito	Lockwood Auto Repair
B	1961	194	Vehicle Repair/Service	1060		E Street	Mac's Garage
B	1961	195	Vehicle Repair/Service	727		Fulton	Leon Missirlian
B	1961	195	Vehicle Repair/Service	1056		F Street	New China Service Garage
B	1961	195	Vehicle Repair/Service	804		F Street	Nisel Auto Service
B	1961	195	Vehicle Repair/Service	1402		Kern	OK Garage
B	1961	195	Vehicle Repair/Service	2504		Kern	Oak Tree Garage
B	1961	195	Vehicle Repair/Service	1301		G Street	O'Brien's Brake Service

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B	1961	195	Vehicle Repair/Service	832		N Street	Randy's Automotive Service
B	1961	195	Vehicle Repair/Service	1659		Broadway	Reno's Specialized Service
B	1961	195	Vehicle Repair/Service	806		Broadway	Schwarz Garage
B	1961	195	Vehicle Repair/Service	1727		G Street	Smith Wayne Garage
B	1961	195	Vehicle Repair/Service	1433		Broadway	Stuckert Gus Service Garage
B	1961	195	Vehicle Repair/Service	1200		H Street	Subway Garage & Motor Parts
B	1961	195	Vehicle Repair/Service	1535		Fresno	Subway Service
B	1961	195	Vehicle Repair/Service	460		Fulton	John Torik Automotive Service
B	1961	195	Vehicle Repair/Service	1445		Broadway	United Auto Specialists
B	1961	195	Vehicle Repair/Service	304		N Street	United Automotive Works
B	1961	195	Vehicle Repair/Service	612		Divisadero	Winther Brothers Automotive Inc.
B	1961	196	Junkyard/Auto Wrecking	560		Broadway	Fresno Auto Wrecking
B	1961	197	Clothes Cleaners/Laundry	2111		Van Ness	Apex Cleaners & Tailors
B	1961	197	Clothes Cleaners/Laundry	2049		Broadway	Bixler's Cleaners
B	1961	197	Clothes Cleaners/Laundry	2649		Tulare	Bob's New City Cleaners
B	1961	197	Clothes Cleaners/Laundry	843		Van Ness	California Valet Service
B	1961	197	Clothes Cleaners/Laundry	1910		Kern	Elite Cleaners
B	1961	197	Clothes Cleaners/Laundry	832		N Street	Elmer & Jerry Upholstery Cleaners (auto)
B	1961	197	Clothes Cleaners/Laundry	2142		Ventura	Henry's Cleaners
B	1961	197	Clothes Cleaners/Laundry	1863		Van Ness	Ha B Cleaners
B	1961	197	Clothes Cleaners/Laundry	1019		Fresno	International Cleaners
B	1961	197	Clothes Cleaners/Laundry	949		C Street	Johnny's Tailors & Cleaners
B	1961	197	Clothes Cleaners/Laundry	1809		Kern	Kay's Cleaner & Tailors
B	1961	197	Clothes Cleaners/Laundry	803		G Street	Lamoure's Cleaners
B	1961	198	Clothes Cleaners/Laundry	1530		Fresno	Orchid Cleaners
B	1961	198	Clothes Cleaners/Laundry	738		Van Ness	Paul's Cleaners
B	1961	198	Clothes Cleaners/Laundry	2532		Tulare	Royal Cleaners
B	1961	198	Clothes Cleaners/Laundry	961		E Street	Rudy's Cleaners
B	1961	198	Clothes Cleaners/Laundry	1360		E Street	Scott's Cleaners
B	1961	198	Clothes Cleaners/Laundry	935		E Street	Service Cleaners
B	1961	198	Clothes Cleaners/Laundry	853		Broadway	Simon & Son
B	1961	198	Clothes Cleaners/Laundry	2428		Tulare	State Cleaners

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B	1961	198	Clothes Cleaners/Laundry	1311		Fresno	Top Hat Cleaners
B	1961	198	Clothes Cleaners/Laundry	2514		Tulare	Tulare Cleaners
B	1961	198	Clothes Cleaners/Laundry	338		Fresno	Violanda Cleaners & Laundry
B	1961	198	Clothes Cleaners/Laundry	1151		F Street	Wandal's Cleaners
B	1961	199	Mortuary	1701		E Street	Cooley J E Jr Funeral Services
B	1961	199	Mortuary	1605		L Street	Lisle Funeral Home
B	1961	199	Mortuary	1762		Van Ness	Orr's Colonial Chapel
B	1961	199	Mortuary			Tulare	Palm Funeral Service
B	1961	199	Mortuary	2055		San Joaquin	Sullivan Burns & Blair Funeral Directors
B	1961	199	Mortuary	1447		F Street	Matthew B Thomas Funeral Home
B	1961	199	Mortuary	1002		T Street	Yost & Webb Funeral Home
B	1961	200	Gas Station	565		Broadway	Ace Service Station
B	1961	200	Gas Station	406	North	H Street	Arnold's Flying A Service
B	1961	200	Gas Station	1951	South	Cherry	Barton Bros Service
B	1961	200	Gas Station	1454		G Street	Bedrosian Truck Service
B	1961	200	Gas Station	1212		Fresno	Big Four Shell Service
B	1961	200	Gas Station	2025		Broadway	Bob's Chevron Service
B	1961	200	Gas Station	2121		H Street	Bridges Union Service
B	1961	200	Gas Station	1558		Broadway	Broadway Mobil Service
B	1961	200	Gas Station	2211		Merced	Back's Service Station
B	1961	200	Gas Station	1861		G Street	Burns Wilshire Service
B	1961	201	Gas Station	2405		Tulare	Chuck's Union Service
B	1961	201	Gas Station	603		G Street	Cruz's Wilshire Service
B	1961	201	Gas Station	2843		Divisadero	D & J Flying A
B	1961	201	Gas Station	1133		H Street	Depot Gas Station
B	1961	201	Gas Station	2210		Kern	Dick's Service Station
B	1961	202	Gas Station	2100		H Street	Eliassen's Wilshire Service
B	1961	202	Gas Station	3006		Fresno	Ford's Shell Service
B	1961	202	Gas Station	1060		E Street	Frank's Norwalk Service
B	1961	202	Gas Station	1350		Fresno	Louie Gennuso's Wilshire Service
B	1961	202	Gas Station	2111		Ventura	Halwood Service Inc.
B	1961	203	Gas Station	1822		Kern	Hughes Service Station

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B	1961	203	Gas Station	804		F Street	I & T Union Service
B	1961	203	Gas Station	464		Broadway	J & J Signal Service
B	1961	203	Gas Station	1815		Broadway	Jim's Texaco Service
B	1961	203	Gas Station	2505		Fresno	Joe's Auto -torium Service
B	1961	204	Gas Station			Broadway	Lynch's Shell Service
B	1961	204	Gas Station	1257		G Street	Larry Marinaro Service
B	1961	204	Gas Station	1407		Stanislaus	John Mellon Stanislaus Service
B	1961	204	Gas Station	665		G Street	Nagel's Service Station
B	1961	204	Gas Station	411		G Street	Nancy's Sunland Service
B	1961	205	Gas Station	1810		Van Ness	Paul's Richfield Service
B	1961	205	Gas Station	2246		Tuolumne	Payless Wilshire
B	1961	205	Gas Station	1460		P Street	Pete's Richfield Service
B	1961	205	Gas Station	1606	North	Fresno	Puzant's Richfield
B	1961	205	Gas Station	2135		Inyo	R & L Richfield Service
B	1961	205	Gas Station	1033		Fresno	Ray's Garage
B	1961	205	Gas Station	1808		Broadway	Regal Petroleum Corp.
B	1961	205	Gas Station	1101		Fresno	Regal Petroleum Corp.
B	1961	205	Gas Station	1659		Broadway	Reno's Signal Service
B	1961	205	Gas Station	340		Fresno	Tom Rotella Service
B	1961	206	Gas Station	603		Van Ness	Llyod Shahan Chevron Service
B	1961	206	Gas Station	2545		Ventura	Lee Silcox Norwalk Service
B	1961	206	Gas Station	1506		Van Ness	Smythe's Chevron Station
B	1961	206	Gas Station	1058		Broadway	Stiers Shell Service
B	1961	206	Gas Station	705		G Street	Sunland Service
B	1961	206	Gas Station	2548		Tulare	Sunland Service Station
B	1961	206	Gas Station	603		Broadway	Vic's Flying A Service
B	1961	206	Gas Station	142		Broadway	Weaver's Service
B	1961	207	Gas Station	1504		Broadway	Wilson Bros. Chevron Service
B	1961	207	Gas Station	514		Broadway	Woods Chevron Service
B	1961	207	Gas Station	2445		Tulare	Wood's Service
B	1961	207	Gas Station	2145		Kern	Young's Sunland Service
B	1971	226	Vehicle Repair/Service	205	North	H Street	Ralph Anderson Brake & Wheel Service

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B	1971	226	Vehicle Repair/Service	2005		Broadway	Automotive Engineering
B	1971	226	Vehicle Repair/Service	1014		R Street	Automotive Service
B	1971	226	Vehicle Repair/Service	2535		Ventura	Brownie Muffler Service
B	1971	226	Vehicle Repair/Service	760		F Street	California Garage
B	1971	226	Vehicle Repair/Service	1427		Broadway	Chittum's Brake & Wheel Service
B	1971	227	Vehicle Repair/Service	665		Fulton	Benamore Engine Re-Nu Supply
B	1971	227	Vehicle Repair/Service	1821		Calaveras	Bud Eberwein Brake & Wheel Service
B	1971	227	Vehicle Repair/Service	1740		Van Ness	Electric Laboratories Inc.
B	1971	227	Vehicle Repair/Service	137	North	Fresno	Fleet Auto Repair
B	1971	227	Vehicle Repair/Service	436	North	H Street	Fresno Auto Body Shop
B	1971	227	Vehicle Repair/Service	455		Broadway	Fresno Crankshaft Service
B	1971	227	Vehicle Repair/Service	1449		Broadway	Gibbs Automotive
B	1971	227	Vehicle Repair/Service	2149		Ventura	Halwood's Automotive Garage
B	1971	227	Vehicle Repair/Service	645		P Street	John's Auto Repair
B	1971	227	Vehicle Repair/Service	1427		Broadway	Johnnie's Speedometer Service
B	1971	228	Vehicle Repair/Service	1445		Broadway	Lee's Transmission Center
B	1971	228	Vehicle Repair/Service	727		Fulton	Leo's Garage
B	1971	228	Vehicle Repair/Service	1060		E Street	Mac's Garage
B	1971	228	Vehicle Repair/Service	1871		Broadway	Manley Hughes Garage
B	1971	228	Vehicle Repair/Service	1128	North	Broadway	McKelvy Auto Repair Shop
B	1971	228	Vehicle Repair/Service	704		G Street	Motor Rim & Wheel Service
B	1971	228	Vehicle Repair/Service	1515		Inyo	Nisei Auto Service
B	1971	228	Vehicle Repair/Service	1515		Merced	O'Brien's Brake Service
B	1971	229	Vehicle Repair/Service	2240		Tuolumne	Pay Less Auto Repair
B	1971	229	Vehicle Repair/Service	716		Broadway	Pep Boy's Auto Service Center
B	1971	229	Vehicle Repair/Service	1433		Broadway	Gus Stuckert Service Garage
B	1971	229	Vehicle Repair/Service	2548		Tulare	T & J Auto Service
B	1971	229	Vehicle Repair/Service	460		Fulton	John Torik Automotive Service
B	1971	229	Vehicle Repair/Service	304	North	First	United Automotive Works
B	1971	229	Vehicle Repair/Service	832	North	First	Virgil's Garage
B	1971	229	Vehicle Repair/Service	2504		Kern	Wink's Garage
B	1971	231	Clothes Cleaners/Laundry	2918		Tulare	Club Laundry & Cleaners Inc.

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	1971	231	Clothes Cleaners/Laundry	1863		Van Ness	Ila B Cleaners
B	1971	232	Clothes Cleaners/Laundry	2123		Inyo	Kay's Cleaners & Laundry
B	1971	232	Clothes Cleaners/Laundry	803		G Street	Lamoure's Cleaners & Laundry
B	1971	232	Clothes Cleaners/Laundry	738		Van Ness	Paul's Cleaners
B	1971	232	Clothes Cleaners/Laundry	935		E Street	Service Cleaners
B	1971	232	Clothes Cleaners/Laundry	907		Van Ness	Simon & Son Cleaners
B	1971	232	Clothes Cleaners/Laundry	2428		Tulare	State Cleaners
B	1971	233	Clothes Cleaners/Laundry	2514		Tulare	Tulare Cleaners
B	1971	234	Gas Station	559		Broadway	Ace Service Station
B	1971	234	Gas Station	1454		G Street	Bedroaian Truck Service
B	1971	234	Gas Station	844		Broadway	Beck Chevron Station
B	1971	234	Gas Station	901		M Street	Bernie's Chevron Service
B	1971	235	Gas Station	2211		Merced	Buck's Service Station
B	1971	236	Gas Station	655		G Street	Hancock's Service
B	1971	236	Gas Station	2405		Tulare	Civic Center Union Service
B	1971	236	Gas Station	804		F Street	Diaz Sunland Service
B	1971	236	Gas Station	3109	East	Shields	Nick Di Liddo Shell Service
B	1971	236	Gas Station	2110		Ventura	Ed & Don's Shell Service
B	1971	236	Gas Station	2148		Kern	Fennell's Sunland Service
B	1971	236	Gas Station	1060		E Street	Frank's Hancock Service
B	1971	237	Gas Station	1350		Fresno	Loui Gennuso's Gulf Service
B	1971	237	Gas Station	2125		Ventura	Halwood Phillips 66 Service
B	1971	237	Gas Station	2528		Tuolumne	Harold & John Chevron Station
B	1971	237	Gas Station	1410		Ventura	Harry's Mohawk Service
B	1971	237	Gas Station	715		Broadway	Hedy's Broadway Service
B	1971	238	Gas Station	406	North	H Street	Joe Phillips 66 Service
B	1971	238	Gas Station	615		E Street	Larry's Douglas Service
B	1971	239	Gas Station	1212		Fresno	Melfe's Big Four Shell Service
B	1971	239	Gas Station	2111		Ventura	Joe Perecchi Mobil Service
B	1971	240	Gas Station	603		Van Ness	Shahan Chevron Station
B	1971	240	Gas Station	1506		Van Ness	Stan's Chevron
B	1971	241	Gas Station	1211		Stanislaus	Texaco Service Station

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	1971	241	Gas Station	603		G Street	Trini's Beacon Service
B	1971	241	Gas Station	2121		H Street	Wendell's Union Service
B	1971	241	Gas Station	1504		Broadway	Wilson Bros Chevron Service
B	1971	241	Gas Station	2445		Tulare	Woody's Service
B	1981	267	Vehicle Repair/Service	3420	East	Belmont	B & K Auto Center
B	1981	268	Vehicle Repair/Service	2535		Ventura	Brownie Muffler Service
B	1981	268	Vehicle Repair/Service	730		F Street	California Garage
B	1981	268	Vehicle Repair/Service	1452		H Street	California Motor Exchange
B	1981	269	Vehicle Repair/Service	665		Fulton	Denamore Engine Re-Nu & Supply
B	1981	269	Vehicle Repair/Service	1821		Calaveras	Eberwein Bud Brakes & Wheel Service
B	1981	269	Vehicle Repair/Service	2016		H Street	Eberwein Bud Spring Service
B	1981	269	Vehicle Repair/Service	1740		Van Ness	Electric Laboratories
B	1981	269	Vehicle Repair/Service	455		Broadway	Fresno Crankshaft Store
B	1981	269	Vehicle Repair/Service	2115		H Street	Fresno Muffler Service
B	1981	270	Vehicle Repair/Service	2149		Ventura	Halwood's Automotive Service
B	1981	271	Vehicle Repair/Service	1427		Broadway	Johnnie's Speedometer Service
B	1981	271	Vehicle Repair/Service	1202	North	Van Ness	King Muffler Service
B	1981	271	Vehicle Repair/Service	3135	East	Tulare	Kleim Automotive
B	1981	271	Vehicle Repair/Service	1724		Broadway	Larry's Automotive Service
B	1981	272	Vehicle Repair/Service	1515		Inyo	Nieel Auto Service
B	1981	272	Vehicle Repair/Service	1515		Merced	O'Brien's Brake Service Inc.
B	1981	272	Vehicle Repair/Service	727		Fulton	Parking Lot
B	1981	272	Vehicle Repair/Service	1659		Broadway	Patrick's Garage
B	1981	272	Vehicle Repair/Service	2246		Tuolumne	Patterson Tire & Auto Center
B	1981	272	Vehicle Repair/Service	1525		O Street	Puertas Auto Service
B	1981	273	Vehicle Repair/Service	1427		Broadway	Stan's Brake & Wheel Service
B	1981	273	Vehicle Repair/Service	3060	East	Tulare	Subway Auto Center
B	1981	273	Vehicle Repair/Service	460		Fulton	John Torik Automotive Service
B	1981	273	Vehicle Repair/Service	1433		Broadway	Total Automotive & Truck Service
B	1981	274	Vehicle Repair/Service	2528		Tuolumne	Tune - Up Masters Motor Tune - Ups
B	1981	274	Vehicle Repair/Service	304	North	N Street	United Automotive Works
B	1981	277	Clothes Cleaners/Laundry	2123		Inyo	Kay's Cleaners & Laundry

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	1981	277	Clothes Cleaners/Laundry	803		G Street	Lamoure's Cleaners & Laundry
B	1981	278	Clothes Cleaners/Laundry	738		Van Ness	Paul's Cleaners & Hatters
B	1981	278	Clothes Cleaners/Laundry	935		E Street	Service Cleaners
B	1981	278	Clothes Cleaners/Laundry	907		Van Ness	Simon & Son Cleaners
B	1981	279	Gas Station	1454		G Street	Bedrosian Truck Service
B	1981	280	Gas Station	804		F Street	Diaz Arco Service
B	1981	281	Gas Station	603		Broadway	Excel Self Service
B	1981	281	Gas Station	1350		Fresno	Louie Gennuso's Triangle Service
B	1981	281	Gas Station	2125		Ventura	Halwood Phillips 66 Service
B	1981	281	Gas Station	2110		Ventura	Hedy's Shell Service
B	1981	282	Gas Station	1413		Kern	Kurata Union 76 Service Station
B	1981	282	Gas Station	1921		Fulton	Lloyd's Fresno Service
B	1981	282	Gas Station	1212		Fresno	Melfe's Big Four Shell Service
B	1981	283	Gas Station	2240		Tuolumne	Joe E Patterson Co
B	1981	283	Gas Station	2246		Tuolumne	Patterson Shell Service
B	1981	283	Gas Station	2111		Ventura	Joe Peracchi Mobil Service
B	1981	283	Gas Station	2210		Kern	Ruben's Service Station
B	1981	283	Gas Station	1506		Van Ness	Stan's Chevron
B	1981	284	Gas Station	603		G Street	Trini's Beacon Service Station
B	1981	284	Gas Station	2121		H Street	Wendell's Union Service
B	1981	285	Mortuary	1762		Van Ness	Colonial Funeral Home
B	1981	285	Mortuary	1605		L Street	Lisle Funeral Home
B	1981	285	Mortuary	2983		Tulare	Palm Funeral Service
B	1981	285	Mortuary	1002		T Street	Yost & Webb Funeral Home
B	1981	286	Clothes Cleaners/Laundry	664		F Street	Sunrise Laundry
B	1991	332	Mortuary	1605		L Street	Lisle Funeral Home
B	1991	333	Mortuary	1002		T Street	Yost & Webb Funeral Home
B	1991	325	Gas Station	1454		G Street	Bedrosian Truck Service Inc
B	1991	327	Gas Station	1506		Van Ness	Downtown Chevron
B	1991	327	Gas Station	1060		E Street	Frank's Exxon Service
B	1991	327	Gas Station	1350		Fresno	Louie Gennuso's Service
B	1991	327	Gas Station	603		Broadway	George's Auto Care & Smog Center

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	1991	327	Gas Station	2149		Ventura	Halwood Service
B	1991	328	Gas Station	2125		Ventura	Halwood Union Service
B	1991	330	Gas Station	1212		Fresno	Shell Service
B	1991	330	Gas Station	603		G Street	Trini's Beacon Service Station No. 460
B	1991	331	Gas Station	2121		H Street	Wendell's Union Service
B	1991	323	Clothes Cleaners/Laundry	16b	North	Yosemite	Clark's Auto Laundry
B	1991	338	Clothes Cleaners/Laundry	907		Van Ness	Simon & Son Cleaners
B	1991	341	Clothes Cleaners/Laundry	1304		G Street	Lamoure's Cleaners & Laundry
B	1991	343	Vehicle Repair/Service	149		Fulton	American Alternator & Starter
B	1991	343	Vehicle Repair/Service	251		Broadway	Auto Machine Specialty
B	1991	344	Vehicle Repair/Service	1427		Broadway	Bill's Foreign Auto Repair
B	1991	345	Vehicle Repair/Service	115		Van Ness	Bob's Cylinder Head Service
B	1991	346	Vehicle Repair/Service	1559		Broadway	Bud Eberwin Brake & Wheel Alignment
B	1991	347	Vehicle Repair/Service	1940		H Street	D & L Low Cost Auto Repair
B	1991	348	Vehicle Repair/Service	514		E Street	Dias Auto Repair
B	1991	348	Vehicle Repair/Service	1724		Broadway	Joe Dishian Garage
B	1991	349	Vehicle Repair/Service	1559		Broadway	Bud Eberwein Brake & Wheel Alignment
B	1991	349	Vehicle Repair/Service	2016		H Street	Neil Eberwein Spring Service
B	1991	349	Vehicle Repair/Service	1740		Van Ness	Electric Laboratories Inc
B	1991	350	Vehicle Repair/Service	250		Van Ness	Fresno Auto Detail
B	1991	350	Vehicle Repair/Service	455		Broadway	Fresno Crankshaft Service
B	1991	350	Vehicle Repair/Service	2115		H Street	Fresno Muffler Service
B	1991	351	Vehicle Repair/Service	2149		Ventura	Halwood's Automotive Service
B	1991	352	Vehicle Repair/Service	844		Broadway	Hind Auto Repair
B	1991	353	Vehicle Repair/Service	1427		Broadway	Johnnie's Speedometer Service
B	1991	353	Vehicle Repair/Service	1413		Kern	Kurata Service
B	1991	355	Vehicle Repair/Service	1515		Inyo	Niesi Auto Service
B	1991	355	Vehicle Repair/Service	1515		Merced	O'Brien's Brake Service Inc
B	1991	356	Vehicle Repair/Service	417		Broadway	Parker's Auto Repair
B	1991	356	Vehicle Repair/Service	1659		Broadway	Patrick's Garage
B	1991	356	Vehicle Repair/Service	1525		O Street	Puertas Auto Service
B	1991	356	Vehicle Repair/Service	149		Fulton	R & B Distributing

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	1991	358	Vehicle Repair/Service	251		Broadway	Service Transmission Works
B	1991	358	Vehicle Repair/Service	1760		Broadway	Sierra Vista Auto Repair
B	1991	360	Vehicle Repair/Service	1801		Sacramento	Transmissions Unlimited Free Estimates
B	1991	361	Vehicle Repair/Service	2528		Tuolumne	Tuneup Masters
B	1991	361	Vehicle Repair/Service	2149		Ventura	Ty Boy Towing
B	2001	515	Vehicle Repair/Service	1935		Broadway	A & Bs Payless Transmissions
B	2001	516	Vehicle Repair/Service	202		Fulton	Arcane Automotive
B	2001	518	Vehicle Repair/Service	1559		Broadway	Bud Eberwein Automotive
B	2001	521	Vehicle Repair/Service	901		M Street	D & R Automotive Service Center
B	2001	523	Vehicle Repair/Service	760		Fulton	Downtown Auto Care
B	2001	523	Vehicle Repair/Service	1821		Calaveras	Eberwein Spring Service
B	2001	523	Vehicle Repair/Service	804		F Street	Felix Auto Mechanic & Towing
B	2001	524	Vehicle Repair/Service	340	North	H Street	Ed's Radiator Service Inc
B	2001	524	Vehicle Repair/Service	455		Broadway	Fresno Crankshaft Service
B	2001	524	Vehicle Repair/Service	2305		Stanislaus	Fresno Motor Exchange
B	2001	524	Vehicle Repair/Service	411		Broadway	Fresno Radiator Works
B	2001	524	Vehicle Repair/Service	615		Fulton	Fulton Auto Repair
B	2001	525	Vehicle Repair/Service	2345		Stanislaus	Subway Pro Auto
B	2001	527	Vehicle Repair/Service	2222		Ventura	Jaguar Parts & Service
B	2001	528	Vehicle Repair/Service	1413		Kern	Kim Auto Repair
B	2001	529	Vehicle Repair/Service	1060		E Street	Kurata Union Service
B	2001	530	Vehicle Repair/Service			F Street & Inyo	Niesl Auto Service
B	2001	530	Vehicle Repair/Service	716		Broadway	Pep Boys Automotive Supercenters
B	2001	530	Vehicle Repair/Service	1525		O Street	Puertas Auto Service
B	2001	532	Vehicle Repair/Service	251		Broadway	Service Transmission Works
B	2001	532	Vehicle Repair/Service	2345		Stanislaus	Subway Pro Auto
B	2001	532	Vehicle Repair/Service	627		Broadway	Thomas Radiator Works
B	2001	533	Vehicle Repair/Service	4051	East	Ventura	Radiator
B	2001	538	Clothes Cleaners/Laundry	223		Fulton	Commercial Cleaning Restoration
B	2001	539	Clothes Cleaners/Laundry	1304		G Street	Lamoure's Cleaners
B	2001	541	Mortuary	1010		T Street	Abbey Funeral Cremation Service
B	2001	541	Mortuary	465	North	Broadway	Affordable Cremation Service

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	2001	543	Mortuary	1022		B Street	Funeraria La Paz
B	2001	543	Mortuary	1605		L Street	Lisle Funeral Home
B	2001	543	Mortuary	475	North	Broadway	Tinkler Funeral Chapel & Crematory
B	2001	548	Gas Station	603		G Street	Beacon Service Station No. 460
B	2001	549	Gas Station	1454		G Street	Bedrosian Truck Service
B	2001	549	Gas Station	1212		Fresno	Shell Food Mart
B	2011	610	Vehicle Repair/Service	2320		Stanislaus	A - 1 Auto Electric
B	2011	612	Vehicle Repair/Service	2149		Ventura	AGM Auto Care
B	2011	612	Vehicle Repair/Service	2212	South	G Street	A & L Complete Auto Repair
B	2011	618	Vehicle Repair/Service	4141	East	Belmont	Brooks Top Notch Auto Repair
B	2011	618	Vehicle Repair/Service	1559		Broadway	Bud Eberwein Automotive
B	2011	621	Vehicle Repair/Service	901		M Street	D & R Automotive Center
B	2011	621	Vehicle Repair/Service	514		E Street	Diaz Transmission
B	2011	624	Vehicle Repair/Service	760		Fulton	Downtown Auto Care
B	2011	624	Vehicle Repair/Service	103	North	Broadway	Fresno Auto Service
B	2011	629	Vehicle Repair/Service	1413		Kern	Kim Auto Repair
B	2011	629	Vehicle Repair/Service	606		Divisadero	Kurata's Automotive
B	2011	631	Vehicle Repair/Service	616		Broadway	Master Radiator Works
B	2011	632	Vehicle Repair/Service	1516		H Street	Melero's Auto Repair
B	2011	632	Vehicle Repair/Service	565		Broadway	Ortiz Auto Repair
B	2011	632	Vehicle Repair/Service	251		Broadway	Parker's Auto Repair
B	2011	633	Vehicle Repair/Service	2345		Stanislaus	Pro Auto
B	2011	634	Vehicle Repair/Service			F & Inyo	Nisei Auto Service
B	2011	634	Vehicle Repair/Service	1525		O Street	Puertas Auto Service
B	2011	635	Vehicle Repair/Service	1501		Fulton	Ricks Tire & Service
B	2011	652	Photographic	764		P Street	Designers Image
B	2011	644	Mortuary	1010		T Street	Abbey Funeraria
B	2011	644	Mortuary	1605		L Street	Boice Funeral Home
B	2011	644	Mortuary	475	North	Broadway	Boice Funeral Home
B	2011	645	Mortuary	1319		Mariposa	Edward A Cooper Cremation Society
B	2011	647	Mortuary	1605		L Street	Lisle Funeral Home
B	2011	647	Mortuary	2983		Tulare	Palm Memorial

Plan Area	Year	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name
B	2011	648	Mortuary	1103		E Street	Reade & Sons Funeral Home
B	2011	648	Mortuary	1103		E Street	Sterling & Smith Funeral Directors Inc.
B	2011	649	Mortuary	475	North	Broadway	Tinkler Funeral Chapel & Crematory
B	2011	650	Mortuary	916	East	Divisadero	Wildrose Chapel & Funeral Home
B	2011	650	Mortuary	102		T Street	Yost & Webb Funeral Home
B	2011	654	Gas Station	603		G Street	Beacon Service Station No. 460
B	2011	654	Gas Station	1454		G Street	Bedrosian Truck Service Inc
B	2011	642	Clothes Cleaners/Laundry	223		Fulton	Janz Dry cleaning
B	2011	642	Clothes Cleaners/Laundry	1304		G Street	Lamoure's Cleaners & Laundry

Appendix B

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1885		1		71		Fresno Street	Winchell Bros.	Feed Stable and Wood Yard
B	1885		1	Planning Mill	75		K Street	F. Bana Eureka	Planning Mill (Steam Boiler)
B	1885		1		73		K Street	J. Williams Black Smith and Wagon Shop	
B	1885		1		2		N Street	M.J. Church Champion Mills	Grainery, Adjacent "Canal" Steam Boiler and "Elevated Tanks". "Run by water tower, sometimes steam."
B	1885		2	Print Shop	7		Fresno Street	Blacksmith Print Shop	Print Shop
B	1885		2	Boilers	34		Fresno Street		Pump station with 38,000 gallon Water Tanks and Steam Boiler
B	1885		3	Boilers	36		Mariposa Street		Machine Shop and Planning Mill with boiler and elevator with tank.
B	1885		3	Boilers	77		J Street		Flour mill with steam boiler
B	1885		3	Paint/Oil Storage	77		I Street		Paint Shop
B	1885		3	Boilers	27		H Street	Ogle Hotel	Steam Boiler at Alley
B	1885		3	Printing	3		J Street	Fresno Republican	Printing
B	1885		3	Printing	5		J Street	Fresno Expositor	Printing
B	1885		4	Boilers	1		H Street	Fresno Planing and Box Factory	With steam boiler
B	1885		4	Boilers			F street	Ice Works	With steam boiler
B	1885		4	Boilers			H Street	Kutner and Goldstein, Grain Warehouse, and M.J. Donahoo's Lumber Yard	Coal Bunker, Tank House and Boiler House Adj to SPRR Tracks
B	1885		4	Boilers	20		Mono Street	Fresno Fruit Packing Co.	With steam boiler
B	1885		4	Boilers	72		Mono	Leach & Frolich and Co.	Registered Distillery and Winery. Steam boiler
B	1885		4	Boilers			Tulare	Fresno Agricultural works, Blacksmith and Wagon Shop	Small Steam Boiler

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1885		5	Utility/Industrial	39		Mariposa	Fresno Gas Light Co	Coal Shed and Gas Holder. Possible Tank. (China Town)
B	1885 a	July	1		2		N Street	M.J. Church Champion	Flour Mills. Additional stove in office in winter, brick chimney, no watchmen lights Kerosene, oil in other lighting
B	1885 a	July	4	Boilers	20		Mono Street	Fresno Fruit Packing Co.	Cooking by steam, Soldering Pots. Seem well secured and flues enter brick chimney. Small amount of hose in cooking room.
B	1885 a	July	5	Clothes Cleaners/Laundry	28		Tulare Street		Laundry (China Town)
B	1888	May	2	Paint/Oil Storage	35		Fresno Street		Painting
B	1888	May	3	Boilers	37		Mariposa	Fresno Water Works	With Steam Boiler
B	1888	May	4	Boilers	18		I Street	Dexter Mfg.	Wagon and carriage manufacturing. With Steam Boiler
B	1888	May	4		17		I Street		Blacksmith and Machine Shop
B	1888	May	4	Boilers			H Street	Madary's Planing Mill	Bench work and glaze Rec, Sash, door Blinds and box Factory. Fuel: Shavings with Steam boiler.
B	1888	May	4	Boilers	17		H Street	Saffell Bros Eureka	Planing mill. Bench Work, Shaving - Fuel with Steam Boiler
B	1888	May	4	Boilers	33		Kern	Ice House Bottling	With Steam Boiler
B	1888	May	5	Boilers	33		Tulare	J. Porteous Fresno Agricultural Works	Machine Shop, foundry, cure oven, wood working , Carriage Paint Shop, blacksmith and Wagon shop with Steam Boiler
B	1888	May	10	Boilers	1		O Street	Fresno Water Works	With Steam Boiler
B	1888	May	10	Boilers	33		Fresno	Fresno Milling Co's Flour Mill	With Steam Boiler
B	1888	May	14	Boilers	1		G Street	Fresno Raisin and Fruit Packing Co.	Geo. Wth Meade and Co with Steam Boiler
B	1888	May	15	Boilers	13		F Street	Fresno Ice Works	With Steam Boiler
B	1888	May	15	Boilers	6		F Street	Fresno Soap Works	With Steam Boiler and Furnace
B	1888	May	16	Clothes Cleaners/Laundry	8		G Street		Laundry (China Town)

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1888	May	16	Clothes Cleaners/Laundry	15		G Street		Laundry (China Town)
B	1888	May	17	Boilers		North	Mariposa		Steam Boiler with 50, 000 gallon Tank
B	1888	May	17	Industrial/Utility			F street	Fresno Gas and Electric Works	With Gas Holder (Possible tank)
B	1888	May	17	Industrial/Utility	33		Mariposa		Gas Works with coal house, Electric Works with Coal Burner and Steam Boiler and Gas holder (China Town)
B	1888	May	17	Clothes Cleaners/Laundry	2		G Street		Chinese Laundry
B	1898		3	Boilers			Tuolumne	Fresno Gas and Electric Light Company	With two Steam Boilers; dynamos
B	1898		3	Boilers	28		I Street	Fresno Athletic Club	With Steam Boiler, Lights: Electric, Water Pumped from well
B	1898		4	Boilers	1728		Tulare	Hughes Hotel	With Steam Boiler
B	1898		4	Boilers			H Street	Magary's Planing Mill	With Steam Boiler
B	1898		4	Clothes Cleaners/Laundry	10		I Street		Chinese Laundry
B	1898		4	Boilers	33		Kern		Beer Bottling with Steam Boiler
B	1898		4	Boilers	17		I Street	Fresno Planing Mill and Furniture Factory	With Steam Boiler
B	1898		5	Printing	32		H Street		Printing
B	1898		5	Paint/Oil Storage	1035		I Street		Paints and Oils, Hardware and Stoves
B	1898		5	Boilers			Mariposa Street	Grand Central Hotel	Laundry with steam boiler, Power system - Wood
B	1898		7	Paint/Oil Storage	748		J Street		Carriage Painting
B	1898		7	Boilers	9		I Street	Fresno Machine and Boiler Works	
B	1898		7		707		I Street	Richter's Soda Works	Soda works and beer bottling
B	1898		7	Paint/Oil Storage	26		H Street	J. O'Neill and Co.	Carriage Painting

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1898		7	Boilers	17		I Street	White Star Steam Laundry	With Steam Boiler, Wood, Irons Heated on Stove
B	1898		12	Boilers			San Joaquin	SPRR Round House	With Horizontal Steam Boiler, machine shop
B	1898		14	Boilers			Merced Street	Eagle Packing and Storage Co.	Raisin and Dried fruits, with horizontal Steam Boiler
B	1898		15	Paint/Oil Storage			Mariposa Street	C.S. Pierce Lumber Yard	Battery and Oil rooms
B	1898		15	Boilers			SPPR	Forsyth Seeded Raisin Co.	Drying, Seeding and Packing house, with two horizontal Steam Boilers. Power Steam and Electric Fuel Refuse, and wood, Lights: Electric. (Also W.L. Colling coal and wood yard)
B	1898		15	Boilers/Utility/Industrial			Mariposa & F street	Fresno Gas and Electric Light Co. Gas Works	Low process water gas with two gas holder, 2 horizontal steam boilers, coal shed
B	1898		16	Boilers			Tulare	Phoenix Packing & Seeding Co.	Wood and coal Powered steam boilers
B	1898		17	Boilers			Ventura	Chaddock & Co Home Packing Co	Raisins and Dried fruit, steam Boiler Fuel Stems
B	1898		17	Boilers			Mono	Hobbs - Parsons Co. Packing House	Raisins and dried fruit, steam Boiler Fuel Stems
B	1898		18	Boilers			Ventura	Castle Bros. - Packers or Raisins and Dried Fruit	Steam Boiler Fuel Stems
B	1898		18	Boilers			San Benito	Fresno Home Packing Co.	Packer and Shippers of Raisins and dried fruit, Steam boiler
B	1898		18	Boilers			Santa Clara	Griffin and Skelly Co.	Raisin and Dried fruits, with Steam Boiler, Fuel Coal and Stems
B	1898		18	Boilers			Santa Clara	J.B. Inderrieden Co.	Dried Fruit and Raisin Packers, Steam Boilers, Fuel Wood
B	1898		18	Boilers			Santa Clara	A.F. Tenney Canning Co.	Fruit Canning raisin packing and distillery. Steam Boiler Fuel coal and wood. Solderling pots heated by coal oil
B	1898		26	Boilers	899		F Street	Fresno Soap Works	Steam Boiler, Fuel Wood

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1898		32				Tulare	Fresno County Court House	Steam Boiler, Wood House
B	1898		33	Boilers			Tulare	J. Porteous - Fresno Agricultural Works	Steam Boiler Power and Lights: Electric
B	1898		39	Boilers			Fresno Street	Fresno Water Works	Power from S.J. Electric Co. Location of Fresno Water Tower Steam Boilers
B	1898		39	Boilers			Fresno Street	Sperry Flour Co	Steam Boilers (Boilers not used) Power from S.J Electric Co
B	1898		42				Santa Clara Street	San Joaquin Ice Co.	Power and Lights Electricity
B	1898		43	Boilers			Grant Ave.	Danish Creamery	Steam Boiler Fuel Coal - Light coal oil
B	1898		43	Boilers			L Street	Producers Raisin Packing co.	Steam Boiler
B	1906		13				Mariposa Street	Fresno Gas & Electric Light Co's Gas Works	Low process water gas with two gas holders, three horizontal steam boilers, coal shed, Large Gas Holder
B	1906		21	Petroleum Storage/UST			G Street		SPRR oil Tank Capacity 15,000 Barrels. With Adjacent pump
B	1906		25	Boiler			Mariposa Street	Hobbs - Parsons Co	Pacific Coast Seeded Raisin Co. Lessee Warehouse Steam Boiler Fuel Stems
B	1906		25	Petroleum Storage/UST			Mariposa Street		Fuel: Refuse and Crude Oil. Oil tank underground
B	1906		24	Boiler			G Street	Monarch Fruit Co.	Fruit packing house. Steam Boilers
B	1906		22	Petroleum Storage/UST			San Joaquin	SPRR	Crude oil tanks, 10 Feet Above Grade
B	1906		25	Paint/Oil Storage			Mariposa		Battery and oil Room
B	1906		26	Boilers			Kern		Beer Bottling Facility with Steam Boiler
B	1906		26	Boilers/Petroleum Storage/UST			G Street	Pacific Coast Seeded Raisin Co's. Plant No. 6	Four Steam boilers Fuel: Oil and refuse
B	1906		27	Boilers/Petroleum Storage/UST			Mono	Jacob Richter's Beer bottling and Soda works	Steam Boiler. Oil Tank underground
B	1906		27	Boilers/Petroleum Storage/UST	740		H Street	Fresno Steam Laundry Co.	Laundry. Steam Boilers. Oil tank underground near alley

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1906		27	Boiler			Ventura	Charodock and Co.	Raisins and dried fruits. Steam boiler. Fuel Stems
B	1906		27	Boilers/Petroleum Storage/UST			Mono	A.H. Hobb Co. Packing House	Raisins and dried fruit. Fuel: Oil. Steam Boiler. Oil Tank in Ground. Fuel tank in ground.
B	1906		27	Boilers		NWC	Ventura & G Street	J.F. Burleigh's Grain Warehouse	Steam Boiler
B	1906		28	Boilers/Petroleum Storage/UST			Ventura	Castle Bros. - Packers	Raisins and dried fruit. Steam Boiler. Fuel: Oil and steam
B	1906		28	Boilers/Petroleum Storage/UST			Santa Clara	California Fruit Canners Association	Fresno branch cannery No. 16. Steam Boilers. Fuel: Oil. Oil Tank in ground
B	1906		28	Boilers			San Benito	Fresno Home Packing Co.	Packers and shippers of Raisins and dried fruit. Steam Boiler
B	1906		28	Boilers			Santa Clara	Griffin & Shelley Co.	Raisin and dried fruit packing and fresh fruit canning. Steam Boilers. Fuel: Oil and Refuse. Steam pipes covered with asbestos. Solder pots heated by gas
B	1906		28	Boilers/Petroleum Storage/UST			Santa Clara	Roeding Fig Packing Co.	Steam boiler. Fuel: Oil and Refuse
B	1906		39	Boilers/Petroleum Storage/UST			I Street	Fresno Public Library	Steam Boiler: Fuel Oil
B	1906		40	Boilers/Clothes Cleaners/Laundry/Petroleum Storage/UST			Merced	Kohler's Steam Laundry	Steam Boiler. Fuel: Possible Oil
B	1906		43	Boilers/Petroleum Storage/UST			Tulare	Hughes Steam Laundry	Two Steam Boilers Oil Tank Underground. (Irons heated by gas)
B	1906		44	Boilers/Petroleum Storage/UST			Tulare	Sequoia Hotel	Steam Boiler. Oil Tank underground at alley
B	1906		44	Petroleum Storage/UST			Inyo		Blacksmith wagon shop. Gasoline engine. Gasoline engine pump
B	1906		45	Boilers	626		I Street	Turkish Baths	Steam boiler. (Also Chinese laundry)
B	1906		46				Santa Clara		Public School. Hot air furnace in basement
B	1906		59				Stanislaus	Fresno High School	Heat: Furnace

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1906		60				Kern and U Street	French Laundry	Chinese laundries used hot water to keep costs down as opposed to mainstream laundries of the time which used steam at greater cost and complexity. Fuel sources varied and specifically unknown.
B	1906		62	Petroleum Storage/UST			Merced & N Street	Hawthorne Public School	Heat: Hot Air; Fuel: Oil. (Actually Washington Grammar School)
B	1906		62				Fresno Street	St. James Episcopal Church	Heat: Furnace
B	1906		62				Fresno Street	St. Paul ME Church	Hot air furnace
B	1906		62				Merced Street	Presbyterian Church	Heat: Furnace. ERA Furnaces could burn wood, coal, refuse and oil
B	1906		62				Merced Street	First Baptist Church	Heat Furnace
B	1906		62				Tuolumne	First M.E. Church	Hot air Heaters
B	1906		63	Boilers/Petroleum Storage/UST			Fresno Street	Fresno Water Co.	Steam Boilers.
B	1906		63	Boilers/Petroleum Storage/UST			Fresno Street	Sub-Station, San Joaquin Electric Company	Four Steam Boilers. Gas Tank underground (on sidewalk)
B	1906		63	Boilers			Fresno Street	Sperry Flour Co.	Steam Boilers.
B	1906		63	Boilers			Fresno Street	Fresno County Court House	Steam Boiler
B	1906		64				Tulare Street	Cumberland Presbyterian Church	Heat: Furnace
B	1906		64	Petroleum Storage/UST			Tulare Street	J. Porteous - Fresno Agricultural Work	200 Gal Oil Tank underground. Gasoline engine
B	1906		74				Mariposa Street	Seventh Day Adventist Church	Hot air heater
B	1906		76	Boilers/Petroleum Storage/UST			R Street	J.B. Inderienden Company	Crude oil tank underground. Steam boilers
B	1906		76	Boilers/Petroleum Storage/UST			Santa Fe	Fresno Consumers Ice Co.	Steam boilers. Fuel: Oil. Oil tank underground
B	1906		76	Boilers			Mono	T.J. Hammond Fig Packing House	Steam Boiler

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1906		76	Petroleum Storage/UST			Ventura	Co-Operative Packers Association	Raisin seeding plant. Fuel: Oil and Refuse
B	1906		76	Petroleum Storage/UST			Mono	Anderson and Estes Grain Warehouse	Oil tank underground
B	1906		77	Boilers/Petroleum Storage/UST			Santa Fe	Serpoian Bros. Packing House	Fuel: Oil. Oil Tank underground. Two Steam boilers
B	1906		77	Boilers/Petroleum Storage/UST			Santa Fe	Guggenhime & Co. Packing House	Fuel: Oil. Oil Tanks Underground. Steam Boiler
B	1906		77	Boilers/Petroleum Storage/UST			Santa Fe	San Joaquin Ice Company	Steam boiler. Fuel: Oil Tank Underground
B	1906		78	Boilers			Santa Fe	Stewart Fruit Co.	Fruit packing. Steam boiler (not used)
B	1918	1	1	Boilers/Clothes Cleaners/Laundry/Petroleum/UST			Sacramento	New York Cleaning and Dye Works	Steam Boiler. Fuel: Oil. Dry Cleaning
B	1918	1	2	Vehicle Repair/Service	1919		Calaveras Street	Chevrolet Auto Co.	Auto Repairing
B	1918	1	2	Boilers	1820		San Joaquin	Machine Shop	Vertical steam boiler
B	1918	1	3	Petroleum Storage/UST	1516		H Street	The Logan Auto Co	Auto Storage and Painting. 200 gal gasoline tank underground
B	1918	1	3	Boilers	1420		H Street	Benham Ice Cream Co.	Ice cream facility. Horizontal steam boiler
B	1918	1	3	Mortuary	1891		Tuolumne		Undertaker
B	1918	1	3	Petroleum Storage/UST	1506		I Street		Gas and oil storage
B	1918	1	3	Petroleum Storage/UST	1464		I Street	Griffen - Wolf Agency Garage	280 Gallon gasoline tank underground
B	1918	1	3	Petroleum Storage/UST	1416		I Street	Reliable Garage	200 gallon gasoline tank underground
B	1918	1	4	Petroleum Storage/UST	1510		J Street		Four Gasoline tanks and underground (225- 285 gal)
B	1918	1	4	Petroleum Storage/UST	1400		J Street		230 gallon gasoline tank underground (Two USTs)
B	1918	1	4	Vehicle Repair/Service/Petroleum/UST	2111		Tuolumne Street	Western Overland Pacific Co.	Auto sales and service. 300 gallon gasoline tank underground
B	1918	1	5	Petroleum Storage/UST	1820		Merced Street	ABC Garage	230 gallon gasoline tanks underground

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1918	1	5	Boilers	1245		I Street	Hotel Fresno	Two Horizontal steam boilers, Engine Room
B	1918	1	5	Clothes Cleaners/Laundry	184		Merced Street		Clothes Cleaning
B	1918	1	5	Clothes Cleaners/Laundry	1237		I Street		Cleaning and Dyeing
B	1918	1	5	Petroleum Storage/UST	1330		I Street	Fresno Public Library	Heat: Hot Water.
B	1918	1	5		1354		I Street	City Hall	Heat: Steam
B	1918	1	6	Vehicle Repair/Service/Petroleum/ UST	1311		Van Ness	Vulcanizing and Auto Repairing	260 gallon gasoline tank underground
B	1918	1	6	Boilers	2015		Fresno Street		Hiprodrome Theatre. Horizontal Steam Boiler
B	1918	1	6	Petroleum Storage/UST	1240		Van Ness		Oil storage. 360 gallon gasoline Tank underground
B	1918	1	6	Petroleum Storage/UST	1220		Van Ness		Auto Sales Room 220 gallon gasoline tank underground
B	1918	1	7	Petroleum Storage/UST	1156		H Street	Lauritzen Implement Co.	280 Gallon gasoline tank underground
B	1918	1	7	Clothes Cleaners/Laundry	1153		I Street		Clothes Cleaning. Hat Cleaning
B	1918	1	7	Boilers/Petroleum Storage/UST	1101		J Street	Griffith McKenzie Building	Heating boiler. Oil tank
B	1918	1	7	Boilers	1001		J Street	The Bank of Italy Building	Steam heating boiler
B	1918	1	8	Boilers/Petroleum Storage/UST	2020		Fresno Street	Creamery	Two horizontal steam boilers with oil tank
B	1918	1	9	Boilers/Petroleum Storage/UST	950		H Street	Hughes Garage	Three horizontal steam boilers. Oil tank underground. 280 gallon gasoline tank underground
B	1918	1	9	Petroleum Storage/UST	901		I Street		Oil and gasoline storage. 280 gallon gasoline tank underground
B	1918	1	10	Boilers	936		J Street	Sequoia Hotel	One Horizontal steam boiler. (tank in alley?) Heat: Steam
B	1918	1	10	Printing	951		Van Ness		Printing
B	1918	1	10	Petroleum Storage/UST	835		Van Ness	Van Ness Garage	280 Gallon gasoline tank underground

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1918	1	11	Petroleum Storage/UST	758		I Street	Harry Bond and Son Garage	280 Gallon gasoline tank underground
B	1918	1	11	Boilers	764		H Street	Kohler's Steam Laundry	One Horizontal steam boiler
B	1918	1	11	Boilers	1830		Mono Street	Jacob Richter Co, Beer Bottling and Soda Works	One horizontal steam boiler. Possible Oil Tank underground
B	1918	1	11	Junkyard/Auto Wrecking	656		I Street		Junkyard
B	1918	1	11	Junkyard/Auto Wrecking	615		J Street		Junk
B	1918	1	11	Metal Plating	630		I Street	Nickel Plating Works	
B	1918	1	12	Junkyard/Auto Wrecking	1920		Ventura		Junk
B	1918	1	17	Petroleum Storage/UST	2237		Calaveras	First Church of Christ Scientist	Fuel: Oil Heat Furnace
B	1918	1	19	Clothes Cleaners/Laundry	2425		Merced Street		Clothes cleaners
B	1918	1	19	Printing	2429		Merced Street		Printing
B	1918	1	19	Petroleum Storage/UST	2424		Merced Street	Hawthorne Grammar Public School	Heat: Hot air Fuel: oil
B	1918	1	19		2227		Fresno Street		Glazing
B	1918	1	19	Photographic	2231		Fresno Street		Photo engraving
B	1918	1	20	Petroleum Storage/UST	2444		Fresno Street	Fresno Water Co.	Possible Gas Tank underground
B	1918	1	20	Boilers/Petroleum Storage/UST	1139		O Street	San Joaquin Light and Power Co.	Sub Station. Oil tank underground. Two horizontal steam boilers
B	1918	1	20	Petroleum Storage/UST	1128		M Street	Sperry Flour Co	Lights and power: Possible Oil
B	1918	1	20	Clothes Cleaners/Laundry	2338		Fresno Street		Clothes Cleaning
B	1918	1	20	Other	2328		Fresno Street	Furniture Repairing	
B	1918	1	20	Boilers	1118		M Street	Fresno County Courthouse	Horizontal Boiler for steam heating

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1918	1	20	Gas Station	1001		N Street		Gasoline and oil (Four USTs)
B	1918	1	20	Petroleum Storage/UST	1162		M Street		Gasoline and oil storage. Gasoline tanks underground. Capacity 225 gallons each
B	1918	1	21	Clothes Cleaners/Laundry	2400		Tulare Street		Clothes Cleaning
B	1918	1	21	Petroleum Storage/UST	2341		Tulare Street		Lubricating Oils (Gasoline tank underground)
B	1918	1	21	Petroleum Storage/UST	2202		Tulare Street	J. Porteus Fresno Agricultural Works	Two 250 gallon gasoline tanks underground (Waterman Bros. Co. Inc. Garage)
B	1918	1	21	Boilers/Petroleum Storage/UST	2420		Kern Street	Mobel Bakery	Two Horizontal Boilers. Fuel Oil tanks
B	1918	1	21	Petroleum Storage/UST	736		Van Ness	Kay Street Garage	Gasoline Tank Underground
B	1918	1	21	Petroleum Storage/UST	2105		Mono Street	Phelan's Garage	280 Gallon Gasoline Tank underground
B	1918	1	29	Petroleum Storage/UST	2711		Tulare Street		Oils. Three gasoline tanks underground 280 gallons each
B	1918	1	29	Clothes Cleaners/Laundry/Photographic	2629		Tulare Street		Clothes Cleaning and Photo Engraving
B	1918	1	30	Petroleum Storage/UST			Tulare Street		Oil and Gas storage. Three gasoline tanks underground 280 gallons each
B	1918	1	31				Ventura	National Biscuit Co.	Two Horizontal Boilers. Oil Tank Underground
B	1918	1	31	Boilers/Petroleum Storage/UST			P Street	Fresno Consumer's Ice Co.	Two Horizontal steam boilers. Oil tanks underground
B	1918	1	32	Boilers/Petroleum Storage/UST			Santa Fe	Guggenhime and Co.	Fruit packing house. Crude oil tanks. Capacity: 20,000 gallons each. Four horizontal steam boilers
B	1918	1	32	Boilers/Petroleum Storage/UST	1150		P Street	San Joaquin Ice Co.	4 Horizontal steam boilers. Oil tank underground
B	1918	1	32	Boilers/Petroleum Storage/UST	400		O Street	Fresno Steam Laundry	Fuel Oil Tank Underground. One horizontal steam boiler

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1918	1	33	Boilers/Petroleum Storage/UST	260		Santa Fe Ave	E.Y. Foley	Dried fruit packing plant. Two Horizontal Steam boilers. 20,000 Gal Oil Tank underground
B	1918	1	33	Boilers	301		Santa Fe Ave	California Seeded Raisin Co. Green fruit packing house	One Horizontal Steam Boiler.
B	1918	1	33	Boilers/Petroleum Storage/UST			Monterey Ave.	J.K. Armsby Co.	8,000 gallon oil tank underground. One horizontal steam boiler
B	1918	1	33	Boilers/Petroleum Storage/UST	2530		San Benito Ave	San Joaquin Baking Co.	Fuel: Oil. One Horizontal steam boiler
B	1918	1	35	Clothes Cleaners/Laundry	304		Kern Street		French Laundry
B	1918	1	38	Boilers/Petroleum Storage/UST	2727		Ventura Ave	J.B. Inderrieden Co, Inc.	Raisin seeding and packing. Two horizontal steam boilers. Three crude oil tanks underground.
B	1918	1	55	Gas Station	21		Coast Ave		Gasoline and oil service station. Gasoline tanks underground. 200 Gallons each three USTs
B	1918	1	55	Petroleum Storage/UST	13		Coast Ave		Gasoline and oil storage.
B	1918	1	55	Boilers			Divisidero	Thompson Bros. Street paving outfit	One horizontal steam boiler
B	1918	1	57	Petroleum Storage/UST			G Street		Railroad oil tank underground, capacity 15,000 gallons
B	1918	1	58	Boilers/Petroleum Storage/UST			G Street	SPRR Round House	Three horizontal steam boilers
B	1918	1	59	Boilers/Petroleum Storage/UST			G Street	Rosenberg Bros. and Co. Fig packing plant	One horizontal steam boiler, 6,000 gallon fuel oil tank underground
B	1918	1	59	Boilers	1531		G. Street	Towel Laundry	One horizontal steam boiler
B	1918	1	59	Clothes Cleaners/ Laundry	1415		G. Street		Chinese laundry
B	1918	1	60	Boilers	1332		G Street	J.K. Armsby Co	Fruit packing house. One horizontal steam boiler

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1918	1	60	Boilers/Petroleum Storage/UST	1260		G Street	Rosenberg Bros. Droge packing House	One Horizontal steam broiler. Fuel: Oil
B	1918	1	60	Boilers/Petroleum Storage/UST	1220		G Street	Toomey Fruit Co.	Fig packing house. One horizontal steam boiler. Crude oil tank underground
B	1918	1	61	Boilers/Petroleum Storage/UST	1160		G Street	Phoenix Packing Co.	One horizontal steam boiler. Fuel: Oil
B	1918	1	61	Boilers/Petroleum/UST/Utility/Industrial			Mariposa	Pacific Gas Electric Co. & Gas Plant	Three gas holders, oil tank, four horizontal steam boilers underground
B	1918	1	61	Petroleum Storage/UST	1016		G Street	Pacific Coast Seeded Raisin Co's Plant No. 5	25,000 gallon oil tank underground
B	1918	1	62	Boilers/Petroleum Storage/UST				Pacific Coast Seeded Raisin Co's Plant No. 6	Fuel: Oil Three Horizontal Steam Boilers
B	1918	1	62	Clothes Cleaners/Laundry	1645		Inyo		French Laundry
B	1918	1	63	Boilers/Petroleum Storage/UST	724		G Street	Rosenburg Bros and Co. Packing House	Two Horizontal steam boilers. Fuel: Oil
B	1918	1	63	Petroleum Storage/UST	731		G Street		Bicycle Repairing. 280 Gallon gasoline tank underground
B	1918	1	63	Boilers	650		G Street	Merchants warehouse Co	One Horizontal steam boiler
B	1918	1	63	Boilers	601		H Street	Chaddock & Co. Raisins and dried Fruits	One Horizontal steam boiler
B	1918	1	64	Boilers/Petroleum Storage/UST	555		H Street	Castle Bros. Packers of Raisins and Dried Fruits	One Horizontal steam boiler. Fuel: Oil and Stems
B	1918	1	64	Boilers	443		H Street	California Peach Grower's Factory No. 9	Packers and shippers of dried peaches. One horizontal steam boiler
B	1918	1	64	Boilers/Petroleum Storage/UST	463		H Street	California Packing Corp.	Dried Fruit packers. Three horizontal steam boilers. 48,000 gallon oil tank underground

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B	1918	1	64	Boilers/Petroleum Storage/UST	520		G Street	Griffen Skelley Co.	Raisin and dried fruit packing and fresh fruit canning. Three horizontal steam boilers. Fuel: Oil
B	1918	1	64	Boilers/Petroleum Storage/UST	420		G Street	Roeding Fig & Olive Co.	13,500 gallon oil tank underground, Two horizontal steam boilers
B	1918	1	65	Boilers	240		H Street	Alex Lion & Co. Fruit Packing House	One Horizontal Steam Boiler
B	1918	1	70	Vehicle Repair/Service/Petroleum Storage/UST	1401		Fresno Street		Auto Repair shop, 220 gallon gasoline tank underground
B	1918	1	71	Boilers/Clothes Cleaners/Laundry	1153		F Street		Japanese Laundry. One small horizontal boiler
B	1918	1	72	Clothes Cleaners/Laundry	1436		Tulare Street		Clothes Cleaners
B	1918	1	72	Clothes Cleaners/Laundry	1420		Kern Street		Clothes Cleaners
B	1918	1	73	Boilers/Petroleum Storage/UST	735		F Street	Fresno Soap Co.	Horizontal Steam boiler. Fuel: oil
B	1948	1	1	Gas Station			Fulton Street		Gas and Oil
B	1948	1	1	Gas Station	1815		Broadway		Gas and Oil
B	1948	1	1	Gas Station/Vehicle Repair/Service	1805		Van Ness Ave		Gas and Oil. Greasing
B	1948	1	1	Gas Station	1984		H Street		Gas and oil
B	1948	1	1	Gas Station	1861		Broadway		Gas and oil
B	1948	1	1	Gas Station	84	North	Fulton		Gas and oil
B	1948	1	1	Gas Station	1963		Broadway		Gas and oil
B	1948	1	2	Gas Station	1760		Broadway		Gas and oil
B	1948	1	1	Vehicle Repair/Service	1821		Amador Street		Auto Repair
B	1948	1	2	Vehicle Repair/Service	1742		H Street		Tractor Repair
B	1948	1	2	Vehicle Repair/Service	1660		Broadway		Auto Repair
B	1948	1	2	Gas Station	1608		Broadway		Gas and Oil
B	1948	1	2	Gas Station	1159		Broadway		Gas and Oil

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1948	1	2	Boilers	1625		Broadway		Boiler room and tire service
B	1948	1	2	Vehicle Repair/Service	1660		H Street		Trailer manufacturing and Truck rebuilding
B	1948	1	2	Vehicle Repair/Service	1600		H Street		Truck sales and service. Auto Brake and Wheel service
B	1948	1	3	Vehicle Repair/Service	1800		H Street		Tractor and machinery sales and service
B	1948	1	3	Vehicle Repair/Service	1330		H Street		Welding steam cleaning and paint spraying
B	1948	1	3	Vehicle Repair/Service	1514		H Street		Auto repair
B	1948	1	3	Vehicle Repair/Service	1501		Broadway		Auto sales and service
B	1948	1	3	Vehicle Repair Service	1427		Broadway		Some auto repairing
B	1948	1	3	Mortuary	1841		Tuolumne		Undertaker
B	1948	1	3	Gas Station	1550		Broadway		Gas and Oil
B	1948	1	3	Vehicle Repair/Service	1528		Broadway		Auto repairing.
B	1948	1	3	Gas Station	1500		Broadway		Gas and oil
B	1948	1	3	Vehicle Repair/Service	1501		Fulton		Auto sales and service
B	1948	1	3	Vehicle Repair/Service	1468		Broadway		Auto sales and service
B	1948	1	3	Vehicle Repair/Service	1425		Fulton Street		Auto sales and service
B	1948	1	4	Printing	1549		Van Ness Ave		Fresno Bee. Photo engraving. Stereotyping
B	1948	1	4	Other	1544		Fulton Street		Furniture Refinishing
B	1948	1	4	Vehicle Repair/Service	1530		Fulton Street		Auto Repairing
B	1948	1	4	Vehicle Repair/Service	2015		Stanislaus		Auto Service
B	1948	1	4	Vehicle Repair/Service	1515		Van Ness Ave		Auto Service
B	1948	1	4	Gas Station	1583		Van Ness Ave		Gas and Oil

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1948	1	4	Gas Station	1401		Van Ness Ave		Gas and Oil
B	1948	1	4	Gas Station	2100		Calaveras		Gas and Oil
B	1948	1	4	Vehicle Repair/Service	1550		Van Ness Ave		Auto Service
B	1948	1	4	Vehicle Repair/Service	1506		Van Ness Ave		Auto Service
B	1948	1	4	Gas Station	1500		Van Ness Ave		Gas and Oil
B	1948	1	4	Vehicle Repair/Service	1444		Van Ness Ave		Battery service station
B	1948	1	4	Vehicle Repair/Service	1415		Van Ness Ave		Battery service station
B	1948	1	4	Petroleum Storage/UST/Vehicle Repair/Service	2001		Tuolumne Street		Auto sales and service. 300 gallon gasoline tank underground
B	1948	1	5	Gas Station	1801		Merced Street		Gas and Oil
B	1948	1	5	Vehicle Repair/Service	1801		Fresno Street		Auto Repairing
B	1948	1	5	Boilers	1251 Broadway			Hotel Fresno	Two horizontal steam boilers
B	1948	1	5	Gas Station	1629		Fresno Street		Gas and Oil
B	1948	1	5	Vehicle Repair/Service	1349		Fulton Street	Sears Auto Service Center	
B	1948	1	5	Vehicle Repair/Service	1308		H Street		Auto Service
B	1948	1	6	Vehicle Repair/Service	2027		Merced Street		Auto Repairing
B	1948	1	6	Vehicle Repair/Service	2028		Merced Street		Auto Service
B	1948	1	6	Vehicle Repair/Service	2128		Tuolumne Street		Auto Repairing
B	1948	1	6	Vehicle Repair/Service	1330		Van Ness Ave		Auto Service
B	1948	1	6	Vehicle Repair/Service	1319		L Street		Auto Repairing
B	1948	1	6	Vehicle Repair/Service	2130		Merced Street		Auto Service

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1948	1	6	Gas Station	2100		Fresno Street		Gas and Oil
B	1948	1	7	Gas Station	1902		Mariposa		Gas and Oil
B	1948	1	8	Boilers	1010		Fulton Street		Store. One horizontal steam boiler
B	1948	1	9	Vehicle Repair Service	960		H Street		Auto Service
B	1948	1	9	Vehicle Repair/Service	926		H Street		Auto Repairing
B	1948	1	9	Vehicle Repair/Service	831		Broadway		Auto Service
B	1948	1	9	Gas Station	1822		Kern Street		Gas and Oil
B	1948	1	9	Vehicle Repair/Service	836		Broadway		Auto Repairing
B	1948	1	10	Boilers	930		Fulton Street	Sequoia Hotel	One horizontal steam boiler (possible UST in alley)
B	1948	1	10	Gas Station	801		Van Ness Ave		Gas and Oil
B	1948	1	10	Vehicle Repair/Service	852		Van Ness Ave		Battery service station
B	1948	1	10	Vehicle Repair Service	2125		L Street		Auto Repair Batter Service
B	1948	1	10	Printing	2130		Kern Street		Printing and book binding
B	1948	1	10	Gas Station	2148		Kern Street		Gas and Oil
B	1948	1	11	Vehicle Repair Service	721		Van Ness Ave		Auto Repairing
B	1948	1	11	Vehicle Repair Service	715		Van Ness Ave		Auto sales and service.
B	1948	1	11	Photographic	750		Fulton Street		Photo engraving
B	1948	1	11	Printing	723		Fulton Street		Printing
B	1948	1	11	Paint/Oil Storage	721		Fulton Street		Oil and grease storage
B	1948	1	11	Petroleum Storage/UST	758		Broadway	Fresno City Line Bus Garage	280 Gallon gasoline tank underground
B	1948	1	11	Clothes Cleaning/Laundry	1830		Inyo Street	Liberty Laundry	
B	1948	1	11	Gas Station	761		Broadway		Gas and Oil
B	1948	1	11	Boilers/Petroleum Storage/UST	701		Broadway	Richter Bottling and Soda Works	One horizontal steam boiler. Oil tank underground (?)

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1948	1	11	Boilers/Clothes Cleaner/Laundry	1800		Inyo Street	Kohler's Steam Laundry	Two horizontal steam boilers
B	1948	1	11	Industrial/Utility	721		H Street	Valley Foundry and Machine Works	
B	1948	1	11	Vehicle Repair Service	633		Van Ness Ave		Auto Repair
B	1948	1	11	Vehicle Repair Service	621		Van Ness Ave		Auto Repair
B	1948	1	11	Gas Station	603		Van Ness Ave		Gas and Oil
B	1948	1	11	Vehicle Repair Service	640		Fulton Street		Truck Sales and Service
B	1948	1	11	Vehicle Repair Service	204		Ventura Street		Auto Repair
B	1948	1	11	Junk Yard/Auto Wrecking	626		Broadway		Auto wrecking
B	1948	1	11	Vehicle Repair Service	624		Broadway		Motor Repairing
B	1948	1	11	Gas station/Junk Yard/ Auto Wrecking	616		Broadway		Auto Wrecking yard. Radiator Repair
B	1948	1	11	Gas Station	613		Broadway		Gas and Oil
B	1948	1	11	Vehicle Repair Service	651		Broadway		Radiator Repair
B	1948	1	11	Vehicle Repair Service	627		Broadway	Radiator Works and Welding	
B	1948	1	12	Vehicle Repair Service	541		Van Ness Ave		Auto Repair
B	1948	1	12	Vehicle Repair/Service	540		Fulton Street		Auto Repair
B	1948	1	12	Vehicle Repair/Service	504		Fulton Street		Auto Repair
B	1948	1	12	Vehicle Repair/Service	531		Fulton Street		Auto Repair and Motor Rebuilding
B	1948	1	12	Junkyard/Auto Wrecking	550		Broadway		Auto Wrecking yard
B	1948	1	12	Vehicle Repair/Service	559		Broadway		Auto Repair
B	1948	1	12	Gas Station/Vehicle Repair/Service	464		Broadway		Gas and Oil, Auto Repair, Auto Service.

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1948	1	12	Vehicle Repair/Service	461		Broadway		Auto Repair
B	1948	1	12	Vehicle Repair/Service	433		Broadway		Motor cars sales and service
B	1948	1	12	Vehicle Repair/Service	440		H Street	Allied Equipment Co.	Farm Machinery sales and service
B	1948	1	17	Gas Station	1662		Van Ness Ave		Gas and Oil
B	1948	1	17	Mortuary	1601		L Street		Undertaker
B	1948	1	18	Vehicle Repair/Service	1510		N Street		Auto and truck sales and service
B	1948	1	18	Vehicle Repair/Service	1503		N Street		Auto sales and service
B	1948	1	18	Vehicle Repair/Service	2301		Stanislaus Street		Auto sales and service
B	1948	1	18	Vehicle Repair/Service	1326		L Street		Auto sales and service
B	1948	1	18	Vehicle Repair/Service	2426		Stanislaus Street		Auto Repairing
B	1948	1	18	Vehicle Repair/Service	1460		M Street		Truck sales and service
B	1948	1	18	Vehicle Repair/Service	1408		L Street		Auto Repair
B	1948	1	18	Vehicle Repair/Service	1357		M Street		Auto Service
B	1948	1	19	Gas Station	2211		Merced Street		Gas and Oil
B	1948	1	19	Gas Station	1261		M Street		Gas and Oil
B	1948	1	20	Gas Station	2402		Fresno Street		Gas and Oil
B	1948	1	20	Vehicle Repair/Service	1140		N Street		Auto sales and service
B	1948	1	20	Vehicle Repair/Service	1117		N Street		Auto sales and service
B	1948	1	20	Boilers	1111		M Street	Fresno County Court House	One horizontal steam boiler
B	1948	1	20	Gas Station	2405		Tulare street		Gas and oil
B	1948	1	20	Gas Station	2445		Tulare Street		Gas and oil
B	1948	1	21	Printing	1308		Tulare Street		Printing

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1948	1	21	Petroleum Storage/UST	946		L Street	Fresno Agricultural Works	Possible USTs in the street
B	1948	1	21	Gas Station	2220		Kern Street		Gas and Oil
B	1948	1	21	Vehicle Repair/Service	850		L Street		Auto sales and service
B	1948	1	22	Gas Station	753		Van Ness Ave		Gas and Oil
B	1948	1	22	Gas Station	710		Van Ness Ave		Gas and Oil
B	1948	1	22	Gas Station/Vehicle Repair/Service	601		N Street		Gas and Oil. Auto Sales and service
B	1948	1	22	Printing	2229		Ventura Ave		Printing
B	1948	1	22	Vehicle Repair/Service	2149		Ventura Ave		Auto repairing
B	1948	1	22	Gas Station	2101		Ventura Ave		Gas and Oil
B	1948	1	27	Vehicle Repair/Service	1457		P Street	Fresno Technical High School	Auto Repairing Laboratory
B	1948	1	28	Industrial/Utility	2527		Fresno Street	Twining Chemical Lab	
B	1948	1	29	Gas Station	2508		Fresno Street		Gas and Oil
B	1948	1	29	Gas Station	2542		Tulare Street		Gas and oil
B	1948	1	30	Gas Station	2758		Tulare Street		Gas and oil
B	1948	1	30	Gas Station	2548		Tulare Street		Gas and oil
B	1948	1	30	Gas Station	2504		Kern Street		Gas and oil
B	1948	1	31	Vehicle Repair/Service	2531		Mono Street		Auto Repairing service
B	1948	1	30	Gas Station	2504		Kern Street		Gas and oil
B	1948	1	31	Vehicle Repair/Service	2531		Mono Street		Auto Repairing service
B	1948	1	31	Vehicle Repair/Service	753		O Street		Auto Service
B	1948	1	31	Gas Station	2445		Ventura Street		Gas and oil
B	1948	1	31	Gas Station/Vehicle Repair/Service	2429		Ventura Street		Gas and oil
B	1948	1	32	Boilers/Petroleum Storage/UST	438		Santa Fe Ave	Guggenheim and Co.	Fruit packing house. Four horizontal steam boilers. Crude oil tanks underground

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1948	1	35	Gas Station	3229		Tulare Street		Gas and oil
B	1948	1	35	Boilers/Petroleum Storage/UST	2330		Divisadero	Fresno Community Hospital	Laundry with two horizontal steam boilers
B	1948	1	36	Mortuary	2983		Tulare Street		Undertaker
B	1948	1	36	Vehicle Repair/Service	1014		R Street		Auto Repairing
B	1948	1	36	Mortuary	1002		T Street		Undertaker
B	1948	1	37	Gas Station	2902		Tulare Street		Gas and oil
B	1948	1	37	Gas Station	2800		Tulare Street		Gas and oil
B	1948	1	38	Boilers	703		R Street	State Center	with hot and cold storage. Water boiler
B	1948	1	55	Vehicle Repair/Service	2116		G Street		Auto Repairs
B	1948	1	55	Vehicle Repair/Service	2104		G Street		Auto Repairs
B	1948	1	55	Gas Station	2025		Broadway		Gas and oil
B	1948	1	55	Gas Station	2100		H Street		Gas and oil
B	1948	1	55	Vehicle Repair/Service	612		Divisadero		Auto Repairs
B	1948	1	55	Vehicle Repair/Service	2010		H Street		Auto steam cleaning
B	1948	1	55	Gas Station	2115		H Street		Gas and oil
B	1948	1	55	Petroleum Storage/UST	2019		H Street	Tire Pennzoil Co.	Oil warehouse.
B	1948	1	56	Vehicle Repair/Service/Petroleum Storage/UST	2218		F Street		Truck service. Gas and oil in yard
B	1948	1	56	Petroleum Storage/UST	2102		F Street	City Corporation Yard	Oil house
B	1948	1	57	Gas Station	1850		G Street		Gas and oil
B	1948	1	57	Petroleum Storage/UST	1808		G Street		Railroad oil tank on ground capacity 15,000 gallons
B	1948	1	57	Vehicle Repair/Service	1536		Sacramento Street		Auto washing and repair

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1948	1	58	Vehicle Repair/Service/Petroleum Storage/UST	1720		G Street	SPRR Round House	Steam plant. Three horizontal boilers. Machine shop. One horizontal boiler.
B	1948	1	58	Vehicle Repair/Service	1727		G Street		Truck Repairing
B	1948	1	59	Vehicle Repair/Service/Petroleum Storage/UST	1418		G Street	Vagim Packing Co. Inc.	6,500 gallon fuel oil tank underground. Boiler house.
B	1948	1	59	Boilers	1531		G Street	Sterling Towel and Linen Co	Boiler Room
B	1948	1	60	Vehicle Repair/Service	1609		Merced Street		Auto Repairs
B	1948	1	60	Other	1319		G Street		Batter warehouse
B	1948	1	60	Gas Station	1257		G Street		Gas and oil in yard
B	1948	1	60	Vehicle Repair/Service	1233		G Street		Auto Repairs
B	1948	1	60	Gas Station/Vehicle Repair/Service	1531		Fresno Street		Gas and oil/auto service
B	1948	1	60	Gas Station/Vehicle Repair/Service	1581		Fresno Street		Gas and oil/auto service
B	1948	1	60	Vehicle Repair/Service	1310		F Street		Auto Repairing
B	1948	1	61	Gas Station	1133		H Street		Gas and Oil
B	1948	1	61	Gas Station	1160		F Street		Oil Station
B	1948	1	61	Vehicle Repair/Service	1134		F Street		Auto Repairing
B	1948	1	61	Gas Station	1056		F Street		Gas and Oil
B	1948	1	62	Clothes Cleaners/Laundry	1545		Inyo Street		Dyeing and cleaning
B	1948	1	63	Gas Station	503		G Street		Gas and Oil
B	1948	1	63	Gas Station	655		G Street		Gas and Oil
B	1948	1	63	Vehicle Repair/Service	745		G Street		Truck Repairing
B	1948	1	64	Boilers	515		H Street	California Packing Corp.	Three horizontal boilers

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1948	1	64	Vehicle Repair Service/Petroleum Storage/UST	440		G Street	Roeding Fig Co	Two Horizontal boilers. Fuel Oil
B	1948	1	64	Gas Station	407		G Street		Oil Station
B	1948	1	65	Vehicle Repair/Service	305		G Street		Auto Repairing
B	1948	1	69	Vehicle Repair/Service	1315		Stanislaus Street		Auto Repairing
B	1948	1	70	Gas Station	1301		F Street		Gas and oil
B	1948	1	70	Clothes Cleaners/Laundry	1325		F Street		Overall Laundry
B	1948	1	70	Vehicle Repair/Service	1335		F Street		Auto Repairing
B	1948	1	70	Vehicle Repair/Service	1200		E Street		Auto Repairing
B	1948	1	70	Vehicle Repair/Service	1325		Fresno Street		Auto Repairing
B	1948	1	70	Vehicle Repair/Service	1335		Fresno Street		Auto Repairing
B	1948	1	70	Gas Station	1345		Fresno Street		Oil Station
B	1948	1	71	Gas Station	1030		F Street		Oil Station
B	1948	1	72	Vehicle Repair/Service	940		D Street		Auto Repairing
B	1948	1	72	Gas Station/Vehicle Repair/Service	950		D Street		Auto Repairing/Gas and oil
B	1948	1	75	Gas Station/Vehicle Repair/Service	360		C Street		Auto Repairing/Gas and oil
B	1950	1	1	Gas Station	24	North	Fulton		Gas and oil
B	1950	1	1	Gas Station	1941	North	Fulton		Gas and oil
B	1950	1	1	Gas Station	1963		Broadway		Gas and oil
B	1950	1	1	Gas Station/Vehicle Repair/Service	1815		Broadway		Gas and oil/Auto repairing
B	1950	1	1	Gas Station/Vehicle Repair/Service	1861		Broadway		Gas and oil/Auto repairing
B	1950	1	1	Vehicle Repair/Service	1864		H Street		Bus garage and repairing

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1950	1	1	Gas Station/Vehicle Repair/Service	1804		H Street		Gas and oil/Auto repairing
B	1950	1	1	Gas station	1805		Van Ness		Gas and oil/Auto repairing
B	1950	1	2	Gas Station	1760		Broadway		Gas and oil
B	1950	1	2	Gas Station	1608		Broadway		Gas and oil
B	1950	1	2	Gas Station	1659		Broadway		Gas and oil
B	1950	1	2	Vehicle Repair/Service	1660		Broadway		Auto repairing
B	1950	1	2	Vehicle Repair/Service	1742		H Street		Tractor Repairing
B	1950	1	3	Gas Station	1558		Broadway		Gas and oil
B	1950	1	3	Gas Station	1500		Broadway		Gas and oil
B	1950	1	3	Vehicle Repair/Service	1501		Fulton		Auto Sales and service
B	1950	1	3	Vehicle Repair/Service	1427		Broadway		Auto repairing
B	1950	1	4	Vehicle Repair/Service	2120		Calaveras		Auto Repairing
B	1950	1	4	Vehicle Repair/Service	1534		Fulton Street		Auto Repairing
B	1950	1	4	Gas Station	1560		Van Ness Ave		Gas and Oil
B	1950	1	4	Gas Station	1500		Van Ness Ave		Gas and Oil
B	1950	1	4	Gas Station	1401		Van Ness Ave		Gas and Oil
B	1950	1	4	Gas Station	1503		Van Ness Ave		Gas and Oil
B	1950	1	4	Printing/ Photographic	1553		Van Ness Ave	The Fresno Bee	Photo engraving/press room
B	1950	1	4	Vehicle Repair/Service	1444		Van Ness Ave		Battery service station
B	1950	1	5	Gas Station	1320		H Street		Gas and Oil
B	1950	1	5	Gas Station	1200		H Street		Gas and Oil
B	1950	1	5	Gas Station	1801		Merced Street		Gas and Oil
B	1950	1	5	Gas Station	1829		Fresno Street		Gas and Oil
B	1950	1	5	Boilers	1247		Broadway	Hotel Fresno	Horizontal steam boiler
B	1950	1	5	Vehicle Repair/Service	1341		Fulton Street	Sears Roebuck & Co	Auto service department

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1950	1	5	Vehicle Repair/Service	1206		H Street		Auto Repairing
B	1950	1	6	Vehicle Repair/Service	2027		Merced Street		Auto Repairing
B	1950	1	6	Vehicle Repair/Service	2131		Merced Street		Auto Repairing
B	1950	1	6	Vehicle Repair/Service	1319		L Street		Auto Repairing
B	1950	1	6	Gas Station	2105		Fresno Street		Gas and Oil
B	1950	1	6	Vehicle Repair/Service	2028		Merced Street		Auto Service
B	1950	1	7	Gas Station	1058		Broadway		Gas and Oil
B	1950	1	9	Gas Station	1922		Kern Street		Gas and Oil
B	1950	1	9	Vehicle Repair/Service	836		Broadway		Auto Repairing
B	1950	1	10	Gas Station	801		Van Ness Ave		Gas and Oil
B	1950	1	10	Vehicle Repair/Service	801		L Street		Auto repairing/battery service
B	1950	1	10	Gas Station/Vehicle Repair Service	2100		Kern Street		Gas and Oil/Battery Service
B	1950	1	10	Gas Station	2148		Kern Street		Gas and Oil
B	1950	1	11	Vehicle Repair/Service	721		Van Ness Ave		Auto repairing
B	1950	1	11	Vehicle Repair/Service	633		Van Ness Ave		Auto repairing
B	1950	1	11	Vehicle Repair/Service	621		Van Ness Ave		Auto repairing
B	1950	1	11	Gas Station	603		Van Ness Ave		Gas and Oil
B	1950	1		Photographic	750		Fulton Street		Photo engraving
B	1950	1	11	Vehicle Repair/Service	640		Fulton Street		Truck sales and service
B	1950	1	11	Vehicle Repair/Service	613		Fulton Street		Auto repairing
B	1950	1	11	Vehicle Repair/Service	602		Fulton Street		Auto repairing
B	1950	1	11	Junkyard/Auto Wrecking	601		Fulton Street		Auto Wrecking

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1950	1	11	Junkyard/Auto Wrecking	626		Broadway		Auto Wrecking
B	1950	1	11	Junkyard/Auto Wrecking	620		Broadway		Auto Wrecking
B	1950	1	11	Gas Station	761		Broadway		Gas and oil
B	1950	1	11	Gas Station	601		Broadway		Gas and oil
B	1950	1	11	Vehicle Repair/Service	616		Broadway		Radiator repair
B	1950	1	11	Junkyard/Auto Wrecking	645		Broadway		Auto Wrecking
B	1950	1	11	Boilers	720		H Street	Valley Foundry and Machine Works	Possible boiler
B	1950	1	11	Clothes Cleaning/Laundry	1800		Inyo Street	Liberty and Towel Linen Supply	
B	1950	1	11	Clothes Cleaning/Laundry	1830		Inyo Street	Liberty Laundry	
B	1950	1	12	Vehicle Repair/Service	561		Van Ness Ave		Auto repairing
B	1950	1	12	Vehicle Repair/Service	540		Fulton Street		Auto repairing
B	1950	1	12	Vehicle Repair/Service	504		Fulton Street		Auto repairing
B	1950	1	12	Vehicle Repair/Service	531		Fulton Street		Auto repairing
B	1950	1	12	Junkyard/Auto Wrecking	550		Broadway		Auto Wrecking
B	1950	1	12	Gas Station	514		Broadway		Gas and oil
B	1950	1	12	Gas Station	464		Broadway		Gas and oil
B	1950	1	12	Vehicle Repair/Service	410		Broadway		Auto repairing
B	1950	1	12	Gas Station	559		Broadway		Gas and oil
B	1950	1	12	Vehicle Repair/Service	417		Broadway		Motorcycle sales and service
B	1950	1	17	Gas Station	1800	South	Van Ness Ave		Gas and oil/Auto Repair
B	1950	1	17	Gas Station	1662	South	Van Ness Ave		Gas and oil/Auto Repair
B	1950	1	17	Mortuary	2118		Calaveras		Undertaker

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1950	1	18	Vehicle Repair/Service	2424		Stanislaus Street		Auto Repair
B	1950	1	18	Vehicle Repair/Service	2401		Stanislaus Street		Auto/Truck Repair
B	1950	1	18	Vehicle Repair/Service	2310		Stanislaus Street		Auto/Truck Repair
B	1950	1	18	Vehicle Repair/Service	2345		Stanislaus Street		Auto sales and service
B	1950	1	18	Vehicle Repair/Service	2301		Stanislaus Street		Auto sales and service
B	1950	1	18	Vehicle Repair/Service	1526		L Street		Auto repairing
B	1950	1	18	Vehicle Repair/Service	1408		L Street		Auto repairing
B	1950	1	19	Vehicle Repair/Service	1216		L Street		Auto repairing
B	1950	1	19	Gas Station	2240		Tuolumne Street		Gas and oil
B	1950	1	19	Gas Station	2211		Merced Street		Gas and oil
B	1950	1	19	Gas Station	2246		Merced Street		Gas and oil
B	1950	1	20	Gas Station	2402		Fresno Street		Gas and oil
B	1950	1	20	Boilers	1111		M Street	Fresno County Court House	Steam Boilers
B	1950	1	20	Gas Station	2445		Tulare Street		Gas and oil
B	1950	1	20	Gas Station	2405		Tulare Street		Gas and oil
B	1950	1	21	Vehicle Repair/Service	2420		Kern Street		Auto repairing
B	1950	1	21	Gas Station	2210		Kern Street		Gas and oil
B	1950	1	22	Gas Station	758		Van Ness Ave		Gas and oil
B	1950	1	22	Gas Station	2347		Ventura		Gas and oil
B	1950	1	22	Printing	2229		Ventura		Printing
B	1950	1	22	Gas Station	2101		Ventura		Gas and oil
B	1950	1	22	Vehicle Repair/Service	644		Van Ness Ave		Auto repairing
B	1950	1	23	Gas Station/Vehicle Repair/Service	2204		Ventura		Gas and oil/Service

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1950	1	23	Vehicle Repair/Service	2100		Ventura		Gas and oil/Auto service
B	1950	1	23	Gas Station	406		Van Ness Ave		Gas and oil
B	1950	1	27	Gas Station	1540		O Street		Gas and oil
B	1950	1	27	Gas Station	20		Blackstone Ave		Gas and oil
B	1950	1	27	Vehicle Repair/Service	1457		P Street		Auto repairing
B	1950	1	28	Gas Station	2501		Fresno Street		Gas and oil
B	1950	1	29	Gas Station	2506		Fresno Street		Gas and oil
B	1950	1	29	Gas Station	2545		Tulare Street		Gas and oil
B	1950	1	30	Gas Station	2758		Tulare Street		Gas and oil
B	1950	1	30	Gas Station	850		O Street		Gas and oil
B	1950	1	31	Vehicle Repair/Service	2531		Mono street		Auto repairing
B	1950	1	31	Vehicle Repair/Service	2440		Inyo Street		Auto repairing
B	1950	1	31	Vehicle Repair/Service	2429		Ventura		Auto repairing
B	1950	1	31	Gas Station	2605		Ventura		Auto repairing
B	1950	1	32	Boilers/Petroleum Storage/UST	438		Santa Fe Ave	Hunt Foods Inc.	Crude oil tanks. Four horizontal boilers
B	1950	1	35	Gas Station	3229		Tulare Street		Gas and oil
B	1950	1	35	Boilers/Clothes Cleaners/Laundry	2324		Divisadero	Fresno Community Hospital	Laundry. Two horizontal boilers
B	1950	1	36	Gas Station	3006		Fresno Street		Gas and oil
B	1950	1	36	Vehicle Repair/Service	1014		R Street		Auto repairing
B	1950	1	37	Gas Station	2800		Tulare Street		Gas and oil
B	1950	1	37	Gas Station	2902		Tulare Street		Gas and oil
B	1950	1	39	Gas Station/Vehicle Repair/Service	3004		Tulare Street		Gas and oil/Auto repair
B	1950	1	39	Vehicle Repair/Service	2958		Tulare Street		Gas and oil/Auto repair
B	1950	1	39	Clothes Cleaners/Laundry	2918		Tulare Street		Clothes Cleaning

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1950	1	55	Petroleum Storage/UST			East Ave	Sunland Refining Co.	Oil refining. Oil warehouse. Tanks
B	1950	1	55	Gas Station	2025		Broadway		Gas and oil
B	1950	1	55	Vehicle Repair/Service	614		Divisadero		Auto brake service
B	1950	1	55	Vehicle Repair/Service	612		Divisadero		Auto repairing
B	1950	1	55	Gas Station/Vehicle Repair/Service	2100		H Street		Gas and oil/Auto service
B	1950	1	55	Gas Station	2115		H Street		Gas and oil
B	1950	1	55	Petroleum Storage/UST	2019		H Street	Pennzoil Co.	Oil warehouse
B	1950	1	55	Vehicle Repair/Service	2010		H Street		Auto steam cleaning
B	1950	1	55	Vehicle Repair/Service	2104		G Street	Pacific Coast Aggregates	Auto repairing
B	1950	1	56	Gas Station/Vehicle Repair/Service	2212		F Street		Gas and oil/Truck service
B	1950	1	56	Vehicle Repair/Service	2162		F Street	City Corporation Yard	Auto repairing
B	1950	1	57	Gas Station	1850		G Street		Gas and oil
B	1950	1	57	Petroleum Storage/UST	1808		G Street		Railroad oil tank on grade capacity 15,000 gallons
B	1950	1	57	Gas Station	1953		G Street		Gas and oil
B	1950	1	57	Gas Station	1861		G Street		Gas and oil
B	1950	1	58	Vehicle Repair/Service	1645		H Street		Trailer sales and service
B	1950	1	58	Boilers	1720		G Street	SPRR Round House	Steam plant. Three horizontal Boilers
B	1950	1	58	Vehicle Repair/Service	1727		G Street		Truck repairing
B	1950	1	60	Vehicle Repair/Service	1615		Merced Street		Truck repairing
B	1950	1	60	Other	1545		Merced Street		Battery warehouse
B	1950	1	60	Gas Station	1257		G Street		Gas and oil
B	1950	1	60	Vehicle Repair/Service	1221		G Street		Auto repairing

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1950	1	60	Vehicle Repair/Service	1215		G Street		Auto brake service
B	1950	1	60	Gas Station	1535		Fresno Street		Gas and oil
B	1950	1	61	Gas Station	1133		H Street		Gas and oil
B	1950	1	61	Gas Station	1160		F Street		Gas and oil
B	1950	1	61	Vehicle Repair/Service	1142		F Street		Auto repairing
B	1950	1	61	Vehicle Repair/Service	1130		F Street		Auto repairing
B	1950	1	61	Gas Station	1056		F Street		Gas and oil
B	1950	1	61	Vehicle Repair/Service	1111		G Street		Auto repairing
B	1950	1	62	Gas Station/Vehicle Repair/Service	804		F Street		Gas and oil/Auto repair
B	1950	1	63	Vehicle Repair/Service	745		G Street		Truck repairing
B	1950	1	63	Vehicle Repair/Service	731		G Street		Auto repairing
B	1950	1	63	Gas Station	655		G Street		Gas and oil
B	1950	1	63	Gas Station/Vehicle Repair/Service	603		G Street		Gas and oil/Auto service
B	1950	1	64	Boilers	515		H Street	California Packing Corp	Three horizontal boilers
B	1950	1	64	Boilers	446		G Street	Roeding Fig Co	Two horizontal boilers
B	1950	1	64	Gas Station	407		G Street		Oil station
B	1950	1	65	Vehicle Repair/Service	305		G Street		Auto repairing
B	1950	1	68	Mortuary	1701		E Street		Undertaker
B	1950	1	68	Vehicle Repair/Service/ Junkyard/Auto Wrecking	1659		F Street		Auto repairing/Auto wrecking
B	1950	1	70	Gas Station	1301		F Street		Gas and oil
B	1950	1	70	Vehicle Repair/Service	1315		F Street		Auto repairing
B	1950	1	70	Gas Station/Vehicle Repair/Service	1214		Fresno Street		Gas and oil/Auto service

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1950	1	70	Vehicle Repair/Service	1401		Fresno Street		Auto repairing
B	1950	1	71	Vehicle Repair/Service	1344		Fresno Street		Auto repairing
B	1950	1	71	Gas Station	1330		Fresno Street		Oil station
B	1950	1	71	Gas Station/Vehicle Repair/Service	1069		F Street		Gas and oil/Auto service
B	1950	1	72	Vehicle Repair/Service	940		F Street		Auto repairing
B	1950	1	72	Gas Station/Vehicle Repair/Service	1250		Tulare Street		Gas and oil/Auto repair
B	1950	1	72	Gas Station/Vehicle Repair/Service	1408		Kern Street		Gas and oil/Auto repair
B	1950	2	261	Gas Station	2121	North	H Street		Gas and Oil
B	1950	2	261	Gas Station	108	North	H Street		Gas and Oil
B	1950	2	265	Vehicle Repair/Service	1626		Belmont Ave		Auto Repair
B	1950	2	265	Gas Station	1417		Belmont Ave		Gas and Oil
B	1950	2	265	Vehicle Repair/Service	445		Blackstone Ave		Auto Repair
B	1968	1	1	Gas Station	1921		Fulton Street		Gas and Oil
B	1968	1	1	Vehicle Repair/Service	1871		Broadway		Auto Repair
B	1968	1	2	Gas Station/Vehicle Repair/Service	1659		Broadway		Gas and Oil/Auto Repair
B	1968	1	3	Vehicle Repair/Service	1848		Calaveras		Truck Repair
B	1968	1	3	Vehicle Repair/Service	1801		Stanislaus		Auto Service
B	1968	1	3	Vehicle Repair/Service	1902		Stanislaus		Auto Service
B	1968	1	3	Gas Station	1901		Stanislaus		Gas and oil
B	1968	1	3	Vehicle Repair/Service	1452		H Street		Motor Rebuilding
B	1968	1	3	Vehicle Repair/Service	1427		Broadway		Auto Repair/Service

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1968	1	3	Vehicle Repair/Service	1433		Broadway		Auto Repair/Service
B	1968	1	3	Vehicle Repair/Service	1445		Broadway		Auto Repair/Service
B	1968	1	3	Vehicle Repair/Service	1449		Broadway		Auto Repair/Service
B	1968	1	3	Vehicle Repair/Service	1461		Broadway		Auto Repair/Service
B	1968	1	3	Vehicle Repair/Service	1440		Broadway		Auto Repair/Service
B	1968	1	4	Vehicle Repair/Service	1510		Fulton Street		Auto Repair
B	1968	1	4	Gas Station	1500		Van Ness Ave		Gas and Oil
B	1968	1	5	Boilers	1243		Broadway	Hotel Fresno	Horizontal Boilers
B	1968	1	5	Vehicle Repair/Service	1223		Broadway		Auto Repair
B	1968	1	5	Gas Station/Vehicle Repair/Service	1200		H Street		Gas and Oil/Auto Service
B	1968	1	10	Boilers	932		Fulton Street	Vacant Building	Horizontal Boilers
B	1968	1	10	Gas Station	852		Van Ness Ave		Gas and Oil
B	1968	1	10	Printing	2150		Kern Street		Printing
B	1968	1	10	Gas Station	2145		Kern Street		Gas and Oil
B	1968	1	11	Vehicle Repair/Service	635		Van Ness Ave		Auto Repair
B	1968	1	11	Gas Station	603		Van Ness Ave		Gas and Oil
B	1968	1	11	Vehicle Repair/Service	760		Fulton Street		Auto Service
B	1968	1	11	Photographic	750		Fulton Street		Photo Engraving
B	1968	1	11	Vehicle Repair/Service	650		Fulton Street		Auto Service
B	1968	1	11	Vehicle Repair/Service	727		Fulton Street		Auto Repair
B	1968	1	11	Vehicle Repair/Service	665		Fulton Street		Engine Rebuilding
B	1968	1	11	Vehicle Repair/Service	615		Fulton Street		Auto Service

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1968	1	11	Vehicle Repair/Service	710		Broadway		Auto Service
B	1968	1	11	Vehicle Repair/Service	626		Broadway		Engine Rebuilding
B	1968	1	11	Vehicle Repair/Service	610		Broadway		Engine Rebuilding
B	1968	1	11	Vehicle Repair/Service	715		Broadway		Auto Service
B	1968	1	11	Gas Station	701		Broadway		Gas and Oil
B	1968	1	11	Gas Station	603		Broadway		Gas and Oil
B	1968	1	12	Vehicle Repair/Service	504		Fulton Street		Auto Repair
B	1968	1	12	Vehicle Repair/Service	460		Fulton Street		Auto Repair
B	1968	1	12	Vehicle Repair/Service	531		Fulton Street		Auto Repair
B	1968	1	12	Gas Station/Vehicle Repair/Service	514		Broadway		Gas and Oil/Auto Service
B	1968	1	12	Gas Station/Vehicle Repair/Service	565		Broadway		Gas and Oil/Auto Service
B	1968	1	12	Vehicle Repair/Service	443		Broadway		Motorcycle Service
B	1968	1	12	Vehicle Repair/Service	417		Broadway		Motorcycle Service
B	1968	1	12	Vehicle Repair/Service	455		Broadway		Motorcycle Service
B	1968	1	17	Mortuary	1762		Van Ness Ave		Undertaker
B	1968	1	17	Mortuary	1605		L Street		Undertaker
B	1968	1	18	Vehicle Repair/Service	2223		Stanislaus		Auto Service
B	1968	1	18	Vehicle Repair/Service	2325		Stanislaus		Auto Service
B	1968	1	18	Vehicle Repair/Service	1438		M Street		Truck Repair
B	1968	1	18	Vehicle Repair/Service	1435		N Street		Auto Repair
B	1968	1	19	Gas Station	1363		M Street		Gas and Oil

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1968	1	19	Vehicle Repair/Service	1357		M Street		Auto Service
B	1968	1	19	Gas Station	1261		M Street		Gas and Oil
B	1968	1	19	Gas Station	2211		Merced Street		Gas and Oil
B	1968	1	20	Gas Station	2445		Tulare Street		Gas and Oil
B	1968	1	20	Gas Station	2405		Tulare Street		Gas and Oil
B	1968	1	21	Vehicle Repair/Service	821		M Street		Auto Repair
B	1968	1	21	Vehicle Repair/Service	850		L Street		Auto Repair
B	1968	1	21	Gas Station/Vehicle Repair/Service	2210		Kern Street		Gas and Oil/Auto Repair
B	1968	1	22	Vehicle Repair/Service	710		Van Ness Ave		Auto Repair
B	1968	1	22	Vehicle Repair/Service	2125		Ventura Ave		Auto Repair
B	1968	1	22	Gas Station	2100		Ventura Ave		Gas and oil
B	1968	1	23	Vehicle Repair/Service	2222		Ventura Ave		Auto Repair
B	1968	1	23	Gas Station	2110		Ventura Ave		Gas and Oil
B	1968	1	27	Gas Station	1400		P Street		Gas and Oil
B	1968	1	27	Gas Station	1450		P Street		Gas and Oil
B	1968	1	28	Gas Station	2528		Tuolumne Street		Gas and oil
B	1968	1	31	Other	630		P Street		Rug Dyeing
B	1968	1	36	Vehicle Repair/Service	1014		R Street		Auto Repair
B	1968	1	55	Vehicle Repair/Service	2005		Broadway		Engine Rebuilding
B	1968	1	55	Gas Station	2100		H Street		Gas and Oil
B	1968	1	55	Fertilizers/Pesticides	2116		G Street	Sunnyside Packing Co.	Fertilizer and pesticide storage
B	1968	1	56	Gas Station/Vehicle Repair/Service	2212		F Street		Gas and Oil/ Truck Service
B	1968	1	56	Vehicle Repair/Service	2001		G Street	City Corporation Yard	Auto Repair

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1968	1	57	Printing	1963		H Street	Fresno Guide Newspaper	Printing
B	1968	1	58	Vehicle Repair/Service/Paint/Oil Storage	1603		H Street		Truck Repair/Oils
B	1968	1	58	Vehicle Repair/Service	1703		G Street		Truck Repair
B	1968	1	59	Gas Station/Vehicle Repair/Service	1456		G Street		Gas and Oil/Auto Service
B	1968	1	59	Clothes Cleaners/Laundry	1531		G Street	Sterling Towel and Linen Supply	
B	1968	1	59	Vehicle Repair/Service	1433		G Street		Auto Repair
B	1968	1	60	Gas Station	1257		G Street		Gas and Oil
B	1968	1	60	Vehicle Repair/Service	1301		G Street		Auto Repair
B	1968	1	60	Vehicle Repair/Service	1209		G Street		Auto Repair
B	1968	1	61	Petroleum Storage/UST	1152		G Street		Industrial chemical and agricultural supplies warehouse (Oil tank)
B	1968	1	61	Vehicle Repair/Service	1142		F Street		Auto Repair
B	1968	1	61	Gas Station	1056		F Street		Gas and oil
B	1968	1	62	Vehicle Repair/Service	804		F Street		Auto Repair
B	1968	1	62	Clothes Cleaners/Laundry	811		G Street		Steam Laundry
B	1968	1	62	Clothes Cleaners/Laundry	803		G Street		Dyeing and Cleaning
B	1968	1	63	Metal Plating	735		G Street		Plating works
B	1968	1	63	Gas Station	705		G Street		Gas and Oil
B	1968	1	63	Gas Station	655		G Street		Gas and Oil
B	1968	1	63	Vehicle Repair/Service	730		F Street		Auto Repair
B	1968	1	63	Clothes Cleaners/Laundry	664		F Street		Laundry

Plan Area	Year	Volume	Page	Site Use	Street Number	Street Direction	Street Name	Facility Name	Description
B	1968	1	65	Vehicle Repair/Service	305		G Street		Auto Repair
B	1968	1	69	Mortuary	1447		F Street		Undertaker
B	1968	1	70	Vehicle Repair/Service	1200		E Street		Auto Repair
B	1968	1	71	Gas Station/Vehicle Repair/Service	1060		E Street		Gas and Oil/ Auto Repair
B	1968	1	71	Gas Station	1163		E Street		Gas and Oil
B	1968	1	72	Gas Station	1413		Kern Street		Gas and Oil
B	1968	1	72	Vehicle Repair/Service	1408		Kern Street		Auto Repair
B	1968	1	73	Gas Station	615		E Street		Gas and oil
B	1968	1	74	Gas Station	1410		Ventura Ave		Gas and Oil
B	1968	1	76	Gas Station	319		C Street		Gas and oil
B	1968	2	261	Petroleum Storage/UST	105	North	H Street	Union Oil of California	Oil tanks with oil warehouse
B	1968	2	261	Vehicle Repair/Service	205	North	H Street		Auto Service
B	1968	2	261	Gas Station	2121	North	H Street		Filling Station
B	1968	2	261	Fertilizers/Pesticides	126		Roosevelt Ave		Pest Exterminator

Appendix C

TRACK ➤ INFO SERVICES, LLC

Environmental FirstSearch™ Report

Target Property: FULTON CORRIDOR PLAN AREA

FULTON CORRIDOR PLAN

FRESNO CA 93721

Job Number: 1410022B

PREPARED FOR:

Krazan and Associates

215 West Dakota Ave

Clovis, CA 93612

03-15-10

Tel: (866) 664-9981 *Fax: (818) 249-4227*

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Environmental FirstSearch
Search Summary Report

Target Site: FULTON CORRIDOR PLAN
FRESNO CA 93721

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	02-23-10	1.00	0	0	0	0	1	0	1
NPL Delisted	Y	02-23-10	0.12	0	0	-	-	-	0	0
CERCLIS	Y	01-29-10	0.12	0	0	-	-	-	3	3
NFRAP	Y	01-29-10	0.12	1	0	-	-	-	1	2
RCRA COR ACT	Y	01-13-10	0.12	1	0	-	-	-	0	1
RCRA TSD	Y	01-13-10	0.12	1	0	-	-	-	0	1
RCRA GEN	Y	12-11-09	0.12	37	15	-	-	-	1	53
RCRA NLR	Y	12-11-09	0.12	4	3	-	-	-	0	7
Federal Brownfield	Y	01-19-10	0.12	0	0	-	-	-	0	0
ERNS	Y	02-08-10	0.12	2	2	-	-	-	27	31
Tribal Lands	Y	12-01-05	0.12	0	0	-	-	-	3	3
State/Tribal Sites	Y	02-08-10	0.12	4	0	-	-	-	5	9
State Spills 90	Y	03-11-10	0.12	4	0	-	-	-	2	6
State/Tribal SWL	Y	02-22-10	0.12	1	0	-	-	-	1	2
State/Tribal LUST	Y	03-01-10	0.12	33	12	-	-	-	2	47
State/Tribal UST/AST	Y	05-13-09	0.12	185	77	-	-	-	14	276
State/Tribal EC	Y	NA	0.12	0	0	-	-	-	0	0
State/Tribal IC	Y	03-02-10	0.12	0	0	-	-	-	0	0
State/Tribal VCP	Y	02-08-10	0.12	1	0	-	-	-	0	1
State/Tribal Brownfields	Y	NA	0.12	0	0	-	-	-	0	0
State Permits	Y	02-19-10	0.12	56	11	-	-	-	3	70
State Other	Y	02-08-10	0.12	3	0	-	-	-	1	4
Oil & Gas Wells	Y	01-08-01	0.12	0	0	-	-	-	0	0
Federal IC/EC	Y	03-12-10	0.12	0	0	-	-	-	0	0
Meth Labs	Y	03-01-09	0.12	0	0	-	-	-	0	0
HW Manifest	Y	02-19-10	0.12	28	34	-	-	-	2	64
- TOTALS -				361	154	0	0	1	65	581

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to TRACK Info Services, certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in TRACK Info Services's databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although TRACK Info Services uses its best efforts to research the actual location of each site, TRACK Info Services does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of TRACK Info Services's services proceeding are signifying an understanding of TRACK Info Services's searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

Environmental FirstSearch
Site Information Report

Request Date:	03-15-10	**Search Type:**	AREA
Requestor Name:	Joel Redding		1.05 sq mile(s)
Standard:	AREA	**Job Number:**	1410022B
		Filtered Report	

Target Site: FULTON CORRIDOR PLAN
FRESNO CA 93721

Demographics

Sites:	581	**Non-Geocoded:**	65	**Population:**	NA
Radon:	NA				

Site Location

	Degrees (Decimal)	Degrees (Min/Sec)		UTMs
Longitude:	-119.793035	-119:47:35	**Easting:**	250587.164
Latitude:	36.733328	36:43:60	**Northing:**	4068725.311
Elevation:	N/A		**Zone:**	11

Comment

Comment:

Additional Requests/Services

Adjacent ZIP Codes: 1 Mile(s)

ZIP Code	City Name	ST	Dist/Dir	Sel
93701	FRESNO	CA	0.00 --	Y
93702	FRESNO	CA	0.43 NE	Y
93703	FRESNO	CA	0.99 NE	Y
93706	FRESNO	CA	0.00 --	Y
93725	FRESNO	CA	0.71 SE	Y
93728	FRESNO	CA	0.47 NW	Y

Services:

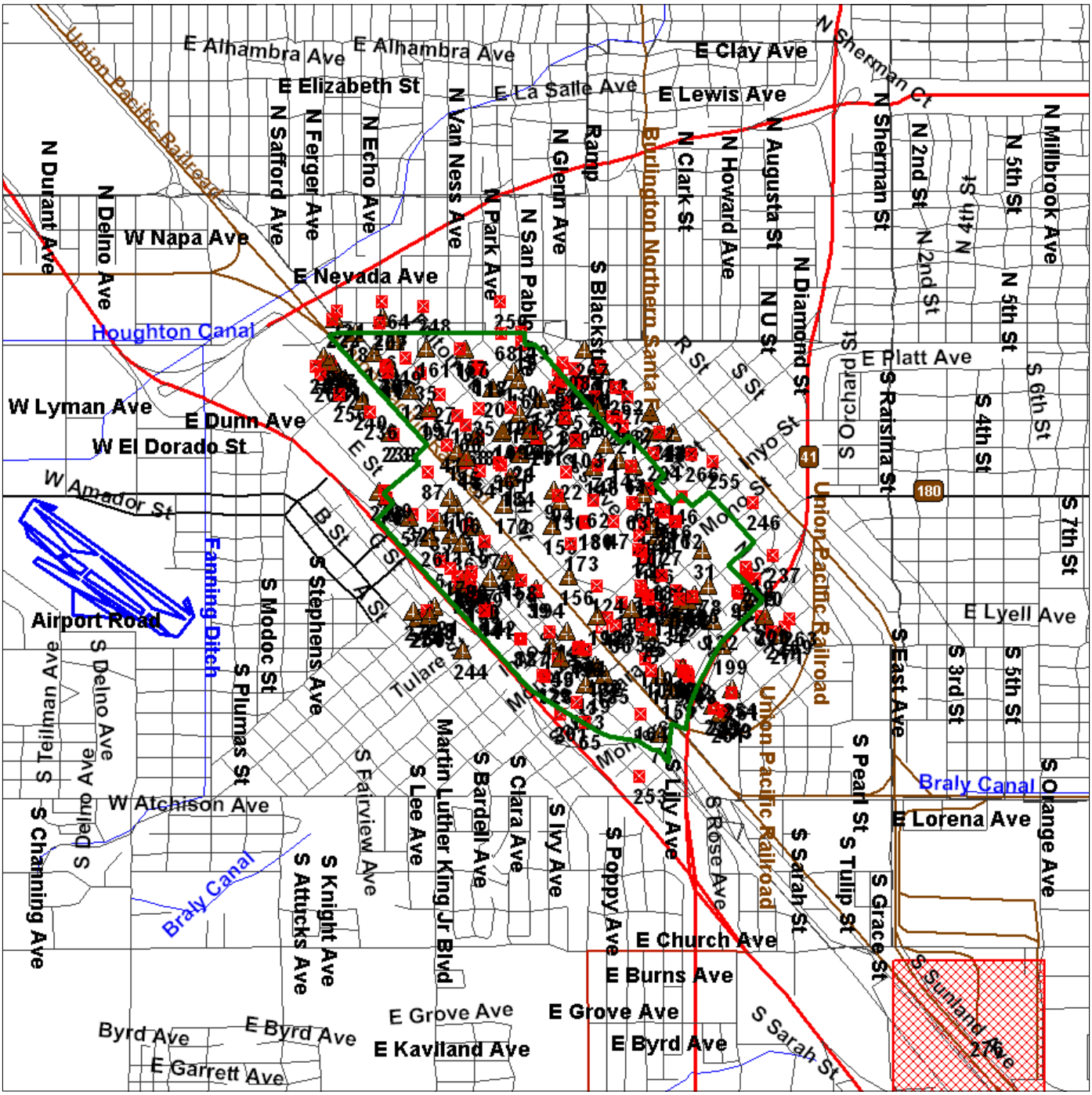
	Requested?	Date
Fire Insurance Maps	No	
Aerial Photographs	No	
Historical Topos	No	
City Directories	No	
Title Search/Env Liens	No	
Municipal Reports	No	
Online Topos	No	

Environmental FirstSearch

1 Mile Radius from Area

Single Map:

FULTON CORRIDOR PLAN , FRESNO CA 93721



Source: U.S. Census TIGER Files

Area Polygon .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

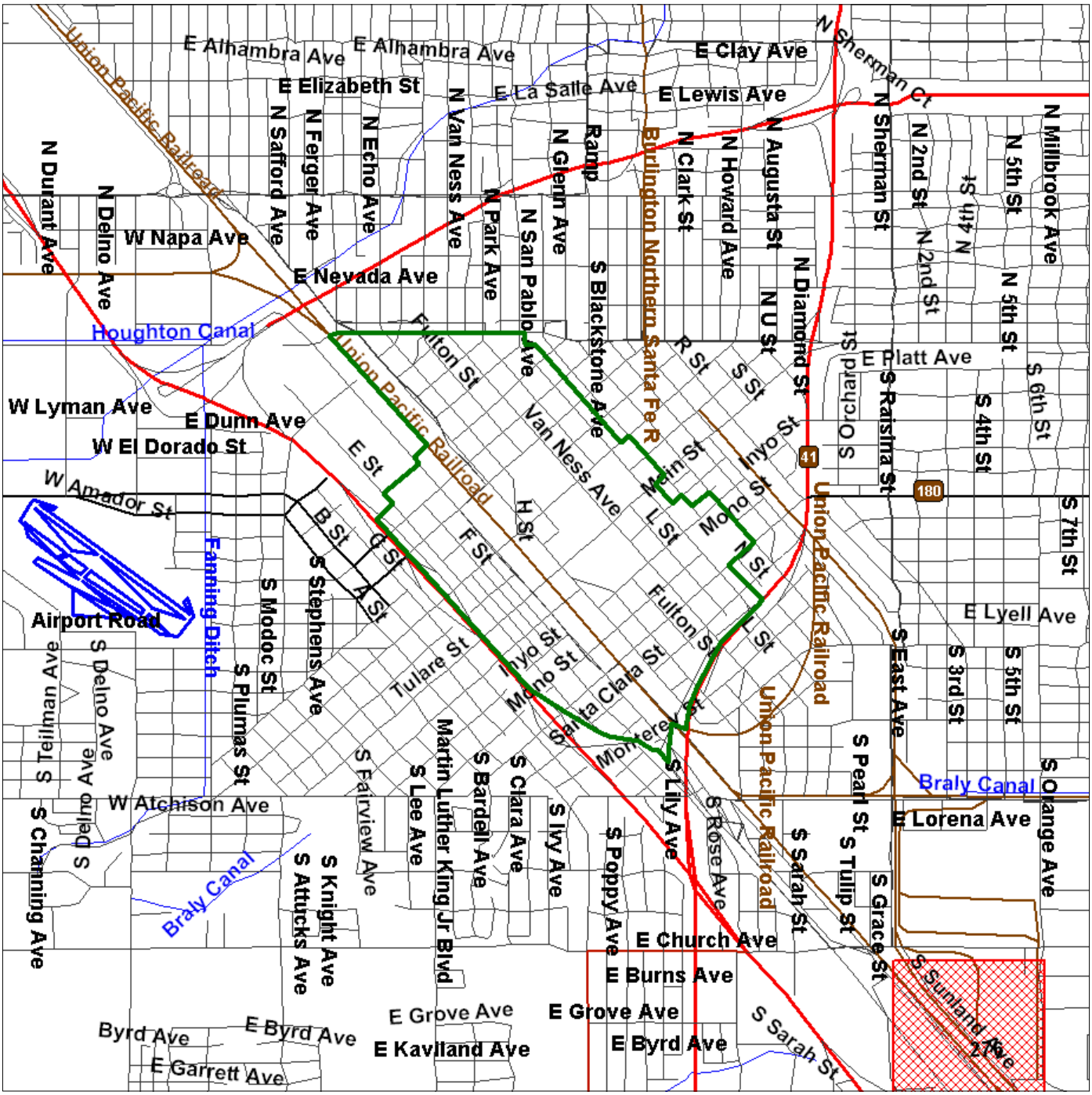
Oil Gas Wells .....

Environmental FirstSearch

1 Mile Radius from Area

AREA: NPL

FULTON CORRIDOR PLAN , FRESNO CA 93721



Source: U.S. Census TIGER Files

Area Polygon .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

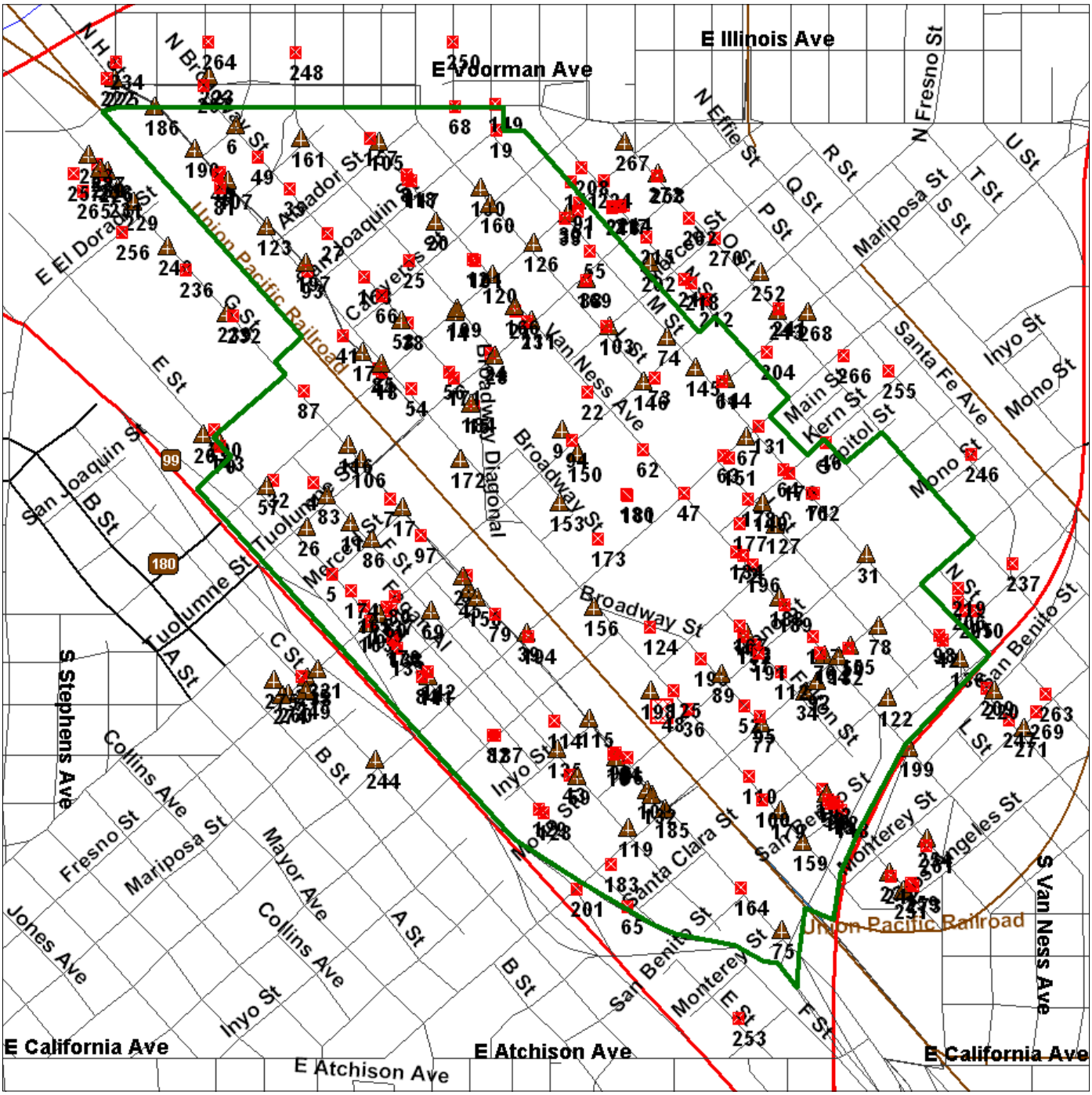
Oil Gas Wells .....

Environmental FirstSearch

.12 Mile Radius from Area

AREA: Multiple Databases

FULTON CORRIDOR PLAN , FRESNO CA 93721



Source: U.S. Census TIGER Files

Area Polygon .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads .....

Oil Gas Wells .....

Environmental FirstSearch
Target Site Summary Report

Target Property: FULTON CORRIDOR PLAN
FRESNO CA 93721

JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
1	LUST	FRESNO COUNTY CREDIT UNION PRO T0601900028/COMPLETED - CASE CLO	2211 MERCED ST FRESNO CA 93721	0.00 --	N/A	2
1	UST	FRESNO CO EMPLOYEES CREDIT UN TISID-STATE15014/ACTIVE	2211 MERCED FRESNO CA 93721	0.00 --	N/A	6
1	STATE	FRESNO COUNTY EMPLOYEE CREDIT CAL10550002/PROPERTY/SITE REFERR	2211 MERCED ST FRESNO CA 93721	0.00 --	N/A	4
1	NFRAP	FRESNO COUNTY CREDIT UNION CAD982358509/NFRAP-N	2211 MERCED ST FRESNO CA 93721	0.00 --	N/A	1
1	UST	PARKING LOT FRESNOCO4902/UNDERGROUND TANK REM	2211 MERCED ST FRESNO CA 93721	0.00 --	N/A	6
2	SPILLS	VAN WATERS and ROGERS INC - FR G_SL185704255/OPEN - REMEDIATION	1152 G ST FRESNO CA 93706	0.00 --	N/A	12
2	RCRAGN	UNIVAR USA, INC CAD047384185/SGN	1152 G ST FRESNO CA 93706	0.00 --	N/A	8
2	RCRANLR	VAN WATERS and ROGERS DIVISION CAD047384185/NLR	1152 G ST FRESNO CA 93706	0.00 --	N/A	11
2	UST	VAN WATERS and ROGERS FRESNOCO4055/UNDERGROUND TANK REM	1152 G ST FRESNO CA 93709	0.00 --	N/A	13
2	RCRATSD	VAN WATERS and ROGERS DIVISION CAD047384185/TSD	1152 STREET FRESNO CA 93706	0.00 --	N/A	13
2	UST	VAN WATERS and ROGERS, DIV. OF TISID-STATE2493/INACTIVE	1152 G FRESNO CA 93706	0.00 --	N/A	12
3	RCRACOR	UNIVAR USA, INC CAD047384185/CA	1152 G ST FRESNO CA 93721	0.00 --	N/A	14
4	RCRAGN	ACCURATE METAL PROCESSING CO CAD982525917/SGN	1444 F ST FRESNO CA 93706	0.00 --	N/A	14
5	RCRAGN	BRINKS INC CAR000080077/SGN	1303 E ST FRESNO CA 97706	0.00 --	N/A	15
6	UST	IMPERIAL SAVINGS ASSOCIATION FRESNOCO5117/CLOSED UST FACILITY/	2005 BROADWAY FRESNO CA 93721	0.00 --	N/A	16
6	LUST	VACANT BUILDING T0601900449/COMPLETED - CASE CLO	2005 BROADWAY FRESNO CA 93721	0.00 --	N/A	17
6	RCRAGN	CVPI GOLDEN STATE SCHOOL CAD981446164/SGN	2005 BROADWAY FRESNO CA 93721	0.00 --	N/A	16
7	RCRAGN	DUMONT PRINTING CAD983608233/SGN	1333 G ST FRESNO CA 93706	0.00 --	N/A	18
8	RCRAGN	ELECTRIC LABORATORIES CAD981674211/SGN	1740 VAN NESS FRESNO CA 93721	0.00 --	N/A	19
9	UST	FRESNO HEALTH DEPT TISID-STATE15054/ACTIVE	1221 FULTON MALL FRESNO CA 93721	0.00 --	N/A	20
9	UST	DEPARTMENT OF COMMUNITY HEALTH FRESNOCO3024/UNDERGROUND TANK FAC	1221 FULTON MALL FRESNO CA 93721	0.00 --	N/A	19

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9	UST	DEPARTMENT OF COMMUNITY HEALTH FRESNOCO3437/UNDERGROUND TANK FAC	1221 FULTON MALL FRESNO CA 93721	0.00 --	N/A	20
9	RCRAGN	FRESNO COUNTY HEALTH DEPT LAB CAD982037467/SGN	1221 FULTON MALL FRESNO CA 93721	0.00 --	N/A	21
10	RCRAGN	FRESNO CRANKSHAFT SERVICE CAD982373904/SGN	455 BROADWAY FRESNO CA 93721	0.00 --	N/A	22
11	PERMIT	VALLEY AIR CONDITIONING INC CAL000256294/ACTIVE	1350 F ST FRESNO CA 93706	0.00 --	N/A	24
11	RCRAGN	FRESNO FRICTION MATERIAL CAD982525651/SGN	1350 F ST FRESNO CA 93706	0.00 --	N/A	23
11	UST	VALLEY AIR CONDITIONING and RE FRESNOCO5695/CLOSED UST FACILITY/	1350 F ST FRESNO CA 93706	0.00 --	N/A	25
11	UST	FRESNO FRICTION MATERIALS TISID-STATE18221/ACTIVE	1350 F FRESNO CA 93706	0.00 --	N/A	25
12	RCRAGN	FRESNO METROPOLITAN MUSEUM OF CAC002609018/VGN	1555 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	26
13	RCRAGN	FRESNO RADIATOR WORK CAD982370793/SGN	411 BROADWAY FRESNO CA 93721	0.00 --	N/A	27
14	PERMIT	RICK S TIRE and SERVICE CAL000064960/ACTIVE	1501 FULTON ST FRESNO CA 93721	0.00 --	N/A	29
14	RCRAGN	GENERAL TIRE SERVICE CAD982435042/SGN	1501 FULTON ST FRESNO CA 93721	0.00 --	N/A	28
15	RCRAGN	GESTETNER CORP CAD981679251/SGN	1353 BROADWAY FRESNO CA 93721	0.00 --	N/A	30
16	STATE	INDUSTRIAL PLATING CAL10340009/PROPERTY/SITE REFERR	733 G ST FRESNO CA 93706	0.00 --	N/A	32
16	RCRAGN	INDUSTRIAL PLATING CO CAD056183064/SGN	733 G ST FRESNO CA 93706	0.00 --	N/A	33
17	UST	LAMOURE S CLEANERS FRESNOCO4056/CLOSED UST FACILITY/	1304 G ST FRESNO CA 93706	0.00 --	N/A	35
17	UST	LAMOURES CLEANERS TISID-STATE15875/ACTIVE	1304 G FRESNO CA 93706	0.00 --	N/A	35
17	RCRAGN	LAMOURES INC CAD981615453/SGN	1304 G ST FRESNO CA 93706	0.00 --	N/A	34
18	RCRAGN	LIGHTNING TRACK and AUTO PAINT CAD982025637/SGN	1506 H ST FRESNO CA 93721	0.00 --	N/A	36
19	RCRAGN	MARJAREE MASON CENTER CAR000193151/SGN	1660 M ST FRESNO CA 93721	0.00 --	N/A	37
20	RCRANLR	PACIFIC BELL CAT080023377/NLR	1649 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	38

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20	RCRAGN	PACIFIC BELL CAT080023377/TR	1649 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	38
21	RCRAGN	PACIFIC BELL CAT080020639/SGN	1429, 1445, 1455 VAN NESS A FRESNO CA 93721	0.00 --	N/A	39
22	RCRAGN	PACIFIC BELL CAT080023492/SGN	1245 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	40
23	RCRAGN	PACIFIC BELL CAT080023427/SGN	1407 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	41
24	RCRAGN	PACIFIC BELL CAT080023393/SGN	1401 FULTON AVE FRESNO CA 93721	0.00 --	N/A	42
25	RCRAGN	PACIFIC BELL CAT080023435/SGN	1621 FULTON AVE FRESNO CA 93721	0.00 --	N/A	43
26	UST	PACIFIC BELL FRESNOCO2808/UNDERGROUND TANK FAC	1420 TUOLUMNE FRESNO CA 93706	0.00 --	N/A	44
26	UST	PACIFIC BELL (SB-659) TISID-STATE15491/ACTIVE	1420 TUOLOMNE FRESNO CA 93706	0.00 --	N/A	44
26	RCRAGN	PACIFIC BELL CAT080023443/SGN	1420 TUOLUMNE ST FRESNO CA 93706	0.00 --	N/A	45
27	RCRAGN	PEERLESS PUMP CAD983595596/SGN	1755 BROADWAY FRESNO CA 93721	0.00 --	N/A	46
28	UST	PGandE SAN JOAQUIN VAL REG HDQ FRESNOCO5781/CLOSED UST FACILITY/	1401 FULTON FRESNO CA 93760	0.00 --	N/A	47
28	RCRAGN	PGandE SAN JOAQUIN REGIONAL OF CAD981460298/SGN	1401 FULTON ST FRESNO CA 93760	0.00 --	N/A	47
29	RCRAGN	POP S ENGINE DISTRIBUTING CAD982371965/SGN	1960 H ST FRESNO CA 93721	0.00 --	N/A	48
30	UST	PREMIER IMPORTS TISID-STATE2716/INACTIVE	2305 STANISLAUS FRESNO CA 93721	0.00 --	N/A	48
30	RCRAGN	PREMIER IMPORTS CAD982462467/SGN	2305 STANISLAUS ST FRESNO CA 93721	0.00 --	N/A	49
30	UST	PREMIER IMPORTS FRESNOCO4436/CLOSED UST FACILITY/	2305 STANISLAUS FRESNO CA 93721	0.00 --	N/A	50
31	UST	CONVENTION CENTER TISID-STATE15444/ACTIVE	700 M FRESNO CA 93706	0.00 --	N/A	51
31	UST	CONVENTION CENTER FRESNOCO5233/CLOSED UST FACILITY/	700 M ST FRESNO CA 93721	0.00 --	N/A	50
31	RCRAGN	SELLAND ARENA CAR000189480/LGN	700 M ST FRESNO CA 93721	0.00 --	N/A	52
32	RCRAGN	SHERWIN WILLIAMS CO CAT000619148/SGN	1440 STANISLAUS ST FRESNO CA 93706	0.00 --	N/A	53

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33	RCRAGN	SLAVICH BROS INC CAD982029795/SGN	STANISLAUS AND M ST FRESNO CA 93721	0.00 --	N/A	54
34	RCRAGN	THE GLIDDEN CO DBA ICI PAINTS CAR000154799/SGN	2010 VENTURA FRESNO CA 93721	0.00 --	N/A	55
34	UST	STANDARD BRANDS PAINT- 8 TISID-STATE15322/ACTIVE	2010 VENTURA FRESNO CA 93721	0.00 --	N/A	54
35	RCRAGN	TRAVELER BODY and FENDER WORKS CAD982003089/SGN	1861 BROADWAY FRESNO CA 93721	0.00 --	N/A	56
36	RCRAGN	WHEEL CREATIONS PLUS CAD982500415/SGN	706 H ST FRESNO CA 93721	0.00 --	N/A	57
37	RCRAGN	WILSHIRE PAINT CO CAC002558981/LGN	712 FULTON ST FRESNO CA 93721	0.00 --	N/A	58
38	RCRAGN	WILSHIRE PAINT COMPANY CAC002558991/LGN	1538 BROADWAY ST FRESNO CA 93721	0.00 --	N/A	59
39	RCRAGN	YORKSHIRE DRIED FRUIT NUTS INC CAD981397193/SGN	1625 TULARE ST FRESNO CA 93706	0.00 --	N/A	61
39	UST	DEL MONTE USA FRESNOCO4740/CLOSED UST FACILITY/	1625 TULARE FRESNO CA 93706	0.00 --	N/A	62
39	LUST	DEL MONTE T0601900175/COMPLETED - CASE CLO	1625 TULARE ST FRESNO CA 93706	0.00 --	N/A	60
40	RCRANLR	COPY CENTER PRESS CAD091284679/NLR	1963 H ST FRESNO CA 93721	0.00 --	N/A	62
41	RCRANLR	PACIFIC MOTOR TRUCKING CO CAD045019411/NLR	1603 H ST FRESNO CA 93721	0.00 --	N/A	63
42	ERNS	UNKNOWN 234911/FIXED FACILITY	502 M ST FRESNO CA 93721	0.00 --	N/A	65
43	ERNS	NRC-797658/FIXED	755 F ST FRESNO CA 93706	0.00 --	N/A	67
44	STATE	DILL ELDON PLATING and POLISHI CAL10340007/PROPERTY/SITE REFERR	1516 H ST FRESNO CA 93721	0.00 --	N/A	70
45	VCP	PGandE G STREET SUBSTATION CAL10490101/CERTIFIED	1131 G ST FRESNO CA 93706	0.00 --	N/A	72
45	SPILLS	PGandE - G STREET FRESNO G_SLT5FT504525/OPEN - SITE ASSESSM	1131 G ST FRESNO CA 93706	0.00 --	N/A	74
45	STATE	PGandE G STREET SUBSTATION CAL10490101/BACKLOG - POTENTIAL	1131 G ST FRESNO CA 93706	0.00 --	N/A	73
46	SPILLS	FMC G_SLT5S5393761/OPEN	P.O. BOX 1669 FRESNO CA 93717	0.00 --	N/A	74
47	SPILLS	FMFCD - NURP G_SLT5FT234498/COMPLETED - CASE CL	2100 TULARE ST, ROWELL BLDG FRESNO CA 93721	0.00 --	N/A	75

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48	SWL	FALCON TIRES I SWIS10-TI-0550/ACTIVE	735 NORTH H STREET FRESNO CA 93721	0.00 --	N/A	75
49	PERMIT	A and B PAYLESS TRANSMISSION CAL000302887/ACTIVE	1935 BROADWAY AVE FRESNO CA 93721	0.00 --	N/A	76
50	PERMIT	AGM NAPA AUTO CARE CAL000324960/ACTIVE	2149 VENTURA AVE FRESNO CA 93721	0.00 --	N/A	77
51	PERMIT	ALMARED INC DBA A-1 AUTO ELECT CAL000298503/ACTIVE	2320 STANISLAUS ST FRESNO CA 93721	0.00 --	N/A	78
52	PERMIT	ARROW ELECTRIC MOTOR SERVICE CAL000000403/ACTIVE	645 BROADWAY FRESNO CA 93721	0.00 --	N/A	79
53	PERMIT	AUTO MACHINE SPECIALTIES INC. CAL000287773/ACTIVE	420 BROADWAY FRESNO CA 93721	0.00 --	N/A	80
54	PERMIT	BEAUTIWOOD UNFINISHED FURNITUR CAL000260485/ACTIVE	1454 H ST FRESNO CA 93721	0.00 --	N/A	81
55	PERMIT	BIG 3DCOM CAL000219971/ACTIVE	1419 M ST FRESNO CA 93721	0.00 --	N/A	82
56	PERMIT	BILLS FOREIGN AUTO REPAIR CAL000120409/ACTIVE	1427 BROADWAY FRESNO CA 93721	0.00 --	N/A	83
57	UST	BSK and ASSOCIATES GEOTECHNICA FRESNOCO4435/UNDERGROUND TANK REM	1414 STANISLAUS FRESNO CA 93706	0.00 --	N/A	84
57	PERMIT	BSK ASSOCIATES CAL000011582/ACTIVE	1414 STANISLAUS FRESNO CA 93706	0.00 --	N/A	85
57	UST	BSK and ASSOCIATES TISID-STATE2458/INACTIVE	1414 STANISLAUS FRESNO CA 93706	0.00 --	N/A	86
58	PERMIT	BUD EBERWEIN BRAKE and WHEEL A CAD982342784/ACTIVE	1559 BROADWAY FRESNO CA 93721	0.00 --	N/A	87
58	UST	EBERWEIN BRAKE and WHEEL FRESNOCO3760/CLOSED UST FACILITY/	1559 BROADWAY FRESNO CA 93721	0.00 --	N/A	86
59	UST	DANISH CREAMERY ASSOCIATION FRESNOCO5894/UNDERGROUND TANK REM	755 F ST FRESNO CA 93706	0.00 --	N/A	89
59	UST	DANISH CREAMERY ASSOCIATION TISID-STATE15234/ACTIVE	755 F FRESNO CA 93706	0.00 --	N/A	89
59	PERMIT	CALIFORNIA DAIRIES INC CAL000218738/ACTIVE	755 F ST FRESNO CA 93760	0.00 --	N/A	88
60	PERMIT	CITY OF FRESNO FIRE DEPT. MAIN CAL000064607/ACTIVE	1420 FRESNO ST FRESNO CA 93706	0.00 --	N/A	90
61	PERMIT	CITY OF FRESNO POLICE DEPT. PR CAL000106117/ACTIVE	2323 MARIPOSA MALL FRESNO CA 93721	0.00 --	N/A	91
62	PERMIT	CNTY OF FRESNO/COUNTY COURTHOU CAL000138693/ACTIVE	1100 VAN NESS FRESNO CA 93721	0.00 --	N/A	92

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63	PERMIT	CNTY OF FRESNO/GSA RISK MGMT CAL000174743/ACTIVE	2220 TULARE ST FRESNO CA 93702	0.00 --	N/A	93
64	PERMIT	D and R AUTOMOTIVE SERVICES OF CAL000321584/ACTIVE	901 M ST FRESNO CA 93721	0.00 --	N/A	94
65	PERMIT	DIAZ TRANSMISSION CAL000269887/ACTIVE	514 E ST FRESNO CA 93706	0.00 --	N/A	95
66	PERMIT	FACTORY TIRE CAL000251098/ACTIVE	1608 BROADWAY FRESNO CA 93721	0.00 --	N/A	96
67	UST	HALL OF RECORDS FRESNOCO3439/UNDERGROUND TANK FAC	2281 TULARE ST FRESNO CA 93721	0.00 --	N/A	98
67	PERMIT	FARM USED OIL FRESNO COUNTY CAF000000010/INACTIVE	2281 TULARE ST FRESNO CA 93721	0.00 --	N/A	97
67	UST	HALL OF RECORDS FRESNOCO3061/UNDERGROUND TANK FAC	2281 TULARE ST FRESNO CA 93721	0.00 --	N/A	98
68	PERMIT	FORENSIC LAB UNIT CAL000181759/ACTIVE	1256 DIVISADERO FRESNO CA 93721	0.00 --	N/A	99
69	UST	SANTIS INC. TISID-STATE18757/ACTIVE	1142 F FRESNO CA 93706	0.00 --	N/A	100
69	UST	PHIL S AUTOMOTIVE CENTER FRESNOCO3113/UNDERGROUND TANK FAC	1142 F ST FRESNO CA 93706	0.00 --	N/A	100
69	PERMIT	FRESNO AUTO SERVICE CAL000325372/ACTIVE	1142 F ST FRESNO CA 93706	0.00 --	N/A	101
69	UST	PHIL S AUTOMOTIVE CENTER FRESNOCO3521/UNDERGROUND TANK FAC	1142 F ST FRESNO CA 93706	0.00 --	N/A	102
70	PERMIT	FRESNO BEE THE CAD009182122/ACTIVE	1626 E ST FRESNO CA 93786	0.00 --	N/A	103
71	PERMIT	FRESNO CONVENTION and ENTERTAI CAL000330386/ACTIVE	848 M ST FRESNO CA 93721	0.00 --	N/A	104
72	PERMIT	FRESNO COUNTY GRAPHIC COMMUNIC CAL000294699/ACTIVE	844 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	105
73	PERMIT	FRESNO COUNTY SHERIFFS DEPT CAL000111474/ACTIVE	2200 FRESNO ST FRESNO CA 93721	0.00 --	N/A	106
74	UST	MAIN JAIL FRESNOCO2788/UNDERGROUND TANK FAC	1225 M ST FRESNO CA 93721	0.00 --	N/A	109
74	UST	COUNTY JAIL (NEW) TISID-STATE15103/ACTIVE	1225 M FRESNO CA 93712	0.00 --	N/A	107
74	PERMIT	FRESNO COUNTY-FRESNO COUNTY JA CAL000325483/ACTIVE	1225 M ST FRESNO CA 93721	0.00 --	N/A	108
75	PERMIT	FRESNO RESCUE MISSION CAL000274633/ACTIVE	310 G ST FRESNO CA 93706	0.00 --	N/A	110

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75	UST	FRESNO RESCUE MISSION FRESNOCO4052/UNDERGROUND TANK REM	310 G ST FRESNO CA 93706	0.00 --	N/A	111
76	PERMIT	GATEWAY AUTO SALES and LEASING CAL000270921/ACTIVE	621 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	112
77	UST	GEORGES AUTO CARE FRESNOCO3055/UNDERGROUND TANK FAC	603 BROADWAY FRESNO CA 93721	0.00 --	N/A	113
77	PERMIT	GEORGES AUTO CARE SMOG CENTER CAL000274712/ACTIVE	603 BROADWAY FRESNO CA 93721	0.00 --	N/A	114
77	UST	GEORGES AUTO CARE FRESNOCO3544/UNDERGROUND TANK FAC	603 BROADWAY FRESNO CA 93721	0.00 --	N/A	115
78	UST	HARON MOTOR SALES FRESNOCO4431/UNDERGROUND TANK REM	2222 VENTURA FRESNO CA 93721	0.00 --	N/A	119
78	UST	HARRON MOTOR SALES TISID-STATE2767/INACTIVE	2222 VENTURA FRESNO CA 93721	0.00 --	N/A	117
78	PERMIT	HARON MOTOR SALES INC CAL000007042/ACTIVE	2222 VENTURA FRESNO CA 93721	0.00 --	N/A	116
78	LUST	HARON MOTOR SALES T0601900328/COMPLETED - CASE CLO	2222 VENTURA AVE FRESNO CA 93721	0.00 --	N/A	118
79	PERMIT	JENSEN and PILEGARD CAL000111326/ACTIVE	1068 G ST FRESNO CA 93706	0.00 --	N/A	120
80	PERMIT	JOYERIA CUATES CAL000327748/ACTIVE	1435 FRESNO ST FRESNO CA 93706	0.00 --	N/A	121
81	PERMIT	JR BODYSHOP CAL000316198/ACTIVE	1940 H ST STE 103 FRESNO CA 93721	0.00 --	N/A	122
82	PERMIT	KIM AUTO REPAIR CAL000324952/ACTIVE	1413 KERN ST FRESNO CA 93706	0.00 --	N/A	123
83	LUST	DUNAVANT and W.B. CO. T0601900443/COMPLETED - CASE CLO	1410 F ST FRESNO CA 93706	0.00 --	N/A	124
83	PERMIT	KLEINFELDER CAL000178235/INACTIVE	1410 F ST FRESNO CA 93771	0.00 --	N/A	125
83	UST	W B DUNAVANT CO FRESNOCO4003/CLOSED UST FACILITY/	1410 F ST FRESNO CA 93706	0.00 --	N/A	126
83	UST	DUNAVANT W B CO TISID-STATE19245/ACTIVE	1410 F FRESNO CA 93771	0.00 --	N/A	126
84	PERMIT	KURATA AUTO REPAIR CAL000196279/ACTIVE	1060 E ST STE 1 FRESNO CA 93706	0.00 --	N/A	127
85	OTHER	DILL ELDON PLATING and POLISHI CAL10340007/REFER: OTHER AGENCY	1516 H ST FRESNO CA 93721	0.00 --	N/A	129
85	PERMIT	MELERO S AUTOMOTIVE REPAIR CAL000294082/ACTIVE	1516 H ST FRESNO CA 93721	0.00 --	N/A	128

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86	UST	O BRIEN S BRAKE SERVICE FRESNOCO5344/CLOSED UST FACILITY/	1515 MERCED ST FRESNO CA 93706	0.00 --	N/A	130
86	UST	O BRIEN S BRAKE SERVICE, INC. TISID-STATE2827/INACTIVE	1515 MERCED FRESNO CA 93706	0.00 --	N/A	132
86	PERMIT	O BRIEN S BRAKE SERVICE INC CAD028199289/ACTIVE	1515 MERCED ST FRESNO CA 93706	0.00 --	N/A	131
87	PERMIT	OK PRODUCE CAL000309033/ACTIVE	1502 G ST FRESNO CA 93706	0.00 --	N/A	133
88	PERMIT	PATTERSON AUTOMOTIVE CAL000316209/ACTIVE	2240 TUOLUMNE ST FRESNO CA 93721	0.00 --	N/A	134
89	PERMIT	PEP BOYS 624 CAD981662505/ACTIVE	716 BROADWAY FRESNO CA 93721	0.00 --	N/A	136
89	UST	PEP BOYS 624 FRESNOCO6040/CLOSED UST FACILITY/	716 BROADWAY FRESNO CA 93721	0.00 --	N/A	137
89	UST	PEP BOYS 624 FRESNOCO2823/UNDERGROUND TANK FAC	716 BROADWAY FRESNO CA 93721	0.00 --	N/A	135
89	UST	PEP BOYS 624 TISID-STATE15779/ACTIVE	716 BROADWAY FRESNO CA 93721	0.00 --	N/A	137
90	PERMIT	PRECISION FRAME and COLLISION CAL000287094/INACTIVE	412 BROADWAY ST FRESNO CA 93721	0.00 --	N/A	138
91	PERMIT	PRO AUTO CAL000273385/ACTIVE	2345 STANISLAUS FRESNO CA 93721	0.00 --	N/A	139
92	PERMIT	RODS CUSTOM ELECTRONICS INC. CAL000303260/ACTIVE	2048 VENTURA ST FRESNO CA 93721	0.00 --	N/A	141
92	UST	CITY OF FRESNO FRESNOCO5364/CLOSED UST FACILITY/	2048 VENTURA ST FRESNO CA 93721	0.00 --	N/A	140
93	PERMIT	SAUNDERS AUTOMATIC SERVICE CAL000307597/ACTIVE	1720 H ST FRESNO CA 93721	0.00 --	N/A	142
94	PERMIT	SMILE CARE CAL000292483/ACTIVE	2000 FRESNO ST STE 300 FRESNO CA 93721	0.00 --	N/A	143
95	PERMIT	THE MECHANIC SHOP CAL000281263/ACTIVE	602 BROADWAY ST FRESNO CA 93721	0.00 --	N/A	144
96	PERMIT	TRANSTAR INDUSTRIES INC CAL000330293/ACTIVE	704 G ST FRESNO CA 93706	0.00 --	N/A	145
97	PERMIT	VAL PRINT CAL000021161/ACTIVE	1257 G ST FRESNO CA 93706	0.00 --	N/A	146
98	PERMIT	VALLEY LAHVOSH BAKING CO CAL000304980/ACTIVE	502 M ST FRESNO CA 93721	0.00 --	N/A	147
99	PERMIT	VALLEY METAL FINISHING COMPANY CAL000050286/ACTIVE	733 G ST FRESNO CA 93704	0.00 --	N/A	148

Environmental FirstSearch
Target Site Summary Report

Target Property: FULTON CORRIDOR PLAN
FRESNO CA 93721

JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
100	PERMIT	VALLEY PIPE and SUPPLY INC. CAL000072983/ACTIVE	1801 SANTA CLARA FRESNO CA 93721	0.00 --	N/A	149
101	PERMIT	VALLEY PUBLIC TELEVISION INC CAL000251692/ACTIVE	1544 VAN NESS FRESNO CA 93721	0.00 --	N/A	150
102	PERMIT	WAREHOUSE AUTOMOTIVE CAL000278652/ACTIVE	410 BROADWAY FRESNO CA 93721	0.00 --	N/A	151
103	OTHER	FRESNO COUNTY EMPLOYEE CREDIT CAL10550002/REFER: RWQCB	2211 MERCED ST FRESNO CA 93721	0.00 --	N/A	152
104	OTHER	INDUSTRIAL PLATING CAL10340009/REFER: OTHER AGENCY	733 G ST FRESNO CA 93706	0.00 --	N/A	153
105	LUST	3M ADVERTISING T0601900207/COMPLETED - CASE CLO	1816 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	156
105	UST	3-M ADVERTISING FRESNOCO3613/CLOSED UST FACILITY/	1816 VAN NESS FRESNO CA 93721	0.00 --	N/A	154
106	UST	A and A PRODUCE TISID-STATE16672/ACTIVE	1418 G FRESNO CA 93706	0.00 --	N/A	157
106	UST	AandA PRODUCE FRESNOCO2986/UNDERGROUND TANK FAC	1418 G ST FRESNO CA 93706	0.00 --	N/A	158
106	UST	AandA PRODUCE FRESNOCO5707/UNDERGROUND TANK REM	1418 G ST FRESNO CA 93706	0.00 --	N/A	157
107	UST	ABANDONED BUILDING TISID-STATE2390/INACTIVE	1940 H FRESNO CA 93721	0.00 --	N/A	158
107	UST	ABANDONED BUILDING FRESNOCO4787/CLOSED UST FACILITY/	1940 H ST FRESNO CA 93721	0.00 --	N/A	159
108	LUST	ABANDONED SERVICE STATION T0601900122/OPEN - SITE ASSESSME	655 G ST FRESNO CA 93721	0.00 --	N/A	161
108	UST	ABANDONED GAS STATION FRESNOCO5284/UNDERGROUND TANK REM	655 G ST FRESNO CA 93706	0.00 --	N/A	163
109	UST	FRESNO METROPOLITAN MUSEUM FRESNOCO5468/CLOSED UST FACILITY/	1502 FULTON ST FRESNO CA 93721	0.00 --	N/A	164
109	UST	ACE SERVICE TISID-STATE15381/ACTIVE	1502 FULTON FRESNO CA 93721	0.00 --	N/A	163
110	UST	ACE SERVICE TIRE RECAP SHOP FRESNOCO4082/CLOSED UST FACILITY/	550 H ST FRESNO CA 93721	0.00 --	N/A	164
111	UST	ADAM S AUTOMOTIVE FRESNOCO4564/UNDERGROUND TANK REM	1402 N VAN NESS FRESNO CA 93721	0.00 --	N/A	164
111	LUST	ADAM S AUTOMOTIVE T0601900259/COMPLETED - CASE CLO	1402 VAN NESS AVE N FRESNO CA 93728	0.00 --	N/A	166
112	UST	ADVANTAGE TIRE SERVICE FRESNOCO5000/CLOSED UST FACILITY/	650 FULTON ST FRESNO CA 93721	0.00 --	N/A	168

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Target Site Summary Report

Target Property: FULTON CORRIDOR PLAN
FRESNO CA 93721

JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
113	LUST	ARCHIVES RECORD STORAGE BLDG. T0601900385/OPEN - SITE ASSESSME	742 FULTON ST FRESNO CA 93721	0.00 --	N/A	171
113	UST	ARCHIVES RECORD STORAGE TISID-STATE2352/INACTIVE	742 FULTON FRESNO CA 93721	0.00 --	N/A	168
113	UST	ARCHIVES RECORD STORAGE FRESNOCO3592/UNDERGROUND TANK REM	742 FULTON FRESNO CA 93721	0.00 --	N/A	169
114	UST	BALO PROPERTY/TRIANGLE GRAIN FRESNOCO3511/UNDERGROUND TANK FAC	808 G ST FRESNO CA 93721	0.00 --	N/A	172
115	UST	BALO PROPERTY/TRIANGLE GRAIN FRESNOCO2994/UNDERGROUND TANK FAC	808 G ST FRESNO CA 93721	0.00 --	N/A	172
115	UST	TRIANGLE GRAIN CO. TISID-STATE17454/ACTIVE	808 G FRESNO CA 93706	0.00 --	N/A	173
116	UST	BEDROSIAN TRUCK SERVICE FRESNOCO5988/CLOSED UST FACILITY/	1454 G FRESNO CA 93721	0.00 --	N/A	173
116	UST	BEDROSIAN TRUCK SER. INC TISID-STATE15587/ACTIVE	1454 G FRESNO CA 93706	0.00 --	N/A	174
117	UST	BLOSSER S SPORTS EQUIP. CO. TISID-STATE15748/ACTIVE	1728 VAN NESS FRESNO CA 93721	0.00 --	N/A	174
118	UST	BLOSSER SPORTS FRESNOCO5319/CLOSED UST FACILITY/	1728 VAN NESS BLVD FRESNO CA 93711	0.00 --	N/A	175
119	UST	TOSCANA BAKERY TISID-STATE14980/ACTIVE	620 F FRESNO CA 93711	0.00 --	N/A	177
119	UST	BLUE S AUTO FRESNOCO4002/UNDERGROUND TANK REM	620 F ST FRESNO CA 93721	0.00 --	N/A	175
119	LUST	BLUES AUTO T0601900520/COMPLETED - CASE CLO	620 F ST FRESNO CA 93721	0.00 --	N/A	176
120	UST	CHEVRON STATION TISID-STATE19215/ACTIVE	1506 VAN NESS FRESNO CA	0.00 --	N/A	178
120	UST	C L BRYANT FRESNOCO3306/UNDERGROUND STORAGE	1506 VAN NESS FRESNO CA 93721	0.00 --	N/A	180
120	LUST	CHEVRON 9-0909 T0601900341/COMPLETED - CASE CLO	1506 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	179
120	UST	DOWNTOWN CHEVRON FRESNOCO2671/UNDERGROUND TANK FAC	1506 VAN NESS FRESNO CA 93721	0.00 --	N/A	177
121	UST	CALIFORNIA FOOD EQUIPMENT FRESNOCO3515/UNDERGROUND TANK FAC	2401 STANISLAUS FRESNO CA 93721	0.00 --	N/A	180
122	UST	CANTEEN OF FRESNO INC TISID-STATE2200/INACTIVE	2136 SANTA CLARA FRESNO CA 93721	0.00 --	N/A	181
122	UST	CANTEEN OF FRESNO FRESNOCO4614/CLOSED UST FACILITY/	2136 SANTA CLARA FRESNO CA 93721	0.00 --	N/A	180

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FRESNO CA 93721

JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
123	UST	CENTRAL CAL TRUCKING FRESNOCO4083/CLOSED UST FACILITY/	1831 H ST FRESNO CA 93701	0.00 --	N/A	182
123	UST	CENTRAL CAL TRUCKING TISID-STATE2488/INACTIVE	1831 H FRESNO CA 93701	0.00 --	N/A	181
124	UST	CITY OF FRESNO FRESNOCO5537/CLOSED UST FACILITY/	844 BROADWAY FRESNO CA 93721	0.00 --	N/A	182
125	UST	CITY OF FRESNO CONSTRUCTION TR FRESNOCO6041/UNDERGROUND TANK REM	752 H FRESNO CA 93721	0.00 --	N/A	182
126	UST	COMMERCIAL PROPERTY FRESNOCO5040/CLOSED UST FACILITY/	2201 STANISLAUS FRESNO CA 93710	0.00 --	N/A	184
126	LUST	A PLACE FOR YOU FOUNDATION T0601900481/COMPLETED - CASE CLO	2201 STANISLAUS ST FRESNO CA 93721	0.00 --	N/A	183
127	UST	DAN DAY PONTIAC (FORMER) FRESNOCO5243/UNDERGROUND TANK REM	850 L ST FRESNO CA 93775	0.00 --	N/A	184
127	LUST	PETERSON INVESTMENTS T0601900422/COMPLETED - CASE CLO	850 L ST FRESNO CA 93721	0.00 --	N/A	185
128	UST	DANISH CREAMERY FRESNOCO2664/UNDERGROUND TANK FAC	745 E ST FRESNO CA 93703	0.00 --	N/A	186
129	UST	DANISH CREAMERY ASSOCIATION TISID-STATE15020/ACTIVE	745 E FRESNO CA 93706	0.00 --	N/A	186
130	UST	PRIVATE RESIDENCE FRESNOCO4846/CLOSED UST FACILITY/	1638+ L ST FRESNO CA 93721	0.00 --	N/A	187
130	UST	DOWNTOWN SCHOOL TISID-STATE2419/INACTIVE	1638 L FRESNO CA 93721	0.00 --	N/A	187
131	UST	EDUCATIONAL CENTER FRESNOCO4506/UNDERGROUND TANK REM	2309 E TULARE FRESNO CA 93721	0.00 --	N/A	188
132	UST	ELECTROHEAT DIV, GLENN ELECTRI TISID-STATE17575/ACTIVE	641 G FRESNO CA	0.00 --	N/A	189
132	UST	GLEN ELECTRIC FRESNOCO5138/CLOSED UST FACILITY/	641 G ST FRESNO CA 93721	0.00 --	N/A	188
133	UST	FASANO SPAGHETTI FRESNOCO5940/UNDERGROUND TANK REM	1133 E ST FRESNO CA 93706	0.00 --	N/A	189
134	UST	FC BLDG/MAINT PARKING GARAGE FRESNOCO5493/UNDERGROUND TANK REM	862 VAN NESS FRESNO CA 93702	0.00 --	N/A	190
135	LUST	FELIX AUTO MECHANIC T0601900246/COMPLETED - CASE CLO	804 F ST FRESNO CA 93706	0.00 --	N/A	192
135	UST	FELIX AUTO MECHANIC TISID-STATE17716/ACTIVE	804 F FRESNO CA 93706	0.00 --	N/A	191
135	UST	FELIX AUTO MECHANIC FRESNOCO5275/UNDERGROUND TANK REM	804 F ST FRESNO CA 93706	0.00 --	N/A	190

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Target Site Summary Report

Target Property: FULTON CORRIDOR PLAN
FRESNO CA 93721

JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
136	UST	FIRE DEPT HEADQUARTERS FRESNOCO5276/UNDERGROUND TANK REM	450 M ST FRESNO CA 93706	0.00 --	N/A	193
136	LUST	FIRE DEPT HEADQUARTERS T0601900121/OPEN - SITE ASSESSME	450 M ST FRESNO CA 93706	0.00 --	N/A	195
136	UST	FIRE DEPARTMENT HEADQUARTERS TISID-STATE2391/INACTIVE	450 M FRESNO CA 93706	0.00 --	N/A	193
137	UST	FIRE DEPARTMENT SHOP TISID-STATE15451/ACTIVE	1420 FRESNO FRESNO CA 90000	0.00 --	N/A	197
138	UST	FIRE DEPARTMENT TRAINING DIVIS FRESNOCO3932/CLOSED UST FACILITY/	1144 E ST FRESNO CA 93706	0.00 --	N/A	197
139	UST	SAN JOAQUIN MEMORIAL H S TISID-STATE15027/ACTIVE	1406 FRESNO FRESNO CA	0.00 --	N/A	198
139	UST	FIRE STATION 3 FRESNOCO5708/UNDERGROUND TANK REM	1406 FRESNO FRESNO CA 93706	0.00 --	N/A	199
139	UST	FIRE STATION NO. 3 TISID-STATE15452/ACTIVE	1406 FRESNO FRESNO CA	0.00 --	N/A	198
140	UST	FORMER SHELL STATION TISID-STATE2769/INACTIVE	2210 KERN FRESNO CA 93721	0.00 --	N/A	199
140	UST	SHELL FRESNOCO4214/UNDERGROUND TANK REM	2210 KERN FRESNO CA 93721	0.00 --	N/A	200
141	LUST	FRANKS EXXON T0601900453/COMPLETED - CASE CLO	1060 E ST FRESNO CA 93721	0.00 --	N/A	201
141	UST	FRANKS EXXON FRESNOCO3931/CLOSED UST FACILITY/	1060 E ST FRESNO CA 93706	0.00 --	N/A	200
142	UST	FRANKS EXXON TISID-STATE15266/ACTIVE	1060 E FRESNO CA 93706	0.00 --	N/A	202
143	LUST	THE FRESNO BEE T0601900400/COMPLETED - CASE CLO	1626 E ST FRESNO CA 93706	0.00 --	N/A	203
143	UST	FRESNO BEE, THE FRESNOCO2703/UNDERGROUND TANK FAC	1626 E ST FRESNO CA 93706	0.00 --	N/A	202
144	UST	POLICE DEPT TISID-STATE15153/ACTIVE	2323 MARIPOSA FRESNO CA 93721	0.00 --	N/A	207
144	LUST	FRESNO CITY POLICE DEPT. T0601900576/COMPLETED - CASE CLO	2323 MARIPOSA FRESNO CA 93721	0.00 --	N/A	205
144	UST	FRESNO CITY POLICE DEPT FRESNOCO2704/UNDERGROUND TANK FAC	2323 MARIPOSA FRESNO CA 93721	0.00 --	N/A	207
145	UST	FRESNO COUNTY JAIL FRESNOCO5979/CLOSED UST FACILITY/	1155 M FRESNO CA 93721	0.00 --	N/A	208
145	UST	FRESNO COUNTY JAIL FRESNOCO2707/UNDERGROUND TANK FAC	1155 M ST FRESNO CA 93721	0.00 --	N/A	208

Environmental FirstSearch
Target Site Summary Report

Target Property: FULTON CORRIDOR PLAN
FRESNO CA 93721

JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
145	LUST	FRESNO COUNTY JAIL T0601900260/OPEN - SITE ASSESSME	1155 M ST FRESNO CA 93721	0.00 --	N/A	211
145	UST	FRESNO CO MAINTENANCE YARD TISID-STATE16830/ACTIVE	1155 M FRESNO CA 93721	0.00 --	N/A	209
146	UST	FRESNO COUNTY TISID-STATE15411/ACTIVE	2200 FRESNO FRESNO CA 93717	0.00 --	N/A	212
146	UST	FRESNO COUNTY SHERIFFS ADMIN FRESNOCO3048/UNDERGROUND TANK FAC	2200 FRESNO FRESNO CA 93721	0.00 --	N/A	212
147	UST	FRESNO OFFICE MACHINES TISID-STATE19067/ACTIVE	660 VAN NESS FRESNO CA 90000	0.00 --	N/A	213
148	UST	FRESNO UPHOLSTERY FRESNOCO5247/CLOSED UST FACILITY/	401 BROADWAY FRESNO CA 93721	0.00 --	N/A	213
149	UST	FRESNO YOUTH FOR CHRIST FRESNOCO3921/CLOSED UST FACILITY/	1401 DIVISADERO FRESNO CA 93721	0.00 --	N/A	214
150	UST	GLENFED BUILDING FRESNOCO3518/UNDERGROUND TANK FAC	1177 FULTON MALL FRESNO CA 93721	0.00 --	N/A	214
150	UST	GLENFED BUILDING FRESNOCO3057/UNDERGROUND TANK FAC	1177 FULTON MALL FRESNO CA 93721	0.00 --	N/A	214
151	UST	GOLDEN STATE PLAZA TISID-STATE18881/ACTIVE	2220 TULARE FRESNO CA 93702	0.00 --	N/A	215
152	UST	GOODYEAR TIRE FRESNOCO4836/CLOSED UST FACILITY/	745 FULTON FRESNO CA 93721	0.00 --	N/A	215
153	UST	GREYHOUND BUS DEPOT FRESNOCO3759/UNDERGROUND TANK REM	1033 BROADWAY FRESNO CA 93721	0.00 --	N/A	218
153	LUST	GREYHOUND BUS DEPOT T0601900447/OPEN - SITE ASSESSME	1033 BROADWAY FRESNO CA 93721	0.00 --	N/A	217
153	UST	GREYHOUND BUS DEPOT TISID-STATE15604/ACTIVE	1033 BROADWAY FRESNO CA	0.00 --	N/A	218
154	UST	HAL S TRUCK RENTAL TISID-STATE2724/INACTIVE	621 VAN NESS FRESNO CA 93721	0.00 --	N/A	219
154	UST	HAUS TRUCK RENTAL FRESNOCO4988/CLOSED UST FACILITY/	621 VAN NESS FRESNO CA 93721	0.00 --	N/A	219
155	UST	HALWOOD SERVICE TISID-STATE18943/ACTIVE	2149 VENTURA FRESNO CA 93721	0.00 --	N/A	220
155	UST	HALWOOD SERVICE FRESNOCO5711/CLOSED UST FACILITY/	2149 VENTURA FRESNO CA 93721	0.00 --	N/A	220
156	UST	HOBBS PARSON PRODUCE FRESNOCO4084/CLOSED UST FACILITY/	951 H ST FRESNO CA 93721	0.00 --	N/A	221
156	UST	HOBBS PARSONS PRODUCE TISID-STATE2460/INACTIVE	951 H FRESNO CA 93721	0.00 --	N/A	221

Environmental FirstSearch
Target Site Summary Report

Target Property: FULTON CORRIDOR PLAN
FRESNO CA 93721

JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
157	UST	INTERNATIONAL MFG. CO. TISID-STATE2693/INACTIVE	1835 VAN NESS FRESNO CA 93721	0.00 --	N/A	222
158	UST	JENSEN and PILEGARD FRESNOCO4054/UNDERGROUND TANK REM	1111 G ST FRESNO CA 93706	0.00 --	N/A	224
158	UST	JENSEN and PILEGARD TISID-STATE2736/INACTIVE	1111 G FRESNO CA 93706	0.00 --	N/A	224
158	LUST	JENSEN AND PILEGARD T0601900068/COMPLETED - CASE CLO	1111 G ST FRESNO CA 93706	0.00 --	N/A	223
159	UST	KALASHIAN PACKING TISID-STATE2555/INACTIVE	401 H FRESNO CA 93721	0.00 --	N/A	225
159	UST	KALASHIAN PACKING COMPANY* FRESNOCO4979/UNDERGROUND TANK REM	401 H ST FRESNO CA 93721	0.00 --	N/A	225
159	LUST	KALASHIAN PACKING CO. T0601900392/COMPLETED - CASE CLO	401 H ST FRESNO CA 93721	0.00 --	N/A	227
159	LUST	UNION PACIFIC RAILROAD: H AND T10000001126/COMPLETED - CASE CLO	401 H FRESNO CA 93721	0.00 --	N/A	229
160	UST	LISLE FUNERAL HOME TISID-STATE2438/INACTIVE	1605 L FRESNO CA 93721	0.00 --	N/A	230
160	UST	LISLE FUNERAL HOME FRESNOCO4186/CLOSED UST FACILITY/	1605 L ST FRESNO CA 93721	0.00 --	N/A	230
161	UST	LLOYD S SERVICE STATION FRESNOCO4051/CLOSED UST FACILITY/	1921 FULTON FRESNO CA 93721	0.00 --	N/A	231
161	UST	LLOYDS FRESNO SERVICE TISID-STATE2487/INACTIVE	1921 FULTON FRESNO CA 93721	0.00 --	N/A	231
162	UST	LONG CONSTRUCTION FRESNOCO5694/CLOSED UST FACILITY/	850 M ST FRESNO CA 93721	0.00 --	N/A	232
163	UST	LOUIE GENNUSO SERVICE STATION TISID-STATE16026/ACTIVE	1350 FRESNO FRESNO CA 93706	0.00 --	N/A	232
163	LUST	GENNUSO S SERVICE STATION T0601993694/COMPLETED - CASE CLO	1350 FRESNO ST FRESNO CA 93706	0.00 --	N/A	235
163	UST	LOUIE GENNUSO SERVICE STATION FRESNOCO3084/UNDERGROUND TANK FAC	1350 FRESNO FRESNO CA 93706	0.00 --	N/A	233
163	UST	LOUIE GENNUSO SERVICE STATION FRESNOCO4028/UNDERGROUND TANK REM	1350 FRESNO FRESNO CA 93706	0.00 --	N/A	233
164	UST	MCNARY PROPERTY FRESNOCO5724/CLOSED UST FACILITY/	411 G ST FRESNO CA 93706	0.00 --	N/A	238
165	UST	P E O HAIR COMPANY FRESNOCO4293/CLOSED UST FACILITY/	1220 E NORTH FRESNO CA 93725	0.00 --	N/A	238
166	UST	PACIFIC BELL FRESNOCO5987/CLOSED UST FACILITY/	1445 VAN NESS FRESNO CA 93721	0.00 --	N/A	238

Environmental FirstSearch
Target Site Summary Report

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JOB: 1410022B

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Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
166	UST	PACIFIC BELL FRESNOCO2806/UNDERGROUND TANK FAC	1445 VAN NESS 236 FRESNO CA 93721	0.00 --	N/A	239
166	UST	PACIFIC BELL (SB-025) TISID-STATE16040/ACTIVE	1445 VAN NESS FRESNO CA 93704	0.00 --	N/A	240
166	UST	PACIFIC BELL FRESNOCO4841/UNDERGROUND STORAGE	1445 VAN NESS 236 FRESNO CA 93721	0.00 --	N/A	239
167	UST	PARNELLI JONES-STORE 47 FRESNOCO5018/CLOSED UST FACILITY/	760 FULTON ST FRESNO CA 93721	0.00 --	N/A	240
168	UST	PATRICK S GARAGE FRESNOCO3761/UNDERGROUND TANK REM	1659 BROADWAY FRESNO CA 93721	0.00 --	N/A	241
169	UST	PATTERSON TIRE CO. TISID-STATE18544/ACTIVE	2240 TUOLUMNE FRESNO CA 93721	0.00 --	N/A	242
169	UST	PATTERSON TIRE CO FRESNOCO4331/CLOSED UST FACILITY/	2240 TUOLUMNE FRESNO CA 93721	0.00 --	N/A	241
170	UST	PEPSI COLA BOTTLING COMPANY FRESNOCO4292/CLOSED UST FACILITY/	1150 E NORTH FRESNO CA 93725	0.00 --	N/A	242
171	UST	PGandE PROPERTY FRESNOCO5676/CLOSED UST FACILITY/	1416 BROADWAY FRESNO CA 93721	0.00 --	N/A	243
172	UST	SOUTHERN PACIFIC RAILROAD FRESNOCO4076/CLOSED UST FACILITY/	1301 H ST FRESNO CA 93721	0.00 --	N/A	244
172	UST	PMT FACILITY TISID-STATE17702/ACTIVE	1301 H FRESNO CA 93721	0.00 --	N/A	243
173	UST	POLICE DRESSING STATION FRESNOCO4620/CLOSED UST FACILITY/	940 BROADWAY FRESNO CA 93721	0.00 --	N/A	244
174	UST	PRUDENTIAL OVERALL SUPPLY FRESNOCO2831/UNDERGROUND TANK FAC	1260 E NORTH FRESNO CA 93725	0.00 --	N/A	244
175	UST	QUINN COMPANY FRESNOCO4789/CLOSED UST FACILITY/	1560 H ST FRESNO CA 93721	0.00 --	N/A	245
175	LUST	QUINN COMPANY VACANT LOT T0601900282/COMPLETED - CASE CLO	1560 H ST FRESNO CA 93721	0.00 --	N/A	246
176	UST	RandN AUTOMOTIVE FRESNOCO5337/CLOSED UST FACILITY/	901 M ST FRESNO CA 93710	0.00 --	N/A	247
177	UST	ROWELL COMPANY PROPERTY FRESNOCO5874/CLOSED UST FACILITY/	2148 KERN FRESNO CA 93721	0.00 --	N/A	247
178	UST	ROWELL COMPANY PROPERTY FRESNOCO5873/CLOSED UST FACILITY/	917 L ST FRESNO CA 93721	0.00 --	N/A	247
179	LUST	S and J MINI MART T0601900473/COMPLETED - CASE CLO	476 H ST FRESNO CA 93721	0.00 --	N/A	249
179	UST	TRIANGLE STATION 0006 TISID-STATE16155/ACTIVE	476 H FRESNO CA 93721	0.00 --	N/A	248

Environmental FirstSearch
Target Site Summary Report

Target Property: FULTON CORRIDOR PLAN
FRESNO CA 93721

JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
179	UST	S AND J MINI MART* FRESNOCO4080/CLOSED UST FACILITY/	476 H ST FRESNO CA 93721	0.00 --	N/A	248
180	UST	SECURITY BANK GARAGE TISID-STATE15318/ACTIVE	1060 FULTON MALL FRESNO CA 93721	0.00 --	N/A	250
181	UST	SECURITY PACIFIC BANK BUILDING FRESNOCO4666/CLOSED UST FACILITY/	1058 FULTON MALL FRESNO CA 93721	0.00 --	N/A	250
182	UST	TY BOYS MINI MART TISID-STATE18936/ACTIVE	2111 VENTURA FRESNO CA 93721	0.00 --	N/A	251
182	UST	SNAPPY FOOD and LIQUOR FRESNOCO2891/UNDERGROUND TANK FAC	2111 VENTURA FRESNO CA 93721	0.00 --	N/A	251
183	UST	TEXACO (MOHAWK) STATION FRESNOCO5420/CLOSED UST FACILITY/	1410 W VENTURA FRESNO CA 93727	0.00 --	N/A	252
184	UST	TRAILWAY LINES FRESNOCO5782/UNDERGROUND TANK REM	1333 BROADWAY FRESNO CA 93721	0.00 --	N/A	252
184	UST	TRAILWAY LINES FRESNOCO3158/UNDERGROUND TANK FAC	1333 BROADWAY FRESNO CA 93721	0.00 --	N/A	253
184	UST	TRAILWAYS LINES INC TISID-STATE19382/ACTIVE	1333 BROADWAY FRESNO CA 93721	0.00 --	N/A	253
185	UST	TRINIS OIL INC TISID-STATE17665/ACTIVE	603 G FRESNO CA 93706	0.00 --	N/A	257
185	LUST	TRINI S BEACON T0601900669/OPEN - SITE ASSESSME	603 G ST FRESNO CA 93706	0.00 --	N/A	255
185	UST	TRINI S BEACON FRESNOCO2927/UNDERGROUND TANK FAC	603 G ST FRESNO CA 93706	0.00 --	N/A	256
185	UST	TRINI S BEACON FRESNOCO6034/CLOSED UST FACILITY/	603 G FRESNO CA 93706	0.00 --	N/A	256
186	UST	UNOCAL SS 30317-250354 FRESNOCO6005/CLOSED UST FACILITY/	2121 H FRESNO CA 93721	0.00 --	N/A	259
186	LUST	UNOCAL SERVICE STATION 0354 T0601900593/COMPLETED - CASE CLO	2121 H ST FRESNO CA 93721	0.00 --	N/A	258
186	UST	UNOCAL SS 30317 FRESNOCO2939/UNDERGROUND TANK FAC	2121 H ST FRESNO CA 93721	0.00 --	N/A	259
186	UST	UNOCAL SS 30317-250354 FRESNOCO3405/UNDERGROUND STORAGE	2121 H ST FRESNO CA 93721	0.00 --	N/A	257
186	UST	UNOCAL SS 0354 TISID-STATE15383/ACTIVE	2121 H FRESNO CA 93721	0.00 --	N/A	260
187	UST	UNOCAL STATION FRESNOCO4172/CLOSED UST FACILITY/	1413 KERN FRESNO CA 93704	0.00 --	N/A	260
188	LUST	PARKING LOT T0601900053/COMPLETED - CASE CLO	750 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	261

Environmental FirstSearch
Target Site Summary Report

Target Property: FULTON CORRIDOR PLAN
FRESNO CA 93721

JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
188	UST	VAN NESS and INYO PARKING LOT TISID-STATE2286/INACTIVE	750 VAN NESS FRESNO CA 93721	0.00 --	N/A	262
188	UST	VAN NESS/INYO PARKING LOT FRESNOCO4406/UNDERGROUND TANK REM	750 VAN NESS FRESNO CA 93721	0.00 --	N/A	262
189	UST	VAN NESS/INYO PARKING LOT FRESNOCO5343/CLOSED UST FACILITY/	732 VAN NESS FRESNO CA 93721	0.00 --	N/A	263
190	UST	WILLIARD LUMBER COMPANY TISID-STATE16100/ACTIVE	2021 H FRESNO CA 93721	0.00 --	N/A	264
190	UST	WILLARD LUMBER FRESNOCO4091/CLOSED UST FACILITY/	2021 H ST FRESNO CA 93721	0.00 --	N/A	263
191	UST	WILSHIRE PAINT COMPANY FRESNOCO4049/CLOSED UST FACILITY/	701 FULTON FRESNO CA 93721	0.00 --	N/A	264
192	UST	WILSONS MOTORCYCLES TISID-STATE2781/INACTIVE	443 BROADWAY FRESNO CA 93721	0.00 --	N/A	265
192	UST	WILSON S MOTORCYCLES FRESNOCO3756/CLOSED UST FACILITY/	443 BROADWAY FRESNO CA 93721	0.00 --	N/A	265
193	LUST	BROADWAY FURNITURE PARKING LOT T0601989283/COMPLETED - CASE CLO	755 BROADWAY FRESNO CA 93721	0.00 --	N/A	266
194	LUST	DEL MONTE FOODS PARKING LOT T0601900610/COMPLETED - CASE CLO	1626 TULARE ST FRESNO CA 93706	0.00 --	N/A	267
195	LUST	HUDSON SERVICE STATION T0601900720/COMPLETED - CASE CLO	1390 FRESNO ST N FRESNO CA 93706	0.00 --	N/A	268
196	LUST	TUTELIAN and COMPANY T10000001303/OPEN - REFERRED	812 VAN NESS FRESNO CA 93721	0.00 --	N/A	270
197	HWMANIFEST	PATTON SHEET METAL WORKS INC D CAL000107960/ACTIVE	272 NORTH PALM AVE FRESNO CA 93701	0.00 --	N/A	271
197	HWMANIFEST	SPEEDY AUTO TECH CAL000326173/ACTIVE	320 NORTH PALM STE AVE FRESNO CA 93701	0.00 --	N/A	275
197	HWMANIFEST	SPEEDY AUTO TECH CAL000318839/ACTIVE	320 NORTH PALM STE AVE FRESNO CA 93701	0.00 --	N/A	274
197	HWMANIFEST	FRESNO CATERING SERVICE CAL000226059/ACTIVE	103 NORTH BROADWAY FRESNO CA 93701	0.00 --	N/A	278
197	HWMANIFEST	GARCIA S TIRE SHOP CAL000327827/ACTIVE	202 NORTH H ST FRESNO CA 93701	0.00 --	N/A	276
197	HWMANIFEST	WHIRLWIND CAR WASH CAL000311872/ACTIVE	225 NORTH H ST FRESNO CA 93701	0.00 --	N/A	272
197	HWMANIFEST	JMLORD INC CAL000232178/ACTIVE	267 NORTH FULTON ST FRESNO CA 93701	0.00 --	N/A	279
197	HWMANIFEST	JR BODYSHOP CAL000316198/ACTIVE	1940 H STE 103 ST FRESNO CA 93721	0.00 --	N/A	273

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TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
197	HWMANIFEST	A and B PAYLESS TRANSMISSION CAL000302887/ACTIVE	1935 BROADWAY AVE FRESNO CA 93721	0.00 --	N/A	277
198	HWMANIFEST	JOYERIA CUATES CAL000327748/ACTIVE	1435 FRESNO ST FRESNO CA 93706	0.00 --	N/A	295
198	HWMANIFEST	CITY OF FRESNO FIRE DEPT. MAIN CAL000064607/ACTIVE	1420 FRESNO ST FRESNO CA 93706	0.00 --	N/A	283
198	HWMANIFEST	FRESNO AUTO SERVICE CAL000325372/ACTIVE	1142 F ST FRESNO CA 93706	0.00 --	N/A	291
198	HWMANIFEST	VALLEY AIR CONDITIONING INC CAL000256294/ACTIVE	1350 F ST FRESNO CA 93706	0.00 --	N/A	296
198	HWMANIFEST	FACTORY TIRE CAL000251098/ACTIVE	1608 BROADWAY FRESNO CA 93721	0.00 --	N/A	290
198	HWMANIFEST	CNTY OF FRESNO/COUNTY COURTHOU CAL000138693/ACTIVE	1100 VAN NESS FRESNO CA 93721	0.00 --	N/A	282
198	HWMANIFEST	JENSEN and PILEGARD CAL000111326/ACTIVE	1068 G ST FRESNO CA 93706	0.00 --	N/A	297
198	HWMANIFEST	BUD EBERWEIN BRAKE and WHEEL A CAD982342784/ACTIVE	1559 BROADWAY FRESNO CA 93721	0.00 --	N/A	284
198	HWMANIFEST	BILLS FOREIGN AUTO REPAIR CAL000120409/ACTIVE	1427 BROADWAY FRESNO CA 93721	0.00 --	N/A	285
198	HWMANIFEST	VAL PRINT CAL000021161/ACTIVE	1257 G ST FRESNO CA 93706	0.00 --	N/A	294
198	HWMANIFEST	SMILE CARE CAL000292483/ACTIVE	2000 FRESNO STE 300 ST FRESNO CA 93721	0.00 --	N/A	289
198	HWMANIFEST	SAUNDERS AUTOMATIC SERVICE CAL000307597/ACTIVE	1720 H ST FRESNO CA 93721	0.00 --	N/A	288
198	HWMANIFEST	RICK S TIRE and SERVICE CAL000064960/ACTIVE	1501 FULTON ST FRESNO CA 93721	0.00 --	N/A	281
198	HWMANIFEST	PATTERSON AUTOMOTIVE CAL000316209/ACTIVE	2240 TUOLUMNE ST FRESNO CA 93721	0.00 --	N/A	293
198	HWMANIFEST	O BRIEN S BRAKE SERVICE INC CAD028199289/ACTIVE	1515 MERCED ST FRESNO CA 93706	0.00 --	N/A	292
198	HWMANIFEST	MELERO S AUTOMOTIVE REPAIR CAL000294082/ACTIVE	1516 H ST FRESNO CA 93721	0.00 --	N/A	298
198	HWMANIFEST	KURATA AUTO REPAIR CAL000196279/ACTIVE	1060 EAST STE ST FRESNO CA 93706	0.00 --	N/A	287
198	HWMANIFEST	BEAUTIWOOD UNFINISHED FURNITUR CAL000260485/ACTIVE	1454 H ST FRESNO CA 93721	0.00 --	N/A	286
198	HWMANIFEST	KLEINFELDER CAL000178235/INACTIVE	1410 F ST FRESNO CA 93771	0.00 --	N/A	280

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Sites Summary Report

Target Property: FULTON CORRIDOR PLAN
FRESNO CA 93721

JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
1	NFRAP	FRESNO COUNTY CREDIT UNION CAD982358509/NFRAP-N	2211 MERCED ST FRESNO CA 93721	0.00 --	N/A	1
1	LUST	FRESNO COUNTY CREDIT UNION PRO T0601900028/COMPLETED - CASE CLO	2211 MERCED ST FRESNO CA 93721	0.00 --	N/A	2
1	STATE	FRESNO COUNTY EMPLOYEE CREDIT CAL10550002/PROPERTY/SITE REFERR	2211 MERCED ST FRESNO CA 93721	0.00 --	N/A	4
1	UST	FRESNO CO EMPLOYEES CREDIT UN TISID-STATE15014/ACTIVE	2211 MERCED FRESNO CA 93721	0.00 --	N/A	6
1	UST	PARKING LOT FRESNOCO4902/UNDERGROUND TANK REM	2211 MERCED ST FRESNO CA 93721	0.00 --	N/A	6
2	RCRAGN	UNIVAR USA, INC CAD047384185/SGN	1152 G ST FRESNO CA 93706	0.00 --	N/A	8
2	RCRANLR	VAN WATERS and ROGERS DIVISION CAD047384185/NLR	1152 G ST FRESNO CA 93706	0.00 --	N/A	11
2	SPILLS	VAN WATERS and ROGERS INC - FR G_SL185704255/OPEN - REMEDIATION	1152 G ST FRESNO CA 93706	0.00 --	N/A	12
2	UST	VAN WATERS and ROGERS, DIV. OF TISID-STATE2493/INACTIVE	1152 G FRESNO CA 93706	0.00 --	N/A	12
2	UST	VAN WATERS and ROGERS FRESNOCO4055/UNDERGROUND TANK REM	1152 G ST FRESNO CA 93709	0.00 --	N/A	13
2	RCRATSD	VAN WATERS and ROGERS DIVISION CAD047384185/TSD	1152 STREET FRESNO CA 93706	0.00 --	N/A	13
3	RCRACOR	UNIVAR USA, INC CAD047384185/CA	1152 G ST FRESNO CA 93721	0.00 --	N/A	14
4	RCRAGN	ACCURATE METAL PROCESSING CO CAD982525917/SGN	1444 F ST FRESNO CA 93706	0.00 --	N/A	14
5	RCRAGN	BRINKS INC CAR000080077/SGN	1303 E ST FRESNO CA 97706	0.00 --	N/A	15
6	UST	IMPERIAL SAVINGS ASSOCIATION FRESNOCO5117/CLOSED UST FACILITY/	2005 BROADWAY FRESNO CA 93721	0.00 --	N/A	16
6	RCRAGN	CVPI GOLDEN STATE SCHOOL CAD981446164/SGN	2005 BROADWAY FRESNO CA 93721	0.00 --	N/A	16
6	LUST	VACANT BUILDING T0601900449/COMPLETED - CASE CLO	2005 BROADWAY FRESNO CA 93721	0.00 --	N/A	17
7	RCRAGN	DUMONT PRINTING CAD983608233/SGN	1333 G ST FRESNO CA 93706	0.00 --	N/A	18
8	RCRAGN	ELECTRIC LABORATORIES CAD981674211/SGN	1740 VAN NESS FRESNO CA 93721	0.00 --	N/A	19
9	UST	DEPARTMENT OF COMMUNITY HEALTH FRESNOCO3024/UNDERGROUND TANK FAC	1221 FULTON MALL FRESNO CA 93721	0.00 --	N/A	19
9	UST	FRESNO HEALTH DEPT TISID-STATE15054/ACTIVE	1221 FULTON MALL FRESNO CA 93721	0.00 --	N/A	20

Environmental FirstSearch
Sites Summary Report

Target Property: FULTON CORRIDOR PLAN
FRESNO CA 93721

JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
9	UST	DEPARTMENT OF COMMUNITY HEALTH FRESNOCO3437/UNDERGROUND TANK FAC	1221 FULTON MALL FRESNO CA 93721	0.00 --	N/A	20
9	RCRAGN	FRESNO COUNTY HEALTH DEPT LAB CAD982037467/SGN	1221 FULTON MALL FRESNO CA 93721	0.00 --	N/A	21
10	RCRAGN	FRESNO CRANKSHAFT SERVICE CAD982373904/SGN	455 BROADWAY FRESNO CA 93721	0.00 --	N/A	22
11	RCRAGN	FRESNO FRICTION MATERIAL CAD982525651/SGN	1350 F ST FRESNO CA 93706	0.00 --	N/A	23
11	PERMIT	VALLEY AIR CONDITIONING INC CAL000256294/ACTIVE	1350 F ST FRESNO CA 93706	0.00 --	N/A	24
11	UST	FRESNO FRICTION MATERIALS TISID-STATE18221/ACTIVE	1350 F FRESNO CA 93706	0.00 --	N/A	25
11	UST	VALLEY AIR CONDITIONING and RE FRESNOCO5695/CLOSED UST FACILITY/	1350 F ST FRESNO CA 93706	0.00 --	N/A	25
12	RCRAGN	FRESNO METROPOLITAN MUSEUM OF CAC002609018/VGN	1555 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	26
13	RCRAGN	FRESNO RADIATOR WORK CAD982370793/SGN	411 BROADWAY FRESNO CA 93721	0.00 --	N/A	27
14	RCRAGN	GENERAL TIRE SERVICE CAD982435042/SGN	1501 FULTON ST FRESNO CA 93721	0.00 --	N/A	28
14	PERMIT	RICK S TIRE and SERVICE CAL000064960/ACTIVE	1501 FULTON ST FRESNO CA 93721	0.00 --	N/A	29
15	RCRAGN	GESTETNER CORP CAD981679251/SGN	1353 BROADWAY FRESNO CA 93721	0.00 --	N/A	30
16	STATE	INDUSTRIAL PLATING CAL10340009/PROPERTY/SITE REFERR	733 G ST FRESNO CA 93706	0.00 --	N/A	32
16	RCRAGN	INDUSTRIAL PLATING CO CAD056183064/SGN	733 G ST FRESNO CA 93706	0.00 --	N/A	33
17	RCRAGN	LAMOURES INC CAD981615453/SGN	1304 G ST FRESNO CA 93706	0.00 --	N/A	34
17	UST	LAMOURES CLEANERS TISID-STATE15875/ACTIVE	1304 G FRESNO CA 93706	0.00 --	N/A	35
17	UST	LAMOURE S CLEANERS FRESNOCO4056/CLOSED UST FACILITY/	1304 G ST FRESNO CA 93706	0.00 --	N/A	35
18	RCRAGN	LIGHTNING TRACK and AUTO PAINT CAD982025637/SGN	1506 H ST FRESNO CA 93721	0.00 --	N/A	36
19	RCRAGN	MARJAREE MASON CENTER CAR000193151/SGN	1660 M ST FRESNO CA 93721	0.00 --	N/A	37
20	RCRAGN	PACIFIC BELL CAT080023377/TR	1649 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	38

Environmental FirstSearch
Sites Summary Report

Target Property: FULTON CORRIDOR PLAN
FRESNO CA 93721

JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
20	RCRANLR	PACIFIC BELL CAT080023377/NLR	1649 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	38
21	RCRAGN	PACIFIC BELL CAT080020639/SGN	1429, 1445, 1455 VAN NESS A FRESNO CA 93721	0.00 --	N/A	39
22	RCRAGN	PACIFIC BELL CAT080023492/SGN	1245 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	40
23	RCRAGN	PACIFIC BELL CAT080023427/SGN	1407 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	41
24	RCRAGN	PACIFIC BELL CAT080023393/SGN	1401 FULTON AVE FRESNO CA 93721	0.00 --	N/A	42
25	RCRAGN	PACIFIC BELL CAT080023435/SGN	1621 FULTON AVE FRESNO CA 93721	0.00 --	N/A	43
26	UST	PACIFIC BELL FRESNOCO2808/UNDERGROUND TANK FAC	1420 TUOLUMNE FRESNO CA 93706	0.00 --	N/A	44
26	UST	PACIFIC BELL (SB-659) TISID-STATE15491/ACTIVE	1420 TUOLOMNE FRESNO CA 93706	0.00 --	N/A	44
26	RCRAGN	PACIFIC BELL CAT080023443/SGN	1420 TUOLUMNE ST FRESNO CA 93706	0.00 --	N/A	45
27	RCRAGN	PEERLESS PUMP CAD983595596/SGN	1755 BROADWAY FRESNO CA 93721	0.00 --	N/A	46
28	UST	PGandE SAN JOAQUIN VAL REG HDQ FRESNOCO5781/CLOSED UST FACILITY/	1401 FULTON FRESNO CA 93760	0.00 --	N/A	47
28	RCRAGN	PGandE SAN JOAQUIN REGIONAL OF CAD981460298/SGN	1401 FULTON ST FRESNO CA 93760	0.00 --	N/A	47
29	RCRAGN	POP S ENGINE DISTRIBUTING CAD982371965/SGN	1960 H ST FRESNO CA 93721	0.00 --	N/A	48
30	UST	PREMIER IMPORTS TISID-STATE2716/INACTIVE	2305 STANISLAUS FRESNO CA 93721	0.00 --	N/A	48
30	RCRAGN	PREMIER IMPORTS CAD982462467/SGN	2305 STANISLAUS ST FRESNO CA 93721	0.00 --	N/A	49
30	UST	PREMIER IMPORTS FRESNOCO4436/CLOSED UST FACILITY/	2305 STANISLAUS FRESNO CA 93721	0.00 --	N/A	50
31	UST	CONVENTION CENTER FRESNOCO5233/CLOSED UST FACILITY/	700 M ST FRESNO CA 93721	0.00 --	N/A	50
31	UST	CONVENTION CENTER TISID-STATE15444/ACTIVE	700 M FRESNO CA 93706	0.00 --	N/A	51
31	RCRAGN	SELLAND ARENA CAR000189480/LGN	700 M ST FRESNO CA 93721	0.00 --	N/A	52
32	RCRAGN	SHERWIN WILLIAMS CO CAT000619148/SGN	1440 STANISLAUS ST FRESNO CA 93706	0.00 --	N/A	53

Environmental FirstSearch
Sites Summary Report

Target Property: FULTON CORRIDOR PLAN
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JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
33	RCRAGN	SLAVICH BROS INC CAD982029795/SGN	STANISLAUS AND M ST FRESNO CA 93721	0.00 --	N/A	54
34	UST	STANDARD BRANDS PAINT- 8 TISID-STATE15322/ACTIVE	2010 VENTURA FRESNO CA 93721	0.00 --	N/A	54
34	RCRAGN	THE GLIDDEN CO DBA ICI PAINTS CAR000154799/SGN	2010 VENTURA FRESNO CA 93721	0.00 --	N/A	55
35	RCRAGN	TRAVELER BODY and FENDER WORKS CAD982003089/SGN	1861 BROADWAY FRESNO CA 93721	0.00 --	N/A	56
36	RCRAGN	WHEEL CREATIONS PLUS CAD982500415/SGN	706 H ST FRESNO CA 93721	0.00 --	N/A	57
37	RCRAGN	WILSHIRE PAINT CO CAC002558981/LGN	712 FULTON ST FRESNO CA 93721	0.00 --	N/A	58
38	RCRAGN	WILSHIRE PAINT COMPANY CAC002558991/LGN	1538 BROADWAY ST FRESNO CA 93721	0.00 --	N/A	59
39	LUST	DEL MONTE T0601900175/COMPLETED - CASE CLO	1625 TULARE ST FRESNO CA 93706	0.00 --	N/A	60
39	RCRAGN	YORKSHIRE DRIED FRUIT NUTS INC CAD981397193/SGN	1625 TULARE ST FRESNO CA 93706	0.00 --	N/A	61
39	UST	DEL MONTE USA FRESNOCO4740/CLOSED UST FACILITY/	1625 TULARE FRESNO CA 93706	0.00 --	N/A	62
40	RCRANLR	COPY CENTER PRESS CAD091284679/NLR	1963 H ST FRESNO CA 93721	0.00 --	N/A	62
41	RCRANLR	PACIFIC MOTOR TRUCKING CO CAD045019411/NLR	1603 H ST FRESNO CA 93721	0.00 --	N/A	63
42	ERNS	UNKNOWN 234911/FIXED FACILITY	502 M ST FRESNO CA 93721	0.00 --	N/A	65
43	ERNS	NRC-797658/FIXED	755 F ST FRESNO CA 93706	0.00 --	N/A	67
44	STATE	DILL ELDON PLATING and POLISHI CAL10340007/PROPERTY/SITE REFERR	1516 H ST FRESNO CA 93721	0.00 --	N/A	70
45	VCP	PGandE G STREET SUBSTATION CAL10490101/CERTIFIED	1131 G ST FRESNO CA 93706	0.00 --	N/A	72
45	STATE	PGandE G STREET SUBSTATION CAL10490101/BACKLOG - POTENTIAL	1131 G ST FRESNO CA 93706	0.00 --	N/A	73
45	SPILLS	PGandE - G STREET FRESNO G_SLT5FT504525/OPEN - SITE ASSESSM	1131 G ST FRESNO CA 93706	0.00 --	N/A	74
46	SPILLS	FMC G_SLT5S5393761/OPEN	P.O. BOX 1669 FRESNO CA 93717	0.00 --	N/A	74
47	SPILLS	FMFCD - NURP G_SLT5FT234498/COMPLETED - CASE CL	2100 TULARE ST, ROWELL BLDG FRESNO CA 93721	0.00 --	N/A	75

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Sites Summary Report

Target Property: FULTON CORRIDOR PLAN
FRESNO CA 93721

JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
48	SWL	FALCON TIRES I SWIS10-TI-0550/ACTIVE	735 NORTH H STREET FRESNO CA 93721	0.00 --	N/A	75
49	PERMIT	A and B PAYLESS TRANSMISSION CAL000302887/ACTIVE	1935 BROADWAY AVE FRESNO CA 93721	0.00 --	N/A	76
50	PERMIT	AGM NAPA AUTO CARE CAL000324960/ACTIVE	2149 VENTURA AVE FRESNO CA 93721	0.00 --	N/A	77
51	PERMIT	ALMARED INC DBA A-1 AUTO ELECT CAL000298503/ACTIVE	2320 STANISLAUS ST FRESNO CA 93721	0.00 --	N/A	78
52	PERMIT	ARROW ELECTRIC MOTOR SERVICE CAL000000403/ACTIVE	645 BROADWAY FRESNO CA 93721	0.00 --	N/A	79
53	PERMIT	AUTO MACHINE SPECIALTIES INC. CAL000287773/ACTIVE	420 BROADWAY FRESNO CA 93721	0.00 --	N/A	80
54	PERMIT	BEAUTIWOOD UNFINISHED FURNITUR CAL000260485/ACTIVE	1454 H ST FRESNO CA 93721	0.00 --	N/A	81
55	PERMIT	BIG 3DCOM CAL000219971/ACTIVE	1419 M ST FRESNO CA 93721	0.00 --	N/A	82
56	PERMIT	BILLS FOREIGN AUTO REPAIR CAL000120409/ACTIVE	1427 BROADWAY FRESNO CA 93721	0.00 --	N/A	83
57	UST	BSK and ASSOCIATES GEOTECHNICA FRESNOCO4435/UNDERGROUND TANK REM	1414 STANISLAUS FRESNO CA 93706	0.00 --	N/A	84
57	PERMIT	BSK ASSOCIATES CAL000011582/ACTIVE	1414 STANISLAUS FRESNO CA 93706	0.00 --	N/A	85
57	UST	BSK and ASSOCIATES TISID-STATE2458/INACTIVE	1414 STANISLAUS FRESNO CA 93706	0.00 --	N/A	86
58	UST	EBERWEIN BRAKE and WHEEL FRESNOCO3760/CLOSED UST FACILITY/	1559 BROADWAY FRESNO CA 93721	0.00 --	N/A	86
58	PERMIT	BUD EBERWEIN BRAKE and WHEEL A CAD982342784/ACTIVE	1559 BROADWAY FRESNO CA 93721	0.00 --	N/A	87
59	PERMIT	CALIFORNIA DAIRIES INC CAL000218738/ACTIVE	755 F ST FRESNO CA 93760	0.00 --	N/A	88
59	UST	DANISH CREAMERY ASSOCIATION FRESNOCO5894/UNDERGROUND TANK REM	755 F ST FRESNO CA 93706	0.00 --	N/A	89
59	UST	DANISH CREAMERY ASSOCIATION TISID-STATE15234/ACTIVE	755 F FRESNO CA 93706	0.00 --	N/A	89
60	PERMIT	CITY OF FRESNO FIRE DEPT. MAIN CAL000064607/ACTIVE	1420 FRESNO ST FRESNO CA 93706	0.00 --	N/A	90
61	PERMIT	CITY OF FRESNO POLICE DEPT. PR CAL000106117/ACTIVE	2323 MARIPOSA MALL FRESNO CA 93721	0.00 --	N/A	91
62	PERMIT	CNTY OF FRESNO/COUNTY COURTHOU CAL000138693/ACTIVE	1100 VAN NESS FRESNO CA 93721	0.00 --	N/A	92

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TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
63	PERMIT	CNTY OF FRESNO/GSA RISK MGMT CAL000174743/ACTIVE	2220 TULARE ST FRESNO CA 93702	0.00 --	N/A	93
64	PERMIT	D and R AUTOMOTIVE SERVICES OF CAL000321584/ACTIVE	901 M ST FRESNO CA 93721	0.00 --	N/A	94
65	PERMIT	DIAZ TRANSMISSION CAL000269887/ACTIVE	514 E ST FRESNO CA 93706	0.00 --	N/A	95
66	PERMIT	FACTORY TIRE CAL000251098/ACTIVE	1608 BROADWAY FRESNO CA 93721	0.00 --	N/A	96
67	PERMIT	FARM USED OIL FRESNO COUNTY CAF000000010/INACTIVE	2281 TULARE ST FRESNO CA 93721	0.00 --	N/A	97
67	UST	HALL OF RECORDS FRESNOCO3061/UNDERGROUND TANK FAC	2281 TULARE ST FRESNO CA 93721	0.00 --	N/A	98
67	UST	HALL OF RECORDS FRESNOCO3439/UNDERGROUND TANK FAC	2281 TULARE ST FRESNO CA 93721	0.00 --	N/A	98
68	PERMIT	FORENSIC LAB UNIT CAL000181759/ACTIVE	1256 DIVISADERO FRESNO CA 93721	0.00 --	N/A	99
69	UST	PHIL S AUTOMOTIVE CENTER FRESNOCO3113/UNDERGROUND TANK FAC	1142 F ST FRESNO CA 93706	0.00 --	N/A	100
69	UST	SANTIS INC. TISID-STATE18757/ACTIVE	1142 F FRESNO CA 93706	0.00 --	N/A	100
69	PERMIT	FRESNO AUTO SERVICE CAL000325372/ACTIVE	1142 F ST FRESNO CA 93706	0.00 --	N/A	101
69	UST	PHIL S AUTOMOTIVE CENTER FRESNOCO3521/UNDERGROUND TANK FAC	1142 F ST FRESNO CA 93706	0.00 --	N/A	102
70	PERMIT	FRESNO BEE THE CAD009182122/ACTIVE	1626 E ST FRESNO CA 93786	0.00 --	N/A	103
71	PERMIT	FRESNO CONVENTION and ENTERTAI CAL000330386/ACTIVE	848 M ST FRESNO CA 93721	0.00 --	N/A	104
72	PERMIT	FRESNO COUNTY GRAPHIC COMMUNIC CAL000294699/ACTIVE	844 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	105
73	PERMIT	FRESNO COUNTY SHERIFFS DEPT CAL000111474/ACTIVE	2200 FRESNO ST FRESNO CA 93721	0.00 --	N/A	106
74	UST	COUNTY JAIL (NEW) TISID-STATE15103/ACTIVE	1225 M FRESNO CA 93712	0.00 --	N/A	107
74	PERMIT	FRESNO COUNTY-FRESNO COUNTY JA CAL000325483/ACTIVE	1225 M ST FRESNO CA 93721	0.00 --	N/A	108
74	UST	MAIN JAIL FRESNOCO2788/UNDERGROUND TANK FAC	1225 M ST FRESNO CA 93721	0.00 --	N/A	109
75	PERMIT	FRESNO RESCUE MISSION CAL000274633/ACTIVE	310 G ST FRESNO CA 93706	0.00 --	N/A	110

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TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
75	UST	FRESNO RESCUE MISSION FRESNOCO4052/UNDERGROUND TANK REM	310 G ST FRESNO CA 93706	0.00 --	N/A	111
76	PERMIT	GATEWAY AUTO SALES and LEASING CAL000270921/ACTIVE	621 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	112
77	UST	GEORGES AUTO CARE FRESNOCO3055/UNDERGROUND TANK FAC	603 BROADWAY FRESNO CA 93721	0.00 --	N/A	113
77	PERMIT	GEORGES AUTO CARE SMOG CENTER CAL000274712/ACTIVE	603 BROADWAY FRESNO CA 93721	0.00 --	N/A	114
77	UST	GEORGES AUTO CARE FRESNOCO3544/UNDERGROUND TANK FAC	603 BROADWAY FRESNO CA 93721	0.00 --	N/A	115
78	PERMIT	HARON MOTOR SALES INC CAL000007042/ACTIVE	2222 VENTURA FRESNO CA 93721	0.00 --	N/A	116
78	UST	HARRON MOTOR SALES TISID-STATE2767/INACTIVE	2222 VENTURA FRESNO CA 93721	0.00 --	N/A	117
78	LUST	HARON MOTOR SALES T0601900328/COMPLETED - CASE CLO	2222 VENTURA AVE FRESNO CA 93721	0.00 --	N/A	118
78	UST	HARON MOTOR SALES FRESNOCO4431/UNDERGROUND TANK REM	2222 VENTURA FRESNO CA 93721	0.00 --	N/A	119
79	PERMIT	JENSEN and PILEGARD CAL000111326/ACTIVE	1068 G ST FRESNO CA 93706	0.00 --	N/A	120
80	PERMIT	JOYERIA CUATES CAL000327748/ACTIVE	1435 FRESNO ST FRESNO CA 93706	0.00 --	N/A	121
81	PERMIT	JR BODYSHOP CAL000316198/ACTIVE	1940 H ST STE 103 FRESNO CA 93721	0.00 --	N/A	122
82	PERMIT	KIM AUTO REPAIR CAL000324952/ACTIVE	1413 KERN ST FRESNO CA 93706	0.00 --	N/A	123
83	LUST	DUNAVANT and W.B. CO. T0601900443/COMPLETED - CASE CLO	1410 F ST FRESNO CA 93706	0.00 --	N/A	124
83	PERMIT	KLEINFELDER CAL000178235/INACTIVE	1410 F ST FRESNO CA 93771	0.00 --	N/A	125
83	UST	W B DUNAVANT CO FRESNOCO4003/CLOSED UST FACILITY/	1410 F ST FRESNO CA 93706	0.00 --	N/A	126
83	UST	DUNAVANT W B CO TISID-STATE19245/ACTIVE	1410 F FRESNO CA 93771	0.00 --	N/A	126
84	PERMIT	KURATA AUTO REPAIR CAL000196279/ACTIVE	1060 E ST STE 1 FRESNO CA 93706	0.00 --	N/A	127
85	PERMIT	MELERO S AUTOMOTIVE REPAIR CAL000294082/ACTIVE	1516 H ST FRESNO CA 93721	0.00 --	N/A	128
85	OTHER	DILL ELDON PLATING and POLISHI CAL10340007/REFER: OTHER AGENCY	1516 H ST FRESNO CA 93721	0.00 --	N/A	129

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TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

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86	UST	O BRIEN S BRAKE SERVICE FRESNOCO5344/CLOSED UST FACILITY/	1515 MERCED ST FRESNO CA 93706	0.00 --	N/A	130
86	PERMIT	O BRIEN S BRAKE SERVICE INC CAD028199289/ACTIVE	1515 MERCED ST FRESNO CA 93706	0.00 --	N/A	131
86	UST	O BRIEN S BRAKE SERVICE, INC. TISID-STATE2827/INACTIVE	1515 MERCED FRESNO CA 93706	0.00 --	N/A	132
87	PERMIT	OK PRODUCE CAL000309033/ACTIVE	1502 G ST FRESNO CA 93706	0.00 --	N/A	133
88	PERMIT	PATTERSON AUTOMOTIVE CAL000316209/ACTIVE	2240 TUOLUMNE ST FRESNO CA 93721	0.00 --	N/A	134
89	UST	PEP BOYS 624 FRESNOCO2823/UNDERGROUND TANK FAC	716 BROADWAY FRESNO CA 93721	0.00 --	N/A	135
89	PERMIT	PEP BOYS 624 CAD981662505/ACTIVE	716 BROADWAY FRESNO CA 93721	0.00 --	N/A	136
89	UST	PEP BOYS 624 FRESNOCO6040/CLOSED UST FACILITY/	716 BROADWAY FRESNO CA 93721	0.00 --	N/A	137
89	UST	PEP BOYS 624 TISID-STATE15779/ACTIVE	716 BROADWAY FRESNO CA 93721	0.00 --	N/A	137
90	PERMIT	PRECISION FRAME and COLLISION CAL000287094/INACTIVE	412 BROADWAY ST FRESNO CA 93721	0.00 --	N/A	138
91	PERMIT	PRO AUTO CAL000273385/ACTIVE	2345 STANISLAUS FRESNO CA 93721	0.00 --	N/A	139
92	UST	CITY OF FRESNO FRESNOCO5364/CLOSED UST FACILITY/	2048 VENTURA ST FRESNO CA 93721	0.00 --	N/A	140
92	PERMIT	RODS CUSTOM ELECTRONICS INC. CAL000303260/ACTIVE	2048 VENTURA ST FRESNO CA 93721	0.00 --	N/A	141
93	PERMIT	SAUNDERS AUTOMATIC SERVICE CAL000307597/ACTIVE	1720 H ST FRESNO CA 93721	0.00 --	N/A	142
94	PERMIT	SMILE CARE CAL000292483/ACTIVE	2000 FRESNO ST STE 300 FRESNO CA 93721	0.00 --	N/A	143
95	PERMIT	THE MECHANIC SHOP CAL000281263/ACTIVE	602 BROADWAY ST FRESNO CA 93721	0.00 --	N/A	144
96	PERMIT	TRANSTAR INDUSTRIES INC CAL000330293/ACTIVE	704 G ST FRESNO CA 93706	0.00 --	N/A	145
97	PERMIT	VAL PRINT CAL000021161/ACTIVE	1257 G ST FRESNO CA 93706	0.00 --	N/A	146
98	PERMIT	VALLEY LAHVOSH BAKING CO CAL000304980/ACTIVE	502 M ST FRESNO CA 93721	0.00 --	N/A	147
99	PERMIT	VALLEY METAL FINISHING COMPANY CAL000050286/ACTIVE	733 G ST FRESNO CA 93704	0.00 --	N/A	148

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JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
100	PERMIT	VALLEY PIPE and SUPPLY INC. CAL000072983/ACTIVE	1801 SANTA CLARA FRESNO CA 93721	0.00 --	N/A	149
101	PERMIT	VALLEY PUBLIC TELEVISION INC CAL000251692/ACTIVE	1544 VAN NESS FRESNO CA 93721	0.00 --	N/A	150
102	PERMIT	WAREHOUSE AUTOMOTIVE CAL000278652/ACTIVE	410 BROADWAY FRESNO CA 93721	0.00 --	N/A	151
103	OTHER	FRESNO COUNTY EMPLOYEE CREDIT CAL10550002/REFER: RWQCB	2211 MERCED ST FRESNO CA 93721	0.00 --	N/A	152
104	OTHER	INDUSTRIAL PLATING CAL10340009/REFER: OTHER AGENCY	733 G ST FRESNO CA 93706	0.00 --	N/A	153
105	UST	3-M ADVERTISING FRESNOCO3613/CLOSED UST FACILITY/	1816 VAN NESS FRESNO CA 93721	0.00 --	N/A	154
105	LUST	3M ADVERTISING T0601900207/COMPLETED - CASE CLO	1816 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	156
106	UST	AandA PRODUCE FRESNOCO5707/UNDERGROUND TANK REM	1418 G ST FRESNO CA 93706	0.00 --	N/A	157
106	UST	A and A PRODUCE TISID-STATE16672/ACTIVE	1418 G FRESNO CA 93706	0.00 --	N/A	157
106	UST	AandA PRODUCE FRESNOCO2986/UNDERGROUND TANK FAC	1418 G ST FRESNO CA 93706	0.00 --	N/A	158
107	UST	ABANDONED BUILDING TISID-STATE2390/INACTIVE	1940 H FRESNO CA 93721	0.00 --	N/A	158
107	UST	ABANDONED BUILDING FRESNOCO4787/CLOSED UST FACILITY/	1940 H ST FRESNO CA 93721	0.00 --	N/A	159
108	LUST	ABANDONED SERVICE STATION T0601900122/OPEN - SITE ASSESSME	655 G ST FRESNO CA 93721	0.00 --	N/A	161
108	UST	ABANDONED GAS STATION FRESNOCO5284/UNDERGROUND TANK REM	655 G ST FRESNO CA 93706	0.00 --	N/A	163
109	UST	ACE SERVICE TISID-STATE15381/ACTIVE	1502 FULTON FRESNO CA 93721	0.00 --	N/A	163
109	UST	FRESNO METROPOLITAN MUSEUM FRESNOCO5468/CLOSED UST FACILITY/	1502 FULTON ST FRESNO CA 93721	0.00 --	N/A	164
110	UST	ACE SERVICE TIRE RECAP SHOP FRESNOCO4082/CLOSED UST FACILITY/	550 H ST FRESNO CA 93721	0.00 --	N/A	164
111	UST	ADAM S AUTOMOTIVE FRESNOCO4564/UNDERGROUND TANK REM	1402 N VAN NESS FRESNO CA 93721	0.00 --	N/A	164
111	LUST	ADAM S AUTOMOTIVE T0601900259/COMPLETED - CASE CLO	1402 VAN NESS AVE N FRESNO CA 93728	0.00 --	N/A	166
112	UST	ADVANTAGE TIRE SERVICE FRESNOCO5000/CLOSED UST FACILITY/	650 FULTON ST FRESNO CA 93721	0.00 --	N/A	168

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TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
113	UST	ARCHIVES RECORD STORAGE TISID-STATE2352/INACTIVE	742 FULTON FRESNO CA 93721	0.00 --	N/A	168
113	UST	ARCHIVES RECORD STORAGE FRESNOCO3592/UNDERGROUND TANK REM	742 FULTON FRESNO CA 93721	0.00 --	N/A	169
113	LUST	ARCHIVES RECORD STORAGE BLDG. T0601900385/OPEN - SITE ASSESSME	742 FULTON ST FRESNO CA 93721	0.00 --	N/A	171
114	UST	BALO PROPERTY/TRIANGLE GRAIN FRESNOCO3511/UNDERGROUND TANK FAC	808 G ST FRESNO CA 93721	0.00 --	N/A	172
115	UST	BALO PROPERTY/TRIANGLE GRAIN FRESNOCO2994/UNDERGROUND TANK FAC	808 G ST FRESNO CA 93721	0.00 --	N/A	172
115	UST	TRIANGLE GRAIN CO. TISID-STATE17454/ACTIVE	808 G FRESNO CA 93706	0.00 --	N/A	173
116	UST	BEDROSIAN TRUCK SERVICE FRESNOCO5988/CLOSED UST FACILITY/	1454 G FRESNO CA 93721	0.00 --	N/A	173
116	UST	BEDROSIAN TRUCK SER. INC TISID-STATE15587/ACTIVE	1454 G FRESNO CA 93706	0.00 --	N/A	174
117	UST	BLOSSER S SPORTS EQUIP. CO. TISID-STATE15748/ACTIVE	1728 VAN NESS FRESNO CA 93721	0.00 --	N/A	174
118	UST	BLOSSER SPORTS FRESNOCO5319/CLOSED UST FACILITY/	1728 VAN NESS BLVD FRESNO CA 93711	0.00 --	N/A	175
119	UST	BLUE S AUTO FRESNOCO4002/UNDERGROUND TANK REM	620 F ST FRESNO CA 93721	0.00 --	N/A	175
119	LUST	BLUES AUTO T0601900520/COMPLETED - CASE CLO	620 F ST FRESNO CA 93721	0.00 --	N/A	176
119	UST	TOSCANA BAKERY TISID-STATE14980/ACTIVE	620 F FRESNO CA 93711	0.00 --	N/A	177
120	UST	DOWNTOWN CHEVRON FRESNOCO2671/UNDERGROUND TANK FAC	1506 VAN NESS FRESNO CA 93721	0.00 --	N/A	177
120	UST	CHEVRON STATION TISID-STATE19215/ACTIVE	1506 VAN NESS FRESNO CA	0.00 --	N/A	178
120	LUST	CHEVRON 9-0909 T0601900341/COMPLETED - CASE CLO	1506 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	179
120	UST	C L BRYANT FRESNOCO3306/UNDERGROUND STORAGE	1506 VAN NESS FRESNO CA 93721	0.00 --	N/A	180
121	UST	CALIFORNIA FOOD EQUIPMENT FRESNOCO3515/UNDERGROUND TANK FAC	2401 STANISLAUS FRESNO CA 93721	0.00 --	N/A	180
122	UST	CANTEEN OF FRESNO FRESNOCO4614/CLOSED UST FACILITY/	2136 SANTA CLARA FRESNO CA 93721	0.00 --	N/A	180
122	UST	CANTEEN OF FRESNO INC TISID-STATE2200/INACTIVE	2136 SANTA CLARA FRESNO CA 93721	0.00 --	N/A	181

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TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
123	UST	CENTRAL CAL TRUCKING TISID-STATE2488/INACTIVE	1831 H FRESNO CA 93701	0.00 --	N/A	181
123	UST	CENTRAL CAL TRUCKING FRESNOCO4083/CLOSED UST FACILITY/	1831 H ST FRESNO CA 93701	0.00 --	N/A	182
124	UST	CITY OF FRESNO FRESNOCO5537/CLOSED UST FACILITY/	844 BROADWAY FRESNO CA 93721	0.00 --	N/A	182
125	UST	CITY OF FRESNO CONSTRUCTION TR FRESNOCO6041/UNDERGROUND TANK REM	752 H FRESNO CA 93721	0.00 --	N/A	182
126	LUST	A PLACE FOR YOU FOUNDATION T0601900481/COMPLETED - CASE CLO	2201 STANISLAUS ST FRESNO CA 93721	0.00 --	N/A	183
126	UST	COMMERCIAL PROPERTY FRESNOCO5040/CLOSED UST FACILITY/	2201 STANISLAUS FRESNO CA 93710	0.00 --	N/A	184
127	UST	DAN DAY PONTIAC (FORMER) FRESNOCO5243/UNDERGROUND TANK REM	850 L ST FRESNO CA 93775	0.00 --	N/A	184
127	LUST	PETERSON INVESTMENTS T0601900422/COMPLETED - CASE CLO	850 L ST FRESNO CA 93721	0.00 --	N/A	185
128	UST	DANISH CREAMERY FRESNOCO2664/UNDERGROUND TANK FAC	745 E ST FRESNO CA 93703	0.00 --	N/A	186
129	UST	DANISH CREAMERY ASSOCIATION TISID-STATE15020/ACTIVE	745 E FRESNO CA 93706	0.00 --	N/A	186
130	UST	PRIVATE RESIDENCE FRESNOCO4846/CLOSED UST FACILITY/	1638+ L ST FRESNO CA 93721	0.00 --	N/A	187
130	UST	DOWNTOWN SCHOOL TISID-STATE2419/INACTIVE	1638 L FRESNO CA 93721	0.00 --	N/A	187
131	UST	EDUCATIONAL CENTER FRESNOCO4506/UNDERGROUND TANK REM	2309 E TULARE FRESNO CA 93721	0.00 --	N/A	188
132	UST	GLEN ELECTRIC FRESNOCO5138/CLOSED UST FACILITY/	641 G ST FRESNO CA 93721	0.00 --	N/A	188
132	UST	ELECTROHEAT DIV, GLENN ELECTRI TISID-STATE17575/ACTIVE	641 G FRESNO CA	0.00 --	N/A	189
133	UST	FASANO SPAGHETTI FRESNOCO5940/UNDERGROUND TANK REM	1133 E ST FRESNO CA 93706	0.00 --	N/A	189
134	UST	FC BLDG/MAINT PARKING GARAGE FRESNOCO5493/UNDERGROUND TANK REM	862 VAN NESS FRESNO CA 93702	0.00 --	N/A	190
135	UST	FELIX AUTO MECHANIC FRESNOCO5275/UNDERGROUND TANK REM	804 F ST FRESNO CA 93706	0.00 --	N/A	190
135	UST	FELIX AUTO MECHANIC TISID-STATE17716/ACTIVE	804 F FRESNO CA 93706	0.00 --	N/A	191
135	LUST	FELIX AUTO MECHANIC T0601900246/COMPLETED - CASE CLO	804 F ST FRESNO CA 93706	0.00 --	N/A	192

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TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
136	UST	FIRE DEPARTMENT HEADQUARTERS TISID-STATE2391/INACTIVE	450 M FRESNO CA 93706	0.00 --	N/A	193
136	UST	FIRE DEPT HEADQUARTERS FRESNOCO5276/UNDERGROUND TANK REM	450 M ST FRESNO CA 93706	0.00 --	N/A	193
136	LUST	FIRE DEPT HEADQUARTERS T0601900121/OPEN - SITE ASSESSME	450 M ST FRESNO CA 93706	0.00 --	N/A	195
137	UST	FIRE DEPARTMENT SHOP TISID-STATE15451/ACTIVE	1420 FRESNO FRESNO CA 90000	0.00 --	N/A	197
138	UST	FIRE DEPARTMENT TRAINING DIVIS FRESNOCO3932/CLOSED UST FACILITY/	1144 E ST FRESNO CA 93706	0.00 --	N/A	197
139	UST	FIRE STATION NO. 3 TISID-STATE15452/ACTIVE	1406 FRESNO FRESNO CA	0.00 --	N/A	198
139	UST	SAN JOAQUIN MEMORIAL H S TISID-STATE15027/ACTIVE	1406 FRESNO FRESNO CA	0.00 --	N/A	198
139	UST	FIRE STATION 3 FRESNOCO5708/UNDERGROUND TANK REM	1406 FRESNO FRESNO CA 93706	0.00 --	N/A	199
140	UST	FORMER SHELL STATION TISID-STATE2769/INACTIVE	2210 KERN FRESNO CA 93721	0.00 --	N/A	199
140	UST	SHELL FRESNOCO4214/UNDERGROUND TANK REM	2210 KERN FRESNO CA 93721	0.00 --	N/A	200
141	UST	FRANKS EXXON FRESNOCO3931/CLOSED UST FACILITY/	1060 E ST FRESNO CA 93706	0.00 --	N/A	200
141	LUST	FRANKS EXXON T0601900453/COMPLETED - CASE CLO	1060 E ST FRESNO CA 93721	0.00 --	N/A	201
142	UST	FRANKS EXXON TISID-STATE15266/ACTIVE	1060 E FRESNO CA 93706	0.00 --	N/A	202
143	UST	FRESNO BEE, THE FRESNOCO2703/UNDERGROUND TANK FAC	1626 E ST FRESNO CA 93706	0.00 --	N/A	202
143	LUST	THE FRESNO BEE T0601900400/COMPLETED - CASE CLO	1626 E ST FRESNO CA 93706	0.00 --	N/A	203
144	LUST	FRESNO CITY POLICE DEPT. T0601900576/COMPLETED - CASE CLO	2323 MARIPOSA FRESNO CA 93721	0.00 --	N/A	205
144	UST	POLICE DEPT TISID-STATE15153/ACTIVE	2323 MARIPOSA FRESNO CA 93721	0.00 --	N/A	207
144	UST	FRESNO CITY POLICE DEPT FRESNOCO2704/UNDERGROUND TANK FAC	2323 MARIPOSA FRESNO CA 93721	0.00 --	N/A	207
145	UST	FRESNO COUNTY JAIL FRESNOCO2707/UNDERGROUND TANK FAC	1155 M ST FRESNO CA 93721	0.00 --	N/A	208
145	UST	FRESNO COUNTY JAIL FRESNOCO5979/CLOSED UST FACILITY/	1155 M FRESNO CA 93721	0.00 --	N/A	208

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Target Property: FULTON CORRIDOR PLAN
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TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
145	UST	FRESNO CO MAINTENANCE YARD TISID-STATE16830/ACTIVE	1155 M FRESNO CA 93721	0.00 --	N/A	209
145	LUST	FRESNO COUNTY JAIL T0601900260/OPEN - SITE ASSESSME	1155 M ST FRESNO CA 93721	0.00 --	N/A	211
146	UST	FRESNO COUNTY TISID-STATE15411/ACTIVE	2200 FRESNO FRESNO CA 93717	0.00 --	N/A	212
146	UST	FRESNO COUNTY SHERIFFS ADMIN FRESNOCO3048/UNDERGROUND TANK FAC	2200 FRESNO FRESNO CA 93721	0.00 --	N/A	212
147	UST	FRESNO OFFICE MACHINES TISID-STATE19067/ACTIVE	660 VAN NESS FRESNO CA 90000	0.00 --	N/A	213
148	UST	FRESNO UPHOLSTERY FRESNOCO5247/CLOSED UST FACILITY/	401 BROADWAY FRESNO CA 93721	0.00 --	N/A	213
149	UST	FRESNO YOUTH FOR CHRIST FRESNOCO3921/CLOSED UST FACILITY/	1401 DIVISADERO FRESNO CA 93721	0.00 --	N/A	214
150	UST	GLENFED BUILDING FRESNOCO3518/UNDERGROUND TANK FAC	1177 FULTON MALL FRESNO CA 93721	0.00 --	N/A	214
150	UST	GLENFED BUILDING FRESNOCO3057/UNDERGROUND TANK FAC	1177 FULTON MALL FRESNO CA 93721	0.00 --	N/A	214
151	UST	GOLDEN STATE PLAZA TISID-STATE18881/ACTIVE	2220 TULARE FRESNO CA 93702	0.00 --	N/A	215
152	UST	GOODYEAR TIRE FRESNOCO4836/CLOSED UST FACILITY/	745 FULTON FRESNO CA 93721	0.00 --	N/A	215
153	LUST	GREYHOUND BUS DEPOT T0601900447/OPEN - SITE ASSESSME	1033 BROADWAY FRESNO CA 93721	0.00 --	N/A	217
153	UST	GREYHOUND BUS DEPOT FRESNOCO3759/UNDERGROUND TANK REM	1033 BROADWAY FRESNO CA 93721	0.00 --	N/A	218
153	UST	GREYHOUND BUS DEPOT TISID-STATE15604/ACTIVE	1033 BROADWAY FRESNO CA	0.00 --	N/A	218
154	UST	HAL S TRUCK RENTAL TISID-STATE2724/INACTIVE	621 VAN NESS FRESNO CA 93721	0.00 --	N/A	219
154	UST	HAUS TRUCK RENTAL FRESNOCO4988/CLOSED UST FACILITY/	621 VAN NESS FRESNO CA 93721	0.00 --	N/A	219
155	UST	HALWOOD SERVICE FRESNOCO5711/CLOSED UST FACILITY/	2149 VENTURA FRESNO CA 93721	0.00 --	N/A	220
155	UST	HALWOOD SERVICE TISID-STATE18943/ACTIVE	2149 VENTURA FRESNO CA 93721	0.00 --	N/A	220
156	UST	HOBBS PARSONS PRODUCE TISID-STATE2460/INACTIVE	951 H FRESNO CA 93721	0.00 --	N/A	221
156	UST	HOBBS PARSON PRODUCE FRESNOCO4084/CLOSED UST FACILITY/	951 H ST FRESNO CA 93721	0.00 --	N/A	221

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Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
157	UST	INTERNATIONAL MFG. CO. TISID-STATE2693/INACTIVE	1835 VAN NESS FRESNO CA 93721	0.00 --	N/A	222
158	LUST	JENSEN AND PILEGARD T0601900068/COMPLETED - CASE CLO	1111 G ST FRESNO CA 93706	0.00 --	N/A	223
158	UST	JENSEN and PILEGARD TISID-STATE2736/INACTIVE	1111 G FRESNO CA 93706	0.00 --	N/A	224
158	UST	JENSEN and PILEGARD FRESNOCO4054/UNDERGROUND TANK REM	1111 G ST FRESNO CA 93706	0.00 --	N/A	224
159	UST	KALASHIAN PACKING TISID-STATE2555/INACTIVE	401 H FRESNO CA 93721	0.00 --	N/A	225
159	UST	KALASHIAN PACKING COMPANY* FRESNOCO4979/UNDERGROUND TANK REM	401 H ST FRESNO CA 93721	0.00 --	N/A	225
159	LUST	KALASHIAN PACKING CO. T0601900392/COMPLETED - CASE CLO	401 H ST FRESNO CA 93721	0.00 --	N/A	227
159	LUST	UNION PACIFIC RAILROAD: H AND T10000001126/COMPLETED - CASE CLO	401 H FRESNO CA 93721	0.00 --	N/A	229
160	UST	LISLE FUNERAL HOME FRESNOCO4186/CLOSED UST FACILITY/	1605 L ST FRESNO CA 93721	0.00 --	N/A	230
160	UST	LISLE FUNERAL HOME TISID-STATE2438/INACTIVE	1605 L FRESNO CA 93721	0.00 --	N/A	230
161	UST	LLOYD S SERVICE STATION FRESNOCO4051/CLOSED UST FACILITY/	1921 FULTON FRESNO CA 93721	0.00 --	N/A	231
161	UST	LLOYDS FRESNO SERVICE TISID-STATE2487/INACTIVE	1921 FULTON FRESNO CA 93721	0.00 --	N/A	231
162	UST	LONG CONSTRUCTION FRESNOCO5694/CLOSED UST FACILITY/	850 M ST FRESNO CA 93721	0.00 --	N/A	232
163	UST	LOUIE GENNUSO SERVICE STATION TISID-STATE16026/ACTIVE	1350 FRESNO FRESNO CA 93706	0.00 --	N/A	232
163	UST	LOUIE GENNUSO SERVICE STATION FRESNOCO3084/UNDERGROUND TANK FAC	1350 FRESNO FRESNO CA 93706	0.00 --	N/A	233
163	UST	LOUIE GENNUSO SERVICE STATION FRESNOCO4028/UNDERGROUND TANK REM	1350 FRESNO FRESNO CA 93706	0.00 --	N/A	233
163	LUST	GENNUSO S SERVICE STATION T0601993694/COMPLETED - CASE CLO	1350 FRESNO ST FRESNO CA 93706	0.00 --	N/A	235
164	UST	MCNARY PROPERTY FRESNOCO5724/CLOSED UST FACILITY/	411 G ST FRESNO CA 93706	0.00 --	N/A	238
165	UST	P E O HAIR COMPANY FRESNOCO4293/CLOSED UST FACILITY/	1220 E NORTH FRESNO CA 93725	0.00 --	N/A	238
166	UST	PACIFIC BELL FRESNOCO5987/CLOSED UST FACILITY/	1445 VAN NESS FRESNO CA 93721	0.00 --	N/A	238

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Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
166	UST	PACIFIC BELL FRESNOCO2806/UNDERGROUND TANK FAC	1445 VAN NESS 236 FRESNO CA 93721	0.00 --	N/A	239
166	UST	PACIFIC BELL FRESNOCO4841/UNDERGROUND STORAGE	1445 VAN NESS 236 FRESNO CA 93721	0.00 --	N/A	239
166	UST	PACIFIC BELL (SB-025) TISID-STATE16040/ACTIVE	1445 VAN NESS FRESNO CA 93704	0.00 --	N/A	240
167	UST	PARNELLI JONES-STORE 47 FRESNOCO5018/CLOSED UST FACILITY/	760 FULTON ST FRESNO CA 93721	0.00 --	N/A	240
168	UST	PATRICK S GARAGE FRESNOCO3761/UNDERGROUND TANK REM	1659 BROADWAY FRESNO CA 93721	0.00 --	N/A	241
169	UST	PATTERSON TIRE CO FRESNOCO4331/CLOSED UST FACILITY/	2240 TUOLUMNE FRESNO CA 93721	0.00 --	N/A	241
169	UST	PATTERSON TIRE CO. TISID-STATE18544/ACTIVE	2240 TUOLUMNE FRESNO CA 93721	0.00 --	N/A	242
170	UST	PEPSI COLA BOTTLING COMPANY FRESNOCO4292/CLOSED UST FACILITY/	1150 E NORTH FRESNO CA 93725	0.00 --	N/A	242
171	UST	PGandE PROPERTY FRESNOCO5676/CLOSED UST FACILITY/	1416 BROADWAY FRESNO CA 93721	0.00 --	N/A	243
172	UST	PMT FACILITY TISID-STATE17702/ACTIVE	1301 H FRESNO CA 93721	0.00 --	N/A	243
172	UST	SOUTHERN PACIFIC RAILROAD FRESNOCO4076/CLOSED UST FACILITY/	1301 H ST FRESNO CA 93721	0.00 --	N/A	244
173	UST	POLICE DRESSING STATION FRESNOCO4620/CLOSED UST FACILITY/	940 BROADWAY FRESNO CA 93721	0.00 --	N/A	244
174	UST	PRUDENTIAL OVERALL SUPPLY FRESNOCO2831/UNDERGROUND TANK FAC	1260 E NORTH FRESNO CA 93725	0.00 --	N/A	244
175	UST	QUINN COMPANY FRESNOCO4789/CLOSED UST FACILITY/	1560 H ST FRESNO CA 93721	0.00 --	N/A	245
175	LUST	QUINN COMPANY VACANT LOT T0601900282/COMPLETED - CASE CLO	1560 H ST FRESNO CA 93721	0.00 --	N/A	246
176	UST	RandN AUTOMOTIVE FRESNOCO5337/CLOSED UST FACILITY/	901 M ST FRESNO CA 93710	0.00 --	N/A	247
177	UST	ROWELL COMPANY PROPERTY FRESNOCO5874/CLOSED UST FACILITY/	2148 KERN FRESNO CA 93721	0.00 --	N/A	247
178	UST	ROWELL COMPANY PROPERTY FRESNOCO5873/CLOSED UST FACILITY/	917 L ST FRESNO CA 93721	0.00 --	N/A	247
179	UST	S AND J MINI MART* FRESNOCO4080/CLOSED UST FACILITY/	476 H ST FRESNO CA 93721	0.00 --	N/A	248
179	UST	TRIANGLE STATION 0006 TISID-STATE16155/ACTIVE	476 H FRESNO CA 93721	0.00 --	N/A	248

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TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
179	LUST	S and J MINI MART T0601900473/COMPLETED - CASE CLO	476 H ST FRESNO CA 93721	0.00 --	N/A	249
180	UST	SECURITY BANK GARAGE TISID-STATE15318/ACTIVE	1060 FULTON MALL FRESNO CA 93721	0.00 --	N/A	250
181	UST	SECURITY PACIFIC BANK BUILDING FRESNOCO4666/CLOSED UST FACILITY/	1058 FULTON MALL FRESNO CA 93721	0.00 --	N/A	250
182	UST	TY BOYS MINI MART TISID-STATE18936/ACTIVE	2111 VENTURA FRESNO CA 93721	0.00 --	N/A	251
182	UST	SNAPPY FOOD and LIQUOR FRESNOCO2891/UNDERGROUND TANK FAC	2111 VENTURA FRESNO CA 93721	0.00 --	N/A	251
183	UST	TEXACO (MOHAWK) STATION FRESNOCO5420/CLOSED UST FACILITY/	1410 W VENTURA FRESNO CA 93727	0.00 --	N/A	252
184	UST	TRAILWAY LINES FRESNOCO5782/UNDERGROUND TANK REM	1333 BROADWAY FRESNO CA 93721	0.00 --	N/A	252
184	UST	TRAILWAYS LINES INC TISID-STATE19382/ACTIVE	1333 BROADWAY FRESNO CA 93721	0.00 --	N/A	253
184	UST	TRAILWAY LINES FRESNOCO3158/UNDERGROUND TANK FAC	1333 BROADWAY FRESNO CA 93721	0.00 --	N/A	253
185	LUST	TRINI S BEACON T0601900669/OPEN - SITE ASSESSME	603 G ST FRESNO CA 93706	0.00 --	N/A	255
185	UST	TRINI S BEACON FRESNOCO2927/UNDERGROUND TANK FAC	603 G ST FRESNO CA 93706	0.00 --	N/A	256
185	UST	TRINI S BEACON FRESNOCO6034/CLOSED UST FACILITY/	603 G FRESNO CA 93706	0.00 --	N/A	256
185	UST	TRINIS OIL INC TISID-STATE17665/ACTIVE	603 G FRESNO CA 93706	0.00 --	N/A	257
186	UST	UNOCAL SS 30317-250354 FRESNOCO3405/UNDERGROUND STORAGE	2121 H ST FRESNO CA 93721	0.00 --	N/A	257
186	LUST	UNOCAL SERVICE STATION 0354 T0601900593/COMPLETED - CASE CLO	2121 H ST FRESNO CA 93721	0.00 --	N/A	258
186	UST	UNOCAL SS 30317-250354 FRESNOCO6005/CLOSED UST FACILITY/	2121 H FRESNO CA 93721	0.00 --	N/A	259
186	UST	UNOCAL SS 30317 FRESNOCO2939/UNDERGROUND TANK FAC	2121 H ST FRESNO CA 93721	0.00 --	N/A	259
186	UST	UNOCAL SS 0354 TISID-STATE15383/ACTIVE	2121 H FRESNO CA 93721	0.00 --	N/A	260
187	UST	UNOCAL STATION FRESNOCO4172/CLOSED UST FACILITY/	1413 KERN FRESNO CA 93704	0.00 --	N/A	260
188	LUST	PARKING LOT T0601900053/COMPLETED - CASE CLO	750 VAN NESS AVE FRESNO CA 93721	0.00 --	N/A	261

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Target Property: FULTON CORRIDOR PLAN
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TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
188	UST	VAN NESS/INYO PARKING LOT FRESNOCO4406/UNDERGROUND TANK REM	750 VAN NESS FRESNO CA 93721	0.00 --	N/A	262
188	UST	VAN NESS and INYO PARKING LOT TISID-STATE2286/INACTIVE	750 VAN NESS FRESNO CA 93721	0.00 --	N/A	262
189	UST	VAN NESS/INYO PARKING LOT FRESNOCO5343/CLOSED UST FACILITY/	732 VAN NESS FRESNO CA 93721	0.00 --	N/A	263
190	UST	WILLARD LUMBER FRESNOCO4091/CLOSED UST FACILITY/	2021 H ST FRESNO CA 93721	0.00 --	N/A	263
190	UST	WILLIARD LUMBER COMPANY TISID-STATE16100/ACTIVE	2021 H FRESNO CA 93721	0.00 --	N/A	264
191	UST	WILSHIRE PAINT COMPANY FRESNOCO4049/CLOSED UST FACILITY/	701 FULTON FRESNO CA 93721	0.00 --	N/A	264
192	UST	WILSON S MOTORCYCLES FRESNOCO3756/CLOSED UST FACILITY/	443 BROADWAY FRESNO CA 93721	0.00 --	N/A	265
192	UST	WILSONS MOTORCYCLES TISID-STATE2781/INACTIVE	443 BROADWAY FRESNO CA 93721	0.00 --	N/A	265
193	LUST	BROADWAY FURNITURE PARKING LOT T0601989283/COMPLETED - CASE CLO	755 BROADWAY FRESNO CA 93721	0.00 --	N/A	266
194	LUST	DEL MONTE FOODS PARKING LOT T0601900610/COMPLETED - CASE CLO	1626 TULARE ST FRESNO CA 93706	0.00 --	N/A	267
195	LUST	HUDSON SERVICE STATION T0601900720/COMPLETED - CASE CLO	1390 FRESNO ST N FRESNO CA 93706	0.00 --	N/A	268
196	LUST	TUTELIAN and COMPANY T10000001303/OPEN - REFERRED	812 VAN NESS FRESNO CA 93721	0.00 --	N/A	270
197	HWMANIFEST	PATTON SHEET METAL WORKS INC D CAL000107960/ACTIVE	272 NORTH PALM AVE FRESNO CA 93701	0.00 --	N/A	271
197	HWMANIFEST	WHIRLWIND CAR WASH CAL000311872/ACTIVE	225 NORTH H ST FRESNO CA 93701	0.00 --	N/A	272
197	HWMANIFEST	JR BODYSHOP CAL000316198/ACTIVE	1940 H STE 103 ST FRESNO CA 93721	0.00 --	N/A	273
197	HWMANIFEST	SPEEDY AUTO TECH CAL000318839/ACTIVE	320 NORTH PALM STE AVE FRESNO CA 93701	0.00 --	N/A	274
197	HWMANIFEST	SPEEDY AUTO TECH CAL000326173/ACTIVE	320 NORTH PALM STE AVE FRESNO CA 93701	0.00 --	N/A	275
197	HWMANIFEST	GARCIA S TIRE SHOP CAL000327827/ACTIVE	202 NORTH H ST FRESNO CA 93701	0.00 --	N/A	276
197	HWMANIFEST	A and B PAYLESS TRANSMISSION CAL000302887/ACTIVE	1935 BROADWAY AVE FRESNO CA 93721	0.00 --	N/A	277
197	HWMANIFEST	FRESNO CATERING SERVICE CAL000226059/ACTIVE	103 NORTH BROADWAY FRESNO CA 93701	0.00 --	N/A	278

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TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
197	HWMANIFEST	JMLORD INC CAL000232178/ACTIVE	267 NORTH FULTON ST FRESNO CA 93701	0.00 --	N/A	279
198	HWMANIFEST	KLEINFELDER CAL000178235/INACTIVE	1410 F ST FRESNO CA 93771	0.00 --	N/A	280
198	HWMANIFEST	RICK S TIRE and SERVICE CAL000064960/ACTIVE	1501 FULTON ST FRESNO CA 93721	0.00 --	N/A	281
198	HWMANIFEST	CNTY OF FRESNO/COUNTY COURTHOU CAL000138693/ACTIVE	1100 VAN NESS FRESNO CA 93721	0.00 --	N/A	282
198	HWMANIFEST	CITY OF FRESNO FIRE DEPT. MAIN CAL000064607/ACTIVE	1420 FRESNO ST FRESNO CA 93706	0.00 --	N/A	283
198	HWMANIFEST	BUD EBERWEIN BRAKE and WHEEL A CAD982342784/ACTIVE	1559 BROADWAY FRESNO CA 93721	0.00 --	N/A	284
198	HWMANIFEST	BILLS FOREIGN AUTO REPAIR CAL000120409/ACTIVE	1427 BROADWAY FRESNO CA 93721	0.00 --	N/A	285
198	HWMANIFEST	BEAUTIWOOD UNFINISHED FURNITUR CAL000260485/ACTIVE	1454 H ST FRESNO CA 93721	0.00 --	N/A	286
198	HWMANIFEST	KURATA AUTO REPAIR CAL000196279/ACTIVE	1060 EAST STE ST FRESNO CA 93706	0.00 --	N/A	287
198	HWMANIFEST	SAUNDERS AUTOMATIC SERVICE CAL000307597/ACTIVE	1720 H ST FRESNO CA 93721	0.00 --	N/A	288
198	HWMANIFEST	SMILE CARE CAL000292483/ACTIVE	2000 FRESNO STE 300 ST FRESNO CA 93721	0.00 --	N/A	289
198	HWMANIFEST	FACTORY TIRE CAL000251098/ACTIVE	1608 BROADWAY FRESNO CA 93721	0.00 --	N/A	290
198	HWMANIFEST	FRESNO AUTO SERVICE CAL000325372/ACTIVE	1142 F ST FRESNO CA 93706	0.00 --	N/A	291
198	HWMANIFEST	O BRIEN S BRAKE SERVICE INC CAD028199289/ACTIVE	1515 MERCED ST FRESNO CA 93706	0.00 --	N/A	292
198	HWMANIFEST	PATTERSON AUTOMOTIVE CAL000316209/ACTIVE	2240 TUOLUMNE ST FRESNO CA 93721	0.00 --	N/A	293
198	HWMANIFEST	VAL PRINT CAL000021161/ACTIVE	1257 G ST FRESNO CA 93706	0.00 --	N/A	294
198	HWMANIFEST	JOYERIA CUATES CAL000327748/ACTIVE	1435 FRESNO ST FRESNO CA 93706	0.00 --	N/A	295
198	HWMANIFEST	VALLEY AIR CONDITIONING INC CAL000256294/ACTIVE	1350 F ST FRESNO CA 93706	0.00 --	N/A	296
198	HWMANIFEST	JENSEN and PILEGARD CAL000111326/ACTIVE	1068 G ST FRESNO CA 93706	0.00 --	N/A	297
198	HWMANIFEST	MELERO S AUTOMOTIVE REPAIR CAL000294082/ACTIVE	1516 H ST FRESNO CA 93721	0.00 --	N/A	298

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Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
199	UST	BEKINS MOVING and STROAGE CO. TISID-STATE2505/INACTIVE	301 VAN NESS FRESNO CA 93721	0.01 SE	N/A	299
199	UST	BEKINS MOVING and STORAGE FRESNOCO4404/CLOSED UST FACILITY/	301 S VAN NESS FRESNO CA 93721	0.01 SE	N/A	299
200	UST	FRESNO BEE, THE FRESNOCO5993/CLOSED UST FACILITY/	1626 E FRESNO CA 93706	0.01 NW	N/A	300
201	UST	WALKER AUTO SALES FRESNOCO5404/CLOSED UST FACILITY/	1333 VENTURA ST FRESNO CA 93706	0.01 SW	N/A	300
202	HWMANIFEST	PRO AUTO CAL000273385/ACTIVE	2345 STANISLAUS FRESNO CA 93721	0.01 NE	N/A	301
202	HWMANIFEST	BIG 3DCOM CAL000219971/ACTIVE	1419 M ST FRESNO CA 93721	0.01 NE	N/A	302
202	HWMANIFEST	FRESNO COUNTY EOC SANCTUARY YO CAL000327338/ACTIVE	1545 NORTH ST FRESNO CA 93721	0.01 NE	N/A	303
202	HWMANIFEST	ALMARED INC DBA A-1 AUTO ELECT CAL000298503/ACTIVE	2320 STANISLAUS ST FRESNO CA 93721	0.01 NE	N/A	304
202	HWMANIFEST	VALLEY PUBLIC TELEVISION INC CAL000251692/ACTIVE	1544 VAN NESS FRESNO CA 93721	0.01 NE	N/A	305
202	HWMANIFEST	FUN WORLD CAL000325423/ACTIVE	408 NORTH BLACKSTONE AVE FRESNO CA 93701	0.01 NE	N/A	306
202	HWMANIFEST	FORENSIC LAB UNIT CAL000181759/ACTIVE	1256 DIVISADERO FRESNO CA 93721	0.01 NE	N/A	307
203	RCRAGN	PACIFIC BELL CAT080023450/TR	1665 E ST FRESNO CA 93706	0.02 NW	N/A	308
203	RCRANLR	PACIFIC BELL CAT080023450/NLR	1665 E ST FRESNO CA 93706	0.02 NW	N/A	308
204	PERMIT	COUNTY OF FRESNO/LIBRAY CAL000230066/ACTIVE	2420 MARIPOSA ST FRESNO CA 93721	0.02 NE	N/A	309
205	UST	DESIGNER FABRICS TISID-STATE2222/INACTIVE	505 N FRESNO CA 93721	0.02 NE	N/A	310
206	UST	DESIGNER FABRICS, INC. TISID-STATE17892/ACTIVE	525 N FRESNO CA 93721	0.02 NE	N/A	310
207	PERMIT	FRESNO CATERING SERVICE CAL000226059/ACTIVE	103 N BROADWAY FRESNO CA 93701	0.03 NW	N/A	311
208	PERMIT	FRESNO COUNTY EOC SANCTUARY YO CAL000327338/ACTIVE	1545 N ST FRESNO CA 93721	0.03 NE	N/A	312
209	PERMIT	TRANS PARTS INC CAL000231949/ACTIVE	344 M ST FRESNO CA 93721	0.03 SE	N/A	313
210	UST	DESIGNER FABRICS FRESNOCO4307/CLOSED UST FACILITY/	505 N ST FRESNO CA 93721	0.03 NE	N/A	314

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JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
211	UST	FRESNO CO. OFFICE OF ED.-MOTOR TISID-STATE17988/ACTIVE	1455 N FRESNO CA 93721	0.03 NE	N/A	314
212	UST	P.E. O HAIR and CO. TISID-STATE19348/ACTIVE	1220 N. FRESNO CA 93721	0.03 NW	N/A	315
213	UST	PRIVATE SHOP TISID-STATE2237/INACTIVE	1453 N FRESNO CA 93721	0.03 NE	N/A	315
214	RCRAGN	REGIONAL AIRCRAFT SERVICES CAD982516502/SGN	1446 N VILLA FRESNO CA 93727	0.04 NE	N/A	316
215	UST	CALTRANS EQUIP SHOP 6 FRESNOCO4479/UNDERGROUND TANK REM	1385 N WEST FRESNO CA 93728	0.04 NE	N/A	317
216	UST	CALTRANS-MAINTENANCE STATION FRESNOCO2624/UNDERGROUND TANK FAC	1283 N WEST FRESNO CA 93728	0.04 NE	N/A	317
217	UST	PRIVATE SHOP FRESNOCO4309/CLOSED UST FACILITY/	1453 N ST FRESNO CA 93714	0.04 NE	N/A	317
218	UST	PRUDENTIAL OVERALL SUPPLY TISID-STATE15138/ACTIVE	1260 N. FRESNO CA 93721	0.04 NE	N/A	318
219	UST	RED TRIANGLE TISID-STATE196/ACTIVE	546 N FRESNO CA 93721	0.04 NE	N/A	318
220	HWMANIFEST	COUNTY OF FRESNO/LIBRAY CAL000230066/ACTIVE	2420 MARIPOSA ST FRESNO CA 93721	0.04 SE	N/A	319
220	HWMANIFEST	AGM NAPA AUTO CARE CAL000324960/ACTIVE	2149 VENTURA AVE FRESNO CA 93721	0.04 SE	N/A	320
220	HWMANIFEST	TRANS PARTS INC CAL000231949/ACTIVE	344 M ST FRESNO CA 93721	0.04 SE	N/A	321
220	HWMANIFEST	CITY OF FRESNO POLICE DEPT. PR CAL000106117/ACTIVE	2323 MARIPOSA MALL FRESNO CA 93721	0.04 SE	N/A	322
220	HWMANIFEST	GATEWAY AUTO SALES and LEASING CAL000270921/ACTIVE	621 VAN NESS AVE FRESNO CA 93721	0.04 SE	N/A	323
220	HWMANIFEST	FRESNO COUNTY SHERIFFS DEPT CAL000111474/ACTIVE	2200 FRESNO ST FRESNO CA 93721	0.04 SE	N/A	324
220	HWMANIFEST	PEP BOYS 624 CAD981662505/ACTIVE	716 BROADWAY FRESNO CA 93721	0.04 SE	N/A	325
220	HWMANIFEST	RODS CUSTOM ELECTRONICS INC. CAL000303260/ACTIVE	2048 VENTURA ST FRESNO CA 93721	0.04 SE	N/A	326
220	HWMANIFEST	FRESNO COUNTY GRAPHIC COMMUNIC CAL000294699/ACTIVE	844 VAN NESS AVE FRESNO CA 93721	0.04 SE	N/A	327
220	HWMANIFEST	FRESNO CONVENTION and ENTERTAI CAL000330386/ACTIVE	848 M ST FRESNO CA 93721	0.04 SE	N/A	328
220	HWMANIFEST	D and R AUTOMOTIVE SERVICES OF CAL000321584/ACTIVE	901 M ST FRESNO CA 93721	0.04 SE	N/A	329

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Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
220	HWMANIFEST	HARON MOTOR SALES INC CAL000007042/ACTIVE	2222 VENTURA FRESNO CA 93721	0.04 SE	N/A	330
220	HWMANIFEST	VALLEY LAHVOSH BAKING CO CAL000304980/ACTIVE	502 M ST FRESNO CA 93721	0.04 SE	N/A	331
220	HWMANIFEST	FARM USED OIL FRESNO COUNTY CAF000000010/INACTIVE	2281 TULARE ST FRESNO CA 93721	0.04 SE	N/A	332
220	HWMANIFEST	DEPT OF GENERAL SVCS-FRESNO ST CAL000178366/ACTIVE	1025 P ST FRESNO CA 93721	0.04 SE	N/A	333
220	HWMANIFEST	FRESNO COUNTY-FRESNO COUNTY JA CAL000325483/ACTIVE	1225 M ST FRESNO CA 93721	0.04 SE	N/A	334
220	HWMANIFEST	CNTY OF FRESNO/GSA RISK MGMT CAL000174743/ACTIVE	2220 TULARE ST FRESNO CA 93702	0.04 SE	N/A	335
221	RCRAGN	SHELL SERVICE STATION CAR000127258/SGN	1212 FRESNO FRESNO CA 93706	0.05 SW	N/A	336
221	RCRANLR	SHELL SERVICE STATION CAR000127258/NLR	1212 FRESNO FRESNO CA 93706	0.05 SW	N/A	337
222	ERNS	UNOCAL 221 486397/FIXED FACILITY	101 NORTH ROSSEVELT AVENUE FRESNO CA 93701	0.05 NW	N/A	338
223	LUST	ARMORED TRANSPORT INC T0601900479/COMPLETED - CASE CLO	110 BROADWAY N FRESNO CA 93701	0.05 NW	N/A	339
223	UST	ARMORED TRANSPORT OF CALIF FRESNOCO3752/UNDERGROUND TANK REM	110 N BROADWAY FRESNO CA 93701	0.05 NW	N/A	340
224	UST	CALIFORNIA FOOD EQUIPMENT FRESNOCO3003/UNDERGROUND TANK FAC	2401 STANISLAUS FRESNO CA 93721	0.05 NE	N/A	340
225	UST	UNOCAL BULK PLANT TISID-STATE16397/ACTIVE	101 ROOSEVELT FRESNO CA 93401	0.05 NW	N/A	341
225	LUST	UNOCAL BULK PLANT 221 T0601900577/OPEN - SITE ASSESSME	101 ROOSEVELT N FRESNO CA 93701	0.05 NW	N/A	343
225	UST	UNOCAL FRESNOCO4609/UNDERGROUND TANK REM	101 N ROOSEVELT FRESNO CA 93701	0.05 NW	N/A	347
226	RCRAGN	FRESNO CITY OF P/W TRAFFIC ENG CAD981657935/SGN	2135 G ST BUILDING V FRESNO CA 93706	0.06 SW	N/A	347
227	RCRAGN	FRESNO FLEET DIV CITY OF CAD981974132/SGN	2175 G ST BLDG F FRESNO CA 93706	0.06 SW	N/A	348
228	UST	FRESNO AREA EXPRESS/FAX FRESNOCO6007/CLOSED UST FACILITY/	2223 G FRESNO CA 93706	0.06 SW	N/A	348
228	UST	FRESNO TRANSIT TISID-STATE19244/ACTIVE	2223 G FRESNO CA 93706	0.06 SW	N/A	349
228	UST	FRESNO AREA EXPRESS/FAX FRESNOCO3260/UNDERGROUND STORAGE	2223 G ST FRESNO CA 93706	0.06 SW	N/A	349

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228	UST	FRESNO AREA EXPRESS/FAX FRESNOCO2702/UNDERGROUND TANK FAC	2223 G ST FRESNO CA 93706	0.06 SW	N/A	350
228	RCRAGN	FRESNO TRANSIT CAD981982812/SGN	2223 G ST FRESNO CA 93706	0.06 SW	N/A	350
229	UST	CALIFORNIA FUND RAISERS FRESNOCO4743/CLOSED UST FACILITY/	2040 G ST FRESNO CA 93706	0.06 SW	N/A	351
229	LUST	CAL FUND RAISIN INC T0601900201/COMPLETED - CASE CLO	2040 G ST FRESNO CA 93706	0.06 SW	N/A	352
229	UST	CALIFORNIA FUND RAISING TISID-STATE15777/ACTIVE	2040 G FRESNO CA 93706	0.06 SW	N/A	353
230	UST	FLEET MANAGEMENT, BLDG T ,MSC TISID-STATE15455/ACTIVE	2175 G FRESNO CA 93706	0.06 SW	N/A	353
230	UST	CITY OF FRESNO-FLEET DIVISION TISID-STATE15355/ACTIVE	2175 G FRESNO CA 93706	0.06 SW	N/A	354
231	LUST	CITY OF FRESNO-FLEET MGMT. DIV T0601900519/COMPLETED - CASE CLO	2101 G ST FRESNO CA 93706	0.06 SW	N/A	356
231	UST	FLEET MANAGEMENT DIVISION FRESNOCO2699/UNDERGROUND TANK FAC	2101 G ST BLDG F FRESNO CA 93706	0.06 SW	N/A	358
232	UST	OK PRODUCE FRESNOCO4637/CLOSED UST FACILITY/	1762 G ST FRESNO CA 93779	0.06 SW	N/A	358
233	LUST	UNION PACIFIC RAILROAD T0601900613/COMPLETED - CASE CLO	2150 G ST FRESNO CA 93706	0.06 SW	N/A	359
233	LUST	UNION PACIFIC RAILROAD (2ND LE T0601993697/COMPLETED - CASE CLO	2150 G ST FRESNO CA 93706	0.06 SW	N/A	360
234	RCRAGN	CRUTCHFIELD PEST CONTROL CAD982485641/SGN	126 N ROOSEVELT FRESNO CA 93701	0.07 NW	N/A	361
235	PERMIT	RAY MYERS CAL000175710/ACTIVE	251 BROADWAY FRESNO CA 93721	0.07 SE	N/A	362
235	PERMIT	PARKER S AUTO REPAIR CAL000271563/ACTIVE	251 BROADWAY FRESNO CA 93721	0.07 SE	N/A	363
235	RCRAGN	SERVICE BODY WORKS CAD981676190/SGN	251 BROADWAY FRESNO CA 93721	0.07 SE	N/A	364
236	PERMIT	ELK ENVELOPES CAL000208283/ACTIVE	1931 G ST FRESNO CA 93706	0.07 SW	N/A	365
237	UST	CALIF DEPT OF TRANSPORTATION FRESNOCO4562/CLOSED UST FACILITY/	523 P ST FRESNO CA 93721	0.07 SE	N/A	366
238	UST	SHELL FRESNOCO2877/UNDERGROUND TANK FAC	1212 FRESNO FRESNO CA 93706	0.07 SW	N/A	366
238	LUST	SHELL T0601900716/COMPLETED - CASE CLO	1212 FRESNO ST FRESNO CA 93706	0.07 SW	N/A	368

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238	UST	FRESNO SHELL TISID-STATE15362/ACTIVE	1212 FRESNO FRESNO CA 93706	0.07 SW	N/A	370
239	UST	KFSN TV 30 TISID-STATE2643/INACTIVE	1777 G FRESNO CA 93706	0.07 SW	N/A	370
239	UST	KFSN TV 30 FRESNOCO4058/CLOSED UST FACILITY/	1777 G ST FRESNO CA 93721	0.07 SW	N/A	371
240	UST	MCKESSON DRUG DISTRIBUTION TISID-STATE18863/ACTIVE	1931 G FRESNO CA 93706	0.07 SW	N/A	371
240	UST	MCKESSON DRUG DISTRIBUTION FRESNOCO4059/CLOSED UST FACILITY/	1931 G ST FRESNO CA 93721	0.07 SW	N/A	372
241	RCRANLR	BF SISK COURTHOUSE CAR000197780/NLR	1130 O ST FRESNO CA 93721	0.08 NE	N/A	373
242	UST	AMERICAN AMBULANCE TISID-STATE15256/ACTIVE	245 BOADWAY FRESNO CA 93721	0.08 SE	N/A	374
243	UST	BIG CREEK STATION TISID-STATE19313/ACTIVE	1130 O FRESNO CA 93721	0.08 NE	N/A	374
243	UST	MT REST WORK STATION TISID-STATE19317/ACTIVE	1130 O FRESNO CA 93721	0.08 NE	N/A	375
243	UST	FJERSEYDALE TISID-STATE19316/ACTIVE	1130 O FRESNO CA 93721	0.08 NE	N/A	375
243	UST	TRIMMER RANGER STATION TISID-STATE19251/ACTIVE	1130 O FRESNO CA 93721	0.08 NE	N/A	376
243	UST	WESTFALL G.S. TISID-STATE19318/ACTIVE	1130 O FRESNO CA 93721	0.08 NE	N/A	376
243	UST	FHIGH SIERRA G.S. TISID-STATE19315/ACTIVE	1130 O FRESNO CA 93721	0.08 NE	N/A	377
244	UST	LIBERTY AUTO SERVICE FRESNOCO3776/CLOSED UST FACILITY/	1008 C ST FRESNO CA 93706	0.08 SW	N/A	377
244	UST	LIBERTY AUTO SERVICE TISID-STATE19207/ACTIVE	1008 C FRESNO CA 93706	0.08 SW	N/A	378
245	UST	LIVINGSTON MEDICAL SUPPLY TISID-STATE2720/INACTIVE	1201 FRESNO FRESNO CA 93701	0.08 SW	N/A	378
246	LUST	FORMER ICE HOUSE T10000000563/OPEN - SITE ASSESSME	702 P ST FRESNO CA 93721	0.08 NE	N/A	380
247	UST	KIMMERLE BROS FRESNOCO3654/CLOSED UST FACILITY/	337 M ST FRESNO CA 93721	0.09 SE	N/A	381
248	UST	WOOD S RADIATOR SERVICE FRESNOCO4782/CLOSED UST FACILITY/	143 FULTON FRESNO CA 93701	0.09 NW	N/A	381
249	HWMANIFEST	U S POSTAL SERVICE-FRESNO PROC CAL000274559/ACTIVE	1900 EAST ST FRESNO CA 93706	0.09 SW	N/A	382

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TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
249	HWMANIFEST	FRESNO PRODUCE INC CAL000288850/ACTIVE	1415 B ST FRESNO CA 93706	0.09 SW	N/A	383
249	HWMANIFEST	WHITES BRIDGE TRANSMISSION CAL000257637/ACTIVE	204 EAST WHITESBRIDGE AVE FRESNO CA 93706	0.09 SW	N/A	384
249	HWMANIFEST	OK PRODUCE CAL000309033/ACTIVE	1502 G ST FRESNO CA 93706	0.09 SW	N/A	385
249	HWMANIFEST	U S POSTAL SERVICE-VEHICLE MAI CAL000216853/INACTIVE	1900 EAST ST FRESNO CA 93706	0.09 SW	N/A	386
249	HWMANIFEST	BSK ASSOCIATES CAL000011582/ACTIVE	1414 STANISLAUS FRESNO CA 93706	0.09 SW	N/A	387
249	HWMANIFEST	CITY OF FRESNO - SOLID WASTE M CAH111001212/ACTIVE	1325 EAST EL DORADO ST FRESNO CA 93706	0.09 SW	N/A	388
249	HWMANIFEST	MV TRANSIT CAL000301443/ACTIVE	1330 EAST EL DORADO ST FRESNO CA 93706	0.09 SW	N/A	389
249	HWMANIFEST	FRESNO BEE THE CAD009182122/ACTIVE	1626 EAST ST FRESNO CA 93786	0.09 SW	N/A	390
249	HWMANIFEST	ELK ENVELOPES CAL000208283/ACTIVE	1931 G ST FRESNO CA 93706	0.09 SW	N/A	391
250	RCRAGN	FRESNO USD LOWELL ELEM CAD981568504/SGN	171 N POPLAR FRESNO CA 93701	0.10 NW	N/A	392
251	UST	SIGMA MEDICAL IMAGING FRESNOCO4910/CLOSED UST FACILITY/	223 BROADWAY FRESNO CA 93721	0.10 SE	N/A	393
251	RCRAGN	SOURCE ONE HEALTHCARE TECHNOLO CAD982041980/TRANSPORTER	223 BROADWAY FRESNO CA 93721	0.10 SE	N/A	393
251	UST	RISER S, INC. TISID-STATE15292/ACTIVE	223 BROADWAY FRESNO CA 93721	0.10 SE	N/A	394
252	RCRAGN	TWINING LABORATORIES INC CAD007964240/SGN	2527 FRESNO ST FRESNO CA 93721	0.10 NE	N/A	395
252	UST	THE TWINING LABORATORIES, INC. TISID-STATE2631/INACTIVE	2527 FRESNO FRESNO CA 93716	0.10 NE	N/A	396
252	UST	TWINING LABORATORIES FRESNOCO4711/UNDERGROUND TANK REM	2527 FRESNO FRESNO CA 93726	0.10 NE	N/A	396
253	UST	CALTRANS FRESNOCO4289/CLOSED UST FACILITY/	244 E NORTH FRESNO CA 93706	0.10 SW	N/A	397
254	UST	ELECTRIC MOTOR SHOP TISID-STATE19210/ACTIVE	253 FULTON FRESNO CA	0.10 SE	N/A	397
254	UST	ELECTRIC MOTOR SHOP FRESNOCO4048/CLOSED UST FACILITY/	253 FULTON FRESNO CA 93721	0.10 SE	N/A	398
255	UST	FORMER OWL TRANS and STORAGE FRESNOCO5554/CLOSED UST FACILITY/	921 P ST FRESNO CA 93721	0.10 NE	N/A	398

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Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
256	UST	GARY COCOLA PROPERTY FRESNOCO5955/UNDERGROUND TANK REM	1615 EL DORADO FRESNO CA 93706	0.10 SW	N/A	398
257	UST	UNION PACIFIC RAILROAD CO FRESNOCO5367/CLOSED UST FACILITY/	2150 G ST FRESNO CA 93706	0.10 SW	N/A	399
258	RCRAGN	MICHAEL CHEVROLET CAD004868717/SGN	1450 O ST FRESNO CA 93721	0.11 NE	N/A	399
259	ERNS	CALIFORNIA CHROME 224434/FIXED FACILITY	220 BROADWAY FRESNO CA 93721	0.11 SE	N/A	400
260	UST	CHEVRON USA FRESNOCO4726/UNDERGROUND TANK REM	1160 FRESNO FRESNO CA 93706	0.11 SW	N/A	400
260	LUST	CHEVRON 9-4374 T0601900115/OPEN - REMEDIATION	1160 FRESNO ST FRESNO CA 93706	0.11 SW	N/A	402
260	PERMIT	CHEVRON 94374 CAL000144118/ACTIVE	1160 FRESNO ST FRESNO CA 93706	0.11 SW	N/A	409
261	PERMIT	ELECTRIC MOTOR SHOP CAL000015735/ACTIVE	253 FULTON ST FRESNO CA 93721	0.11 SE	N/A	410
262	PERMIT	MAHARLIKA MEDICAL LABORATORY I CAL000321720/ACTIVE	1350 O ST STE 101 FRESNO CA 93721	0.11 NE	N/A	411
263	PERMIT	UNITED AUTOMOTIVE WORKS CAL000267234/ACTIVE	304 N ST FRESNO CA 93721	0.11 SE	N/A	412
264	UST	COOK S COMMUNICATION FRESNOCO3754/CLOSED UST FACILITY/	160 N BROADWAY FRESNO CA 93701	0.11 NW	N/A	413
265	UST	FLEET MANAGEMENT DIVISION FRESNOCO3379/UNDERGROUND STORAGE	2101 G ST BLDG F FRESNO CA 93706	0.11 SW	N/A	413
266	UST	FORMER SUNLAND OIL SERV STA FRESNOCO5555/CLOSED UST FACILITY/	2548 TULARE FRESNO CA 93721	0.11 NE	N/A	413
267	UST	VALLEY ALARM FRESNOCO4310/CLOSED UST FACILITY/	1543 O ST FRESNO CA 93721	0.11 NE	N/A	414
267	UST	VALLEY ALARM TISID-STATE15337/ACTIVE	1543 O FRESNO CA 93778	0.11 NE	N/A	414
268	RCRAGN	CA DEPT JUSTICE BUR OF NARCOTI CAD980737811/SGN	2550 MARIPOSA ST RM 3011 FRESNO CA 93721	0.12 NE	N/A	415
268	LUST	DEPT GENL SERVICE FLEET ADM T0601900012/COMPLETED - CASE CLO	2550 MARIPOSA MALL FRESNO CA 93721	0.12 NE	N/A	416
268	UST	DEPT OF GENERAL SERVICES TISID-STATE15230/ACTIVE	2550 MARIPOSA MALL FRESNO CA 93721	0.12 NE	N/A	417
268	UST	CA DEPT OF GENERAL SERVICES FRESNOCO2614/UNDERGROUND TANK FAC	2550 MARIPOSA MALL FRESNO CA 93721	0.12 NE	N/A	417
269	RCRAGN	FINER FILTER PRODS CAD980673446/SGN	2349 MONTEREY ST FRESNO CA 93721	0.12 SE	N/A	418

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Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
270	RCRAGN	PACIFIC BELL CAT080023419/SGN	2502 MERCED FRESNO CA 93721	0.12 NE	N/A	419
271	UST	DIEL BROTHERS TISID-STATE2228/INACTIVE	2304 MONTEREY FRESNO CA 93725	0.12 SE	N/A	420
271	UST	AL S TUNE-UP SERVICE and PARTS FRESNOCO4279/CLOSED UST FACILITY/	2304 MONTEREY FRESNO CA 93721	0.12 SE	N/A	420
272	UST	MICHAEL CHEVROLET FRESNOCO4809/CLOSED UST FACILITY/	1450 O ST FRESNO CA 93727	0.12 NE	N/A	421
272	UST	MICHAEL CHEVROLET TISID-STATE2466/INACTIVE	1450 O FRESNO CA 93772	0.12 NE	N/A	421
272	LUST	FRONTIER CHEVROLET T0601900034/COMPLETED - CASE CLO	1450 O ST FRESNO CA 93721	0.12 NE	N/A	422
272	UST	BOB HILL CRANE INC TISID-STATE23116/ACTIVE	1450 O FRESNO CA 93772	0.12 NE	N/A	423
273	UST	COLONIAL VAN and STORAGE FRESNOCO5178/CLOSED UST FACILITY/	214 BROADWAY FRESNO CA 93721	0.12 SE	N/A	423
274	UST	CURRIE BROTHERS TISID-STATE15325/ACTIVE	1147 FRESNO FRESNO CA 93706	0.12 SW	N/A	424
274	UST	CURRIE BROTHERS FRESNOCO4023/CLOSED UST FACILITY/	1147 FRESNO FRESNO CA 93706	0.12 SW	N/A	424
274	LUST	FORMER EXXON T0601900323/COMPLETED - CASE CLO	1147 FRESNO ST FRESNO CA 93706	0.12 SW	N/A	425
275	UST	SHELL* FRESNOCO5705/UNDERGROUND STORAGE	1212 FRESNO FRESNO CA 93706	0.12 SW	N/A	426
275	UST	SHELL FRESNOCO3280/UNDERGROUND STORAGE	1212 FRESNO FRESNO CA 93706	0.12 SW	N/A	426
275	UST	SHELL FRESNOCO3209/UNDERGROUND TANK FAC	1212 FRESNO FRESNO CA 93706	0.12 SW	N/A	426
276	NPL	FMC CORP. (FRESNO PLANT) CAD000629998/REMOVED FROM PROPOSE	2501 S SUNLAND AVE FRESNO CA 93725	1.00 SE	N/A	427

Environmental FirstSearch
Sites Summary Report

Target Property: FULTON CORRIDOR PLAN
FRESNO CA 93721

JOB: 1410022B

TOTAL: 581 **GEOCODED:** 516 **NON GEOCODED:** 65 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
	PERMIT	FRESNO USD / EDUCATION DEPT CAD981414030/ACTIVE	TULARE AND M ST FRESNO CA 93721	NON GC	N/A	428
	PERMIT	BLACKSTONE CHIRO CLINIC CAL000070874/ACTIVE	5665 N BLACKSTONE AVE FRESNO CA 93721	NON GC	N/A	429
	SPILLS	AUTO DISMANTLER (FORMER) G_T10000000470/OPEN - REMEDIATION	317 CALIFORNIA WEST FRESNO CA 93706	NON GC	N/A	430
	STATE	PGandE MGP FRESNO CAL10490094/ACTIVE	BLOCK OF N THORNE, W VOORMA FRESNO CA 93706	NON GC	N/A	432
	TRIBALLAND	BUREAU OF INDIAN AFFAIRS CONTA BIA-93721	UNKNOWN CA 93721	NON GC	N/A	434
	STATE	CHATEAU FRESNO DUMPSITE CAL10490007/PROPERTY/SITE REFERR	MUSCAT AVE BTW CHATEAU FRES FRESNO CA 93706	NON GC	N/A	436
	ERNS	UNKNOWN 465098	S CHERRY AVE AND E JENSEN A FRESNO CA 93706	NON GC	N/A	438
	ERNS	UNKNOWN 218756/HIGHWAY RELATED	N/B LANE OF BLACKSTONE AT S FRESNO CA 93701	NON GC	N/A	440
	ERNS	520199/FIXED FACILITY	EAST SAN JOAQUIN RIVER 1/4 FRESNO CA	NON GC	N/A	441
	HWMANIFEST	BLACKSTONE CHIRO CLINIC CAL000070874/ACTIVE	5665 WEST BLACKSTONE FRESNO CA 93721	NON GC	N/A	442
	STATE	UNIVAR USA INC. CAL80001397/* INACTIVE	1152 G ST FRESNO CA 93706	NON GC	N/A	443
	UST	WALKER and HOOD TISID-STATE2552/INACTIVE	437 CALIFORNIA FRESNO CA 93706	NON GC	N/A	444
	UST	FIRE ALARM STATION TISID-STATE15155/ACTIVE	0 FRESNO AND DIVISADERO FRESNO CA 93701	NON GC	N/A	444
	UST	SUBURBAN STEEL FRESNOCO3151/UNDERGROUND TANK FAC	706 W CALIFORNIA FRESNO CA 93706	NON GC	N/A	445
	UST	SUBURBAN STEEL FRESNOCO5720/CLOSED UST FACILITY/	706 W CALIFORNIA FRESNO CA 93706	NON GC	N/A	445
	UST	SUBURBAN STEEL INC. TISID-STATE18417/ACTIVE	706 CALIFORNIA FRESNO CA 93706	NON GC	N/A	446
	UST	CALTRANS FRESNOCO5087/UNDERGROUND TANK REM	H ST AT HIGHWAY 180 FRESNO CA 93701	NON GC	N/A	446
	TRIBALLAND	BUREAU OF INDIAN AFFAIRS CONTA BIA-93706	UNKNOWN CA 93706	NON GC	N/A	447
	UST	FRESNO COMMUNITY HOSPITAL TISID-STATE14930/ACTIVE	0 FRESNO AND R ST FRESNO CA 93721	NON GC	N/A	447
	TRIBALLAND	BUREAU OF INDIAN AFFAIRS CONTA BIA-93701	UNKNOWN CA 93701	NON GC	N/A	448

Environmental FirstSearch
Sites Summary Report

Target Property: FULTON CORRIDOR PLAN
FRESNO CA 93721

JOB: 1410022B

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Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
	UST	WILLIAM H DAY TISID-STATE2360/INACTIVE	731 CALIFORNIA FRESNO CA 93706	NON GC	N/A	448
	LUST	BNSF/AMTRAK DEPOT T0601985763/OPEN - REFERRED	2650 TULARE ST. E FRESNO CA 93721	NON GC	N/A	450
	LUST	FIRE STATION 3 T10000001756/OPEN - REFERRED	1406 FRESNO ST FRESNO CA 93706	NON GC	N/A	452
	UST	EDUCATION CENTER TISID-STATE2702/INACTIVE	0 TULARE AND M ST FRESNO CA 93721	NON GC	N/A	453
	PERMIT	BEAUTY SYSTEMS GROUP-FRESNO CAL000330440/ACTIVE	480 E NORTH AVE STE 104 FRESNO CA 93706	NON GC	N/A	454
	UST	EDISON HIGH SCHOOL TISID-STATE2708/INACTIVE	540 CALIFORNIA FRESNO CA 93706	NON GC	N/A	455
	UST	T. G. SCHMEISER CO., INC. TISID-STATE15498/ACTIVE	3160 CALIFORNIA FRESNO CA	NON GC	N/A	455
	ERNS	BNSF RR 551845/RAILROAD	BOULER JSO FRESNO ON SOUTH FRESNO CA	NON GC	N/A	456
	ERNS	10648/UNKNOWN	HWY 41 BETWEEN FRESNO AND FRESNO CA	NON GC	N/A	457
	ERNS	RAILYARD MILEPOST 201.89 3135 NRC-889866/FIXED	3135 NORTH WEBER FRESNO S FRESNO CA	NON GC	N/A	457
	ERNS	PACIFIC GAS and ELECTRIC CO 278011/PIPELINE RELATED	CORNER OF O STREET AND SAN FRESNO CA 93721	NON GC	N/A	459
	ERNS	MILEPOST 998.53 DIVISADERO ST NRC-900075/RAILROAD NON-RELEASE	MILEPOST 998.53 DIVISADERO FRESNO CA	NON GC	N/A	460
	ERNS	INTERSECTION GOLDEN STATE ACES NRC-783532/RAILROAD NON-RELEASE	GOLDEN STATE ACCESS RD AND FRESNO CA	NON GC	N/A	462
	ERNS	FIGARDEN STREET NRC-866482/RAILROAD NON-RELEASE	FIGARDEN ST FRESNO CA	NON GC	N/A	464
	ERNS	CLINTON STREET OVERPASS NRC-819256/PIPELINE	CLINTON STREET OVERPASS FRESNO CA	NON GC	N/A	466
	ERNS	UNKNOWN 270842/HIGHWAY RELATED	H ST AND MONTEREY ST FRESNO CA 93721	NON GC	N/A	468
	ERNS	BNSF TRACKS NRC-540118/RAILROAD NON-RELEASE	MILEPOST 994.9 NEAR KEARN S FRESNO CA	NON GC	N/A	470
	ERNS	UNKNOWN 220187/UNKNOWN (NRC)	SW CORNER OF FULTON AND SAN FRESNO CA 93721	NON GC	N/A	473
	ERNS	(RP)PGandE (BILL SMITH) 15772/UNKNOWN	5090 CHURCH ST FRESNO CA	NON GC	N/A	474
	RCRAGN	JOSE F BOTELLO DBA BOTELLOS TR CAR000175000/TRANSPORTER	5375 S CHERRY FRESNO CA 93706	NON GC	N/A	474

Environmental FirstSearch
Sites Summary Report

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FRESNO CA 93721

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	NFRAP	WILSHIRE PAINT CO CAD028211076/NFRAP-N	701 AND 712 FULTON ST FRESNO CA 93721	NON GC	N/A	474
	CERCLIS	PGandE GAS PLANT FRESNO 325 3A CAD981415912/NOT PROPOSED	F ST AND MARIPOSA ST FRESNO CA 93706	NON GC	N/A	475
	CERCLIS	PG and E FRESNO 2 CAD983650102/NOT PROPOSED	FRESNO AND TULARE ST FRESNO CA 93706	NON GC	N/A	476
	CERCLIS	FORMER CALTRANS SERVICE YARD CAN000908371/NOT PROPOSED	2321 AND 2365 S. TULIP ST FRESNO CA 93721	NON GC	N/A	476
	HWMANIFEST	FRESNO USD / EDUCATION DEPT CAD981414030/ACTIVE	TULARE AND M STREETS FRESNO CA 93721	NON GC	N/A	477
	ERNS	CHERRY AVE AT BROADWAY NRC-850997/RAILROAD NON-RELEASE	S CHERRY AVE AND BROADWAY S FRESNO CA 93721	NON GC	N/A	479
	ERNS	69604/UNKNOWN	851 W ATCHISON ST FRESNO CA 93706	NON GC	N/A	481
	ERNS	UNION PACIFIC RAILROAD 519229/RAIL HIGHWAY CLEARIN	RR MP 203 BELMONT AND DIVIS FRESNO CA	NON GC	N/A	482
	UST	CITY OF FRESNO/PROPOSED STADIU FRESNOCO6046/UNDERGROUND TANK REM	TULARE/BROADWAY DIAGONAL FRESNO CA 93721	NON GC	N/A	483
	UST	CITY OF FRESNO FRESNOCO5163/UNDERGROUND TANK REM	2500 BLOCK OF MAIN ST FRESNO CA 93721	NON GC	N/A	483
	UST	CITY OF FRESNO FRESNOCO6009/CLOSED UST FACILITY/	2500 BLOCK OF MAIN FRESNO CA 93721	NON GC	N/A	483
	OTHER	CHATEAU FRESNO DUMPSITE CAL10490007/REFER: RWQCB	MUSCAT AVE BTW CHATEAU FRES FRESNO CA 93706	NON GC	N/A	485
	SWL	BASIN-II-2 DISPOSAL SITE SWIS10-CR-0076/CLOSED	SW CORNER E. CALIFORNIA AND FRESNO CA	NON GC	N/A	486
	SPILLS	LAMOURE S CLEANERS G_T10000001875/OPEN - SITE ASSESSM	1304 G ST FRESNO CA 93706	NON GC	N/A	487
	ERNS	THIS OCCURRED ABOUT 2 MILES NO NRC-555535/RAILROAD NON-RELEASE	OCCURRED AT A LOCAL COLLEGE FRESNO CA	NON GC	N/A	489
	STATE	STUDY AREA N CAL15590002/NO ACTION - FOR CALM	NORTH FRESNO ST/GRANT /MCKE FRESNO CA 93701	NON GC	N/A	492
	ERNS	UNKNOWN 256570/HIGHWAY RELATED	SAN JOAQUIN RIVER BELOW HWY FRESNO CA	NON GC	N/A	494
	ERNS	69503/UNKNOWN	863 ATCHINSON ST FRESNO CA 93706	NON GC	N/A	495
	ERNS	UNKNOWN 270822/HIGHWAY RELATED	SR 41 NEAR NORTH ST FRESNO CA 93706	NON GC	N/A	497
	ERNS	60410/UNKNOWN	BFI LANDFILLCHATEAU FRESNO/ FRESNO CA	NON GC	N/A	498

Environmental FirstSearch
Sites Summary Report

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FRESNO CA 93721

JOB: 1410022B

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Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
	ERNS	NRC-701295/RAILROAD NON-RELEASE	CALIFORNIA ST FRESNO CA	NON GC	N/A	500
	ERNS	126182/UNKNOWN	DOWNTOWN FRESNO MILE POST 9 FRESNO CA	NON GC	N/A	502
	ERNS	551878/ABOVE GROUND STORAGE	2 MILES NORTH OF 19% ON EL MURAN CA 93721	NON GC	N/A	503
	ERNS	UNKNOWN 74155/UNKNOWN	I-5 BETWEEN MANNING ST AND FRESNO CA	NON GC	N/A	504
	STATE	CALIFORNIA/WEST SITE CAL60001159/ACTIVE	1435 WEST CALIFORNIA AVE FRESNO CA 93706	NON GC	N/A	506

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

24 January 2013

Mr. Todd Bachand
Environmental Manager
FirstGroup America, Inc.
600 Vine Street, Suite 1400
Cincinnati, OH 45202

UNDERGROUND STORAGE TANK RELEASE, GREYHOUND BUS DEPOT, 1033 BROADWAY, FRESNO, FRESNO COUNTY, RB CASE 5T10000457

Texas Green Star Environmental, L.L.C. (Green Star) submitted on your behalf the *Case Closure Request Report* (Report), dated 21 December 2012, and an adjacent property owner survey (survey) for the subject address (Site). California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) staff has reviewed the submittals pursuant to the California Water Code and the Health and Safety Code. This letter summarizes the submittals and provides Central Valley Water Board staff comment.

SUMMARY OF SUBMITTAL

The Report summarizes the Site history, the geology and hydrogeology of the area, the case assessment history and corrective actions, provides a Site conceptual model (CSM), summarizes the results of soil gas surveys conducted in December 2011 and October 2012, and provides a Low-Threat Case Closure evaluation.

STAFF COMMENTS

Previous site assessment work at the Site has established that the source of diesel fuel constituents in soil appears to be the former product lines serving the fuel ports located in the bus parking stalls on the southwest side of the terminal building. The evidence also suggests that diesel fuel has migrated into the adjacent sanitary sewer trenches. However, the lateral extent of diesel fuel migration in the subsurface soil does not appear to extend beyond the limits of the bus parking area. While the vertical extent of diesel fuel constituent migration extends to a depth of at least 70 feet bgs, the pattern of attenuation indicates that groundwater has not been impacted by this release. Groundwater is estimated to be approximately 110 feet below ground surface at the Site.

The soil vapor assessment work documented in the previous and current submittals demonstrate that the diesel fuel remaining in the subsurface does not present a threat to human health or groundwater.

Based on the information in the case file, it appears closure of this case may be appropriate. Pursuant to 25296.20 of the California Health and Safety Code, the Central Valley Water Board is required to provide the opportunity to interested parties in the site vicinity to participate in the case closure process. The enclosed public notice has been transmitted to the parties listed on the enclosure. We will accept public comment regarding the closure of your case for a period of 60 days. You will be notified of any comments we receive.

Upon completion of the public comment period and in the absence of substantive comment against closure being granted, you will be notified to proceed with well destruction and Site cleanup actions. Upon completion, Central Valley Water Board staff will proceed with the closure process for the subject case.

If you have any questions regarding this letter, contact Ken Jones at the above address, at kjones@waterboards.ca.gov, or at (559) 488-4391.

DANIEL L. CARLSON
Senior Engineering Geologist
PG No. 5379, CEG No.1695, CHG No. 488

K. D. JONES
Engineering Geologist

Enclosure: Public Notice of Case Closure Consideration

cc: Ms. Lisa Labrado, SWRCB, UST Cleanup Fund, Sacramento
Mr. Steven Rhodes, Fresno County Environmental Health System, Fresno
Mr. Patrick Wiemiller, City of Fresno, Public Works Director
Mr. Bob Little, City of Fresno, Water Division
Mr. Tony Perez, City of Fresno, Water Division
Ms. Debra M. Boopsingh, Green Star Environmental, Lewisville, TX

CALIFORNIA
Water Boards

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GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

24 January 2013

PUBLIC NOTICE

CASE CLOSURE CONSIDERATION, UNDERGROUND STORAGE TANK RELEASE, GREYHOUND BUS DEPOT, 1033 BROADWAY, FRESNO, FRESNO COUNTY, RB CASE 5T10000457

To: Offsite Property Owners and Other Interested Persons,

This letter is to inform interested parties of the Central Valley Water Board's consideration of closing the subject case, and to request comments from interested parties on the proposed closure. The subject address (Site) is occupied by the Greyhound bus depot which maintained a 12,000-gallon and a 10,000-gallon underground storage tanks (UST) for diesel fuel. The USTs and the associated dispensing equipment were removed in January 1993. Analyses of soil samples collected adjacent to the USTs' former locations and beneath the dispensers' former locations detected concentrations of total petroleum hydrocarbons diesel range constituents (TPHd) as high as 9,100 milligrams per kilogram (mg/kg) at depths between 4 and 5 feet below ground surface (bgs). Analyses of soil samples collected from beneath the USTs' former locations at a depth of 15 feet bgs did not detect TPHd above the laboratory reporting limit. Approximately 175 tons of petroleum product contaminated soil was excavated from around the USTs' and dispensers' former locations and disposed of properly.

The initial soil assessment work performed in November 1993, indicated that the TPHd impacted soil was located within an area estimated to be 1,100 square feet extending no deeper than 7 feet bgs. On 11 October 2007, the Fresno County Department of Public Health (FCDPH) transferred regulatory oversight for this case to the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board).

In September 2008 and March 2009, additional soil assessment work was performed to further delineate the lateral and vertical extent of TPHd migration. This work discovered TPHd impacted soil is confined to the bus parking area and that the impacted soil extended no deeper than 70 feet bgs. There is no evidence that the TPHd has migrated off the site or that it has impacted underlying groundwater, which is approximately 110 feet beneath the Site.

The proposed case closure is based on Central Valley Water Board staff's conclusion that all technically and economically feasible cleanup has been completed, and any remaining petroleum hydrocarbons at the Site will naturally attenuate and pose no risk to public health or groundwater.

You may participate in the case closure process by reviewing technical reports, asking questions, and providing comments on the proposed case closure. Details of the site assessment, cleanup actions completed, and the results of the cleanup, are available to interested parties through the State Water Board's GeoTracker website at

http:// geotracker.waterboards.ca.gov/. The Global Identification Number for the case is T0601900447 and the Central Valley Water Board case number for the release is 5T10000457. This information may also be reviewed at the Central Valley Water Board office at 1685 E Street in Fresno, California. Comments regarding the proposed case closure for this Site need to be submitted to the Central Valley Water Board office **by 1 April 2013**.

Interested parties with questions or comments regarding the site or our proposed actions should contact Ken Jones, the caseworker for the petroleum hydrocarbon release, at the above address, at (559) 488-4391 or at kjones@waterboards.ca.gov. Upon completion of the public comment period and in the absence of substantive comment against closure being granted, Central Valley Water Board staff will propose closure for the subject case.

Public notice mailed to:

Name	Mailing Address	Property Parcel Number	Property Address
GLI Realty Company	P. O. Box 52427 Atlanta, GA 30355	467-030-03S	1033 H Street Fresno, CA 93721
Successor Agency to the Redevelopment Agency of the City of Fresno	2344 Tulare Street Suite 200 Fresno, CA 93721	466-215-20T	1146 H Street Fresno, CA 93721
Fresno County Economic Opportunities Commission	1920 Mariposa Mall #330 Fresno, CA 93721	466-213-34	1920 Mariposa Mall Fresno, CA 93721
City of Fresno	2600 Fresno Street Fresno, CA 93721	488-284-44T	1800 Tulare Street Fresno, CA 93721
Ellis Family Partnership III	680 West Shaw Ave. Fresno, CA 93704	467-030-38S	1713 Tulare Street Fresno, CA 93721
Fresno County Employees' Retirement Association	1111 H Street Fresno, CA 93721	467-030-37ST	1111 H Street Fresno, CA 93721

NICHOLS CONSULTING ENGINEERS, Chtd.
Engineering and Environmental Services

8795 Folsom Blvd., Suite103 • Sacramento, CA 95826 • 916.388.5655 • FAX 916.388.5676

December 11, 2008

A400.27.35

Mr. Jan Alfson
California Regional Water Quality Control Board
Central Valley Region
1685 E Street
Fresno, California 93706

Summary Report
Groundwater Investigations
Former VW&R Inc. Facility
1152 G Street
Fresno, California

Dear Mr. Alfson:

Nichols Consulting Engineers (NCE) is pleased to submit one copy of the attached *Summary Report, Groundwater Investigation* conducted at the former Van Waters & Rogers Inc. facility, 1152 G Street, Fresno, California (Plates 1 and 2). The groundwater investigation being conducted at the Site is to assess the nature and extent of perchloroethylene (PCE) in groundwater at the Site. The purpose of this report is to provide a brief summary of previous investigations conducted at the Site, provide a description and results of the current investigation activities, present a Site Conceptual Model and provide a conclusions and recommendations for future work.

If you have any comments or concerns regarding this report or the project, please call either of the undersigned at (916) 388-5655.

Yours very truly,

NICHOLS CONSULTING ENGINEERS, Chtd.

Frank Drewes
Project Geologist

Michael J. Leacox, P.G., CEG
Principal

Enclosure

Summary Report
Groundwater Investigations
Former VW&R Inc. Facility
1152 G Street
Fresno, California

Prepared on behalf of

Univar USA Inc.
1804 N. 20th Street
Nampa, Idaho 83687

NCE Project No.: A400.27.35

Frank Drewes
Project Geologist

Michael J. Leacox, P.G., CEG
Principal

December 11, 2008

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2 Monitoring Well Construction Details
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2 Vicinity Map
3 Site Plan
4 Groundwater Contour and Distribution of PCE in Shallow Groundwater
5 Distribution of PCE in Deeper Zone
6 Cross-Section A-A'
7 Cross-Section B-B'
8 Cross-Section C-C'
9 Cross-Section D-D'

APPENDIX

A Previous Investigations
- A-1 Soil Boring Locations – 1995 Onsite Investigation
- A-2 Monitoring Well and soil Vapor Extraction Well Location Map – 1996
- A-3 Distribution of PCE in Groundwater – 1998 Hydropunch™ Investigation
- A-4 Fence Diagram – 1998 Hydropunch™ Investigation
- A-5 Fence Diagram – City Wells 9A, 22A and 21A

B Boring Logs
C Laboratory Analytical Reports

DISTRIBUTION

1.0 INTRODUCTION

This report has been prepared on behalf of Univar USA Inc. (Univar) by Nichols Consulting Engineers Chtd. (NCE) and presents a summary of historical and recent investigations in association with the former Univar facility located at 1152 G Street in Fresno, California (Site). The purpose of the previous and recent investigative activities is to evaluate groundwater at the Site and in the vicinity of the Site for the presence of tetrachloroethene (PCE) due to historical activities by Univar at the Site. Previous investigations have detected PCE in groundwater beneath the Site and downgradient of the Site. The purpose of this report is to provide a site history, describe the regional hydrology and stratigraphy, identify potential offsite sources of PCE, summarize and provide results for the investigations recently completed, produce a Site Conceptual Model and provide conclusions and recommendations for future work.

The Site is located at the northeast corner of the intersection of Fresno and G Streets in Fresno, California (Plates 1 and 2). The Site is bounded to the northeast by the Union Pacific Railroad Yard and tracks, Fresno Street to the northwest, G Street to the southwest and commercial structures to the southeast (Plate 3). Investigation activities completed to date are briefly described in the background section of this Summary Report.

2.0 BACKGROUND

2.1 History

2.1.1 Site Use

From approximately 1965 to 1986, VW&R (now Univar) leased the Site and utilized the northeast corner of Site to store PCE in an above ground storage tank (AST) that has since been removed. The Site was occupied by a chemical supply company known as United Agri-Products or UAP Special Products (UAP) from 1987 to 1989. The Site was reportedly utilized primarily as an office and warehouse for UAP's wholesale agricultural/chemical business. From 1989 to 2007 the Site was leased by Good Guys Tire Center for use as a warehouse for the storage of tires. The Site is currently vacant.

2.1.2 Investigation History

Investigation activities at the Site have been conducted since 1994 and have included a Phase I investigation that revealed the presence of PCE in soil near a former above ground storage tank (AST) located near the northeast portion of the Site. PCE was consistently detected during a subsequent soil gas survey at the Site with the highest concentrations detected near the tank. A soil vapor extraction system was installed at the Site which, during its operational period, successfully remediated the vadose zone and, to some degree, groundwater, near the tank. To date, a total of five onsite groundwater monitoring wells including MW-1 through MW-3, OB-7 and OB-8, and 14 offsite monitoring wells (MW-4 through MW-13) and vapor wells (VW-1 through VW-4) have been installed to characterize the distribution of PCE in groundwater in the study area. The highest concentrations of PCE in the onsite wells have been recorded in well MW-1 (the well closest to the former tank). Since investigative activities began at the Site, PCE in MW-1 has decreased significantly with PCE reported at a concentration of 14,000 micrograms pre liter (ug/L) in September 1998 to 180 ug/L reported in May 2007. The highest concentrations of PCE in offsite wells have historically been reported in well MW-4 ranging from 5,120 ug/L (August 2003) to 2,700 ug/L (May 2007). A table summarizing the previous investigations conducted at the Site since 1994 is included in Appendix A. Univar has recently completed a SVE pilot test in the vicinity of Well MW-4 and is currently designing and permitting a SVE system to be operated in this area.

2.1.3 Regional Hydrogeology

The Fresno area lies west of the foothills of the Sierra Nevada and east of the trough of the San Joaquin Valley. Alluvial fans are the dominant geomorphic features in the area. Small alluvial fans have been formed near the foothills by deposits from the numerous intermittent streams that lie both north and south of the Kings River. Thicker and much more extensive alluvial fans have been formed under most of the area by deposits from the San Joaquin and Kings Rivers.

Geologic units in the area consist of consolidated and unconsolidated deposits. In turn, consolidated units consist of a basement complex of pre-Tertiary age and marine sediments, and non-marine continental sedimentary rocks of Cretaceous and Tertiary age. Unconsolidated deposits are both Tertiary and Quaternary age. Most of the geologic units dip gently southwestward approximately paralleling the back slope of the Sierra Nevada. Although some of

these geologic units are faulted, especially in the deep subsurface, faulting has not affected the occurrence and movement of fresh groundwater (Page, 1969).

The unconsolidated deposits are divided into an older series of Tertiary and Quaternary age, and a younger series of Quaternary age. The continental deposits of Tertiary and Quaternary age occur only in the extreme southeastern part of the Fresno area and are not considered important water-bearing units. The deposits of Quaternary age crop out over most of the Fresno area and yield more than 90 percent of the water pumped from wells. The Quaternary age deposits are divided into older alluvium, lacustrine and marsh deposits, younger alluvium, flood-basin deposits, and sand dunes.

The older alluvium is the most important aquifer in the Fresno area. In the Site vicinity, the older alluvium occurs from the ground surface to a depth of between 1,400 and 1,600 feet below ground surface (bgs). The older alluvium consists of intercalated lenses of clay, silt, silty and sandy clay, clayey and silty sand, sand, gravel, cobbles, and boulders. In general, it is fine grained near the trough of the valley and beneath the alluvial fans of intermittent streams. In the older alluvium, well yields range from less than 20 gallons per minute (gpm) to more than 3,000 gpm (Page, 1969).

The lacustrine and marsh deposits occur only in the subsurface in the western part of the Fresno area. Consisting mostly of silt and clay, they exhibit a very low permeability and thus inhibit the vertical movement of water. These deposits from oldest to youngest are designated the E-clay, the C-clay, and the A-clay. The E-clay is the thickest and most extensive of the lacustrine and marsh deposits. These clay layers pinch-out towards the south and west and do not appear to be present beneath the Site (USGS, 1969).

Because the clays tend to confine groundwater in the Fresno area, five water bodies are recognized. These are the unconfined water body, the shallow water body, the confined water body below the A-clay, the confined water body below the C-clay, and the confined water body below the E-clay. The unconfined water body underlies most of the Fresno area and appears to be unconfined beneath the Site. The shallow and confined water bodies underlie parts of the extreme western part of the area. Head pressures in successively underlying water bodies are less than those in overlying water bodies, indicating that some groundwater moves slowly downward through the clays.

2.2 Results of Previous Site Investigations

2.2.2 Stratigraphy

As shown in the boring logs for wells MW-1 through MW-11, Hydropunch™ borings HP-1, HP-3, HP-4, HP-6 and HP-7 and borings VB-1 through VB-3, (Appendix B), the stratigraphy in the vicinity of the Site consists predominantly of alternating layers of silts, clays and sands. A fence diagram is presented on Plate A-4 (Appendix A) which illustrates the soil types observed in borings HP-1, HP-3, HP-4, HP-6 and HP-7 and borings VB-1 through VB-3. As shown in the fence diagram, no substantial laterally continuous clay units are present. An assessment of the hydrology in the site vicinity was conducted utilizing available boring logs for City owned water wells. Plate 2 shows the locations of the City Wells and the cross section shown on Plate A-5 (Appendix A) illustrates the soil types observed in borings for City Wells 9A, 22A and 21A. Boring logs for the City wells are included in Appendix B. Generally, soils observed in the cross section consist predominantly of alternating layers of silts, clays, and sands. However, what appear to be two laterally continuous

clay units, approximately 36 to 77 feet thick were logged between City Wells 9A and 22A in the interval between approximately 176 feet bgs and 410 feet bgs. The two clay units are separated by approximately 60 to 90 feet of alternating layers of sands, silts, and clays. In addition, what appears to be a laterally continuous clay unit ranging from 59 up to 156 feet thick was logged between City Wells 22A and 21A in the interval from 439 feet bgs and 553 feet bgs (MACTEC, 2003). Although there appears to be a continuous clay layer between City Wells 9A and 22A, beginning at 176 feet bgs and between City Wells 22A and 21A beginning at 439 feet bgs, no laterally continuous clay layer was logged between all three City Wells.

Based on the above, the stratigraphy in borings HP-1, HP-3, HP-4, HP-6 and HP-7 and borings VB-1 through VB-3 and City Wells 9A, 22A, and 21A suggests that the groundwater beneath the study area is predominantly representative of an unconfined water body.

2.2.3 Occurrence and Groundwater Flow

Data collected from the previous investigations show groundwater flow near the Site is predominantly to the northwest while further north of the Site the groundwater flow appears to shift more westerly. The apparent westerly shift in the groundwater flow direction north of the Site appeared to be influenced by the operation of City Well 22A located northwest of the Site. Depth to groundwater at the time of the previous investigations ranged from 82 to 92 feet bgs.

2.2.4 Distribution of VOCs in Groundwater

The distribution of PCE in groundwater based on data collected from previous investigative activities suggested two other potential sources of PCE in the area; a dry cleaner to the northwest and an unknown source west (cross-gradient) of the former Univar facility. PCE was detected in groundwater collected from Boring HP-7, located northwest of Lamoures Dry Cleaners; however it was not known if the PCE detected was associated with the former Univar facility, the dry cleaner, or a PCE source west of the former facility. The above conclusion is further supported by the presence of PCE detected in wells MW-8 and MW-9 reported in subsequent groundwater monitoring events. Assuming a predominantly northwest groundwater flow, the source of PCE at Boring HP-7 and in wells MW-8 and MW-9, would likely be from an area west of the former Univar facility. The above data suggests the presence of at least two comingling north-south trending plumes of PCE. One of these plumes, the most easterly one, appeared to originate at or near the former Univar facility. The origin of the second plume was most likely from somewhere south and west of the Site (cross and upgradient of the Site), as identified by the presence of higher concentrations of PCE in well MW-10. A discussion of potential alternate sources is included in the following section. A summary of historical analytical results is presented in Table 1.

3.0 POTENTIAL OFFSITE SOURCES

3.1 EDR Review

In 1996 Harding Lawson Associates (HLA, 1996) performed an assessment of offsite land uses which focused on properties within the site vicinity that were known to have environmental concerns. The assessment included an area within a half-mile radius of the Site and revealed the existence of several properties that were under investigation for the release of hazardous materials or properties where use or storage of hazardous materials occurred. At that time, an investigation for hydrocarbon contamination was being conducted at Del Monte USA, 1625 Tulare Street, located approximately 370 feet southeast of the Site which, at the time, was the only facility within a half-mile radius that included groundwater monitoring. HLA's site assessment also included evaluating the locations of operating dry cleaning facilities in the vicinity. The assessment revealed the existence of Lamoures Cleaner at 1304 G Street, located approximately 1,100 feet northwest of the Site (Plate 3). At that time no investigation had been conducted at Lamoures.

To update the HLA regulatory findings, NCE completed a search to assess potential sources for groundwater impacts in the vicinity of the Site. To conduct the assessment, NCE reviewed information provided in an Environmental Data Resources (EDR) Radius Map Report (EDR 2008). Review of the EDR report was used as a guide to identify potential contaminant sources not previously identified by HLA. The EDR report cited the previously mentioned Del Monte site as having a "case closed" status. According to the EDR report, no investigation has been conducted at the Lamoures Cleaner and potential impacts to groundwater in association with this facility are currently unknown. The EDR report listed several historical dry cleaners in the vicinity of the Site that may be of potential concern. The historical dry cleaners are shown on Plate 3 and are listed in the table below.

Historical Dry Cleaner	**Address**	**Date of Operation**
Aram M H	1925 Broadway Street	1937
Fresno Hat Factory	1129 Broadway Street	1927
Kaspar Levon	1127 Broadway Street	1927
Papa George	1151 Broadway Street	1927
Orchid Cleaners	1530 Fresno Street	1937-1962
Reyes J R	1460 Fresno Street	1937-1942
Top Hat Cleaners	1331 Fresno Street	1958-1965

4.0 RECENT TRANSECT INVESTIGATIONS

4.1 Summary of Investigations

To further evaluate the lateral and vertical distribution of PCE in groundwater downgradient of the Site, an investigation has been implemented to assess groundwater quality conditions along two transects. The transect investigation has been conducted in general accordance with California Regional Water Quality Control Board approved work plan entitled *Revised Delineation Work Plan, Former Univar USA Inc. Facility, 1152 G Street, Fresno, Fresno County,* June, 2006. Investigation activities performed to date include the collection of in-situ groundwater samples and the installation of monitoring wells along Transect 1 and Transect 2 (Plate 3). Investigation activities include the following:

Transect 1

- Collect in-situ groundwater samples to a maximum depth of 150 feet at boring locations T1-1, T1-2 and T1-3 on Transect 1 and at locations HST-1 and HST-2 (Plate 3).
- Complete shallow monitoring wells at boring locations T1-1, T1-2, and T1-3 on Transect T-1.

Transect 2

- Collect in-situ groundwater samples to a maximum depth of 150 feet at boring locations T2-1, T2-2 and T2-3 on Transect 2.
- Complete shallow monitoring wells at boring locations T2-1, T1-2 and T2-3 on Transect T-2.

As part of the initial investigation it was intended to install boring and monitoring well T1-3 at a location approximately 350 feet northeast of boring T1-2 during the Transect 1 field effort. However, this well was not installed at that location because, at the time of field activities, representatives of the Fresno Redevelopment Agency indicated that the boring location was on Redevelopment Agency property and that drilling on the property would be prohibited. Due to the prohibition of drilling on the Redevelopment Agency property, and based on the findings of the Transect 1 investigation activities, the boring and well installation for T1-3 was installed at the location shown on Plate 3 during the Transect 2 field effort.

4.1.1 Borehole Drilling and Groundwater Sampling

NCE prepared a site specific health and safety plan that was used and followed for all site activities. In addition to notifying Underground Service Alert (USA) and prior to any site activities, NCE retained a private utility locator to mark identified underground utilities at the Site. NCE also secured the required drilling permits from the City of Fresno.

Transect 1 boring and well installation activities were conducted between February 28, 2007 and March 6, 2007. Transect 2 boring and well installation activities were conducted between May 7, 2008 and May 14, 2008 and on August 13, 2008 and August 14, 2008. A total of 8 boreholes including T1-1, T1-2 and T1-3 (Transect 1), HST-1, HST-2, and T2-1, T2-2 and T2-3 (Transect 2) were installed. Drilling and monitoring well installation operations were performed by WDC

Exploration and Wells of Zamora, California using a CME 85 hollow-stem-auger (HSA) drill rig with 8-inch augers. Soils were logged in the field by an NCE field geologist based on visual observations of soil cuttings and on soil samples collected in a split spoon sampler. Based on the performance of the drilling equipment as well as the presence of heaving sands, the maximum depth that HSA is capable of drilling is approximately 155 feet. In-situ groundwater samples were collected at various depths from each boring utilizing a Hydropunch™ sampling device. Groundwater samples were collected in laboratory prepared HCl preserved containers, labeled and placed on ice. Groundwater samples were shipped to Columbia Analytical Services of Kelso, Washington and SPL Laboratories of Houston Texas for VOC analyses. At the completion of the sampling efforts, borings HST-1 and HST-2 were abandoned using a cement/bentonite grout that was pumped to the bottom of the borehole from ground surface. Borings T1-1, T1-2, T1-3, T2-1, T2-2 and T2-3 were converted to 2-inch diameter monitoring wells. Boring logs and well construction details are presented in Appendix B.

Transect 1

A total of five borings (HST-1, HST-2, T1-1, T1-2 and T1-3) were advanced to a maximum depth of approximately 155 feet bgs along Transect 1 at the locations shown on Plate 3. The following table shows the depths where groundwater samples were collected in each boring:

Boring Identification	Depth of groundwater samples
HST-1	100, 135 and 149 feet bgs
HST-2	105, 138 and 158 feet bgs
T1-1	105, 135 and 150 feet bgs
T1-2	90, 120, 135 and 150 feet bgs
T1-3	112 and 136 feet bgs

Transect 2

A total of four borings (T2-1, T2-2 and T2-3) were advanced to a maximum depth of approximately 155 feet bgs along Transect 2 at the locations shown on Plate 3. The following table shows the depths where groundwater samples were collected in each boring:

Boring Identification	Depth of groundwater samples
T2-1	112, 132 and 150 feet bgs
T2-2	111 feet bgs
T2-3	111 and 137 feet bgs

4.1.2 Monitoring Well Construction

Transect Monitoring Wells

The elevations of the borings for monitoring wells T1-1, T1-2, T1-3, T2-1 T2-2 and T2-3 are 192, 192, 160, 152, 155 and 154 feet mean sea level (msl), respectively. Well T1-1 and T1-2 are screened in the interval between 192 and 172 feet msl. Well T1-3 is screened in the interval between 160 and 140 feet msl. Well T2-1 is screened in the interval between 152 and 137 feet msl. Well T2-2 is screened in the interval between 155 and 140 feet msl and Well T2-3 is screened in the interval between 154 and 139 feet msl. All of the wells are constructed of 2-inch diameter, Schedule 40, flush-threaded, PVC blank and factory-slotted 0.020-inch PVC screen. A filter pack consisting of No. 3 Lonestar sand extends approximately 2-feet above the top of the

screened interval. A 1- to 2-foot thick bentonite plug is set above the filter pack, with the remainder of the annular space grouted to the surface. The monitoring wells are completed with traffic-rated boxes and are set slightly above grade to prevent surface water from ponding. A locking expansion plug was installed in each well.

After installation, the newly installed wells were developed by surging, bailing, and pumping. The groundwater level in the well was measured and the minimum purge volume of the well calculated. Approximately four to five well volumes were purged from the well. Purge volume was estimated using a stopwatch and a container of known volume to estimate flow rate. Purge water was placed in on-Site 55-gallon drums. Field indicator parameters, including pH, temperature and electrical conductivity were monitored during purging to verify stabilization. The field parameter results were recorded on the groundwater sampling forms.

Additional Monitoring Well Installations

Monitoring wells MW-12 and MW-13 were installed in July 2008 as part of Univar's ongoing investigation to evaluate the lateral extent of PCE in groundwater (Appendix B). The wells are located east of the Site at the locations shown on Plate 3. Wells MW-12 and MW-13 are screened in the interval between approximately 183 msl to 163 feet msl. As part of Univar's SVE pilot test investigation, further described in Section 6, four well pairs including wells VW-1 through VW-4 (Appendix B) were installed north of the Site at the locations shown on Plate 3. Each of the well pairs includes a vapor well screened in the unsaturated zone and a groundwater well screened in the saturated zone. The groundwater well at VW-1 is screened in the interval between 198 and 163 feet bgs. The groundwater wells at VW-2, VW-3 and VW-4 are screened in the interval between 197 and 162 feet msl. Monitoring well construction details for all study area wells is included on Table 2.

4.2 Transect Investigation Results

4.2.1 Soils Encountered

Transect 1

Soils encountered in boring HST-1 consisted predominantly of silty sand and sand in the interval between 80 feet bgs and the bottom of the boring at 150 feet bgs. An approximate 10-foot thick horizon of clay was encountered between approximately 128 feet bgs and 138 feet bgs in boring HST-1. Soils encountered in boring HST-2 were logged as silt in the interval between the surface and 21 feet bgs. Silty sand and sand was encountered in the interval between 21 feet bgs and 51 feet bgs. Alternating 10- to 20-foot thick horizons of silts and sands were encountered in the interval between 51 feet bgs and the bottom of the boring at 158 feet bgs. With the exception of an approximate 10-foot thick horizon of silty sand in the interval between 14 and 24 feet bgs, soils encountered in boring T1-1 consisted predominantly of silts and clays from the ground surface to a depth of 108 feet bgs. Alternating horizons of sand, silts and clays were logged in the interval between 108 feet bgs and the bottom of the boring at 150 feet bgs. From the surface to the bottom of the boring at 150 feet bgs, soils encountered in boring T1-2 consisted of alternating 10-to 25-foot thick layers of silt, clay and sand. Soils encountered in boring T1-3 consisted of silt from the surface to a depth of approximately 33 feet bgs. Alternating layers of sand, silty sand and silt are present from 33 feet bgs to 93 feet bgs. With the exception of a 5-foot layer of silt at 122 feet bgs, sand and silty sand was logged in the interval between 93 feet bgs and the bottom of the boring at 155 feet bgs in boring T1-3. Boring logs are included in Appendix B.

Transect 2

Soils encountered in boring T2-1 consisted predominantly of silty sand in the interval between the surface and 18 feet bgs. Approximately 10-foot thick alternating layers of silt and sand are present in the interval between 18 feet bgs and 38 feet bgs. With exception of an approximate 5-foot layer of sand at a depth of 64 feet bgs, the interval between approximately 38 feet bgs and 83 feet bgs consists of silt. With the exception of an approximate 5-foot layer of silt at approximately 117 feet bgs the interval between 83 feet bgs and the bottom of the boring at 155 feet bgs consists of sand. From the surface to a depth of approximately 63 feet bgs alternating layers of silt, silty clay, clay, sand and silty sand are present in boring T2-2. With the exception of an approximate 5-foot thick horizon of silty sand at a depth of approximately 83 feet bgs, silt was present in the interval between 63 bgs and 102 feet bgs. The remainder of boring T2-2, from a depth of 102 feet bgs to the bottom of the boring at 160 feet bgs, consisted predominantly of sand. Approximate 4- to 5-foot horizons of silt were logged at depths of 112 and 134 feet bgs in boring T2-2. Soils encountered in boring T2-3 consisted of alternating 5- to 10-foot thick layers of sand, silty sand and silt from the surface to a depth of 98 feet bgs. Silt was logged in the interval between 98 feet bgs to a depth of 118 feet bgs. Sand was encountered from 118 feet bgs to the bottom of the boring at 155 feet bgs.

4.2.2 Groundwater Quality Conditions

During the February and March 2007 Transect 1 investigation activities groundwater was encountered in the offsite borings between 90 and 95 feet bgs. An exception to this was in T1-2 which was drilled at a surface elevation approximately 20 feet lower than the other borings. Groundwater in boring T1-2 was encountered at a depth of approximately 87 feet bgs during drilling. Groundwater was encountered at a depth of approximately 105 feet bgs during the May and August 2008 Transect 2 investigation activities. September 10, 2008 groundwater data indicated the depth to groundwater ranged from 102.87 feet bgs in MW-9 to 109.13 feet bgs in MW-5 and that groundwater flow was generally westerly at an approximate gradient of 0.00089 feet per foot (Plate 5).

4.2.3 Analytical Results

The laboratory analytical report is included in Appendix C. A summary of Hydropunch™ analytical results for detected constituents in groundwater samples collected in each of the 8 boreholes is included in the table below:

Transect 1					
Boring Identification	**Depth (Feet bgs)**	**TCE (ug/L)**	**PCE (ug/L)**	**1,2-DCA (ug/L)**	**Acetone (ug/L)**
HST-1-100	100	ND	**1.7**	**1.1**	ND
HST-1-135	135	**0.9**	**32**	ND	ND
HST-1-149	149	ND	**12**	ND	ND
HST-2-105	105	ND	**1.5**	ND	ND
HST-2-138	138	ND	**28**	ND	ND
HST-2-158	158	ND	**10**	ND	ND
T1-1-105	105	**2.9**	ND	ND	ND
T1-1-135	135	ND	ND	ND	ND
T1-1-150	150	ND	ND	ND	ND
T1-2-90	90	ND	ND	**35**	**31**
T1-2-120	120	ND	**2.3**	**1.5**	ND
T1-2-135	135	**1.1**	**10**	**3.1**	ND
T1-2-150	150	ND	ND	ND	ND
T1-3-112	112	ND	ND	**4.0**	ND
T1-3-136	136	ND	ND	**0.72**	ND

Transect 2					
Boring Identification	**Depth (Feet bgs)**	**TCE (ug/L)**	**PCE (ug/L)**	**1,2-DCA (ug/L)**	**Acetone (ug/L)**
T2-1-112	112	ND	ND	ND	ND
T2-1-132	132	ND	ND	ND	ND
T2-1-150	150	ND	ND	ND	ND
T2-2-111	111	ND	**1.1**	ND	**22**
T2-3-111	111	ND	**1.5**	ND	**13**
T2-3-137	137	ND	**13**	ND	**14**
T2-1-112	112	ND	ND	ND	ND
T2-1-132	132	ND	ND	ND	ND
T2-1-150	150	ND	ND	ND	ND

Notes
ND= not detected above laboratory reporting limit
ug/L = micrograms per liter
TCE = Trichloroethylene
PCE = Tetrachloroethylene
1,2-DCA = 1,2-dichloroethane

On June 9, 2008, groundwater samples were collected from all study area wells installed to date. Upon completion of wells T2-3, wells VW-1 through VW-4 and the wells MW-12 and MW-13, another round of groundwater sampling was conducted on September 10, 2008, which included the sampling of wells T2-1 through T2-3, VW-1 through VW-4 and wells MW-12 and MW-13. A groundwater contour map showing the distribution of PCE in study area wells is shown on Plate 5. The contour map shows the June 9, 2008 data for all wells with the exception of wells T2-1 through T2-3, VW-1 through VW-4, and wells MW-12 and MW-13, where the more recent September 10, 2008 data is shown. The Hydropunch™ data shown for HP-1 through HP-7 were also used to guide the preparation of the concentrations contours, however, it is noted that the data are from a previous field investigation conducted in 1997. The Hydropunch™ data shown for HP-8 are from 2002 field investigation effort. The distribution of PCE in groundwater is shown on cross sections A-A', B-B,' C-C' and D-D' (Plates 6 through 9, respectively). Historical analytical results are shown on Table 1.

5.0 PILOT TEST INVESTIGATION

5.1 Summary of Investigation

5.1.1 Background

Univar initiated remediation at the Site in 1998 utilizing a soil vapor extraction/treatment (SVET) system. The SVET system utilized three nested vapor well pairs, which had perforations from 20 to 50 feet bgs and 70 to 90 feet bgs. A blower extracted vapors from each well and operated at approximately 109 cubic feet per minute (cfm). Two, 2,500-pound granular activated carbon (GAC) vessels, connected in series, treated the extracted vapors prior to discharge to the atmosphere. Univar submitted a letter to the RWQCB in February 2004 concluding that the SVET system had successfully remediated the vadose zone, and to some degree, groundwater near the former AST. With the onsite vadose zone remediated, the source of PCE entering the ground water has effectively been removed as evidenced by a decrease in PCE concentration in well MW-1. Recently, the highest PCE concentrations in ground water occurred in well MW-4, located approximately 200 feet to the north of the site. The RWQCB has expressed concern that PCE may be present in the vadose zone near well MW-4 and may be acting as a source to ground water. Conversely, the PCE detected in ground water near well MW-4 may act as a source for the overlying vadose zone. In past decades, the elevation of ground water table been declining. The RWQCB's concern is that as water levels declined, residual PCE contamination as DNAPL, or in the dissolved phase, were left in the former saturated zone (Rubicon, 2008).

In response to the concerns of RWQCB Univar implemented a soil vapor extraction (SVE) pilot test. The SVE pilot test was conducted by Rubicon Engineering Corporation (Rubicon) of Irvine, California on the railroad property north of the Site. The SVE pilot test was performed in accordance with the Soil Vapor Extraction Pilot Test Work Plan (Rubicon, July 19, 2006) and Work Plan Addendum 1 (Rubicon, August 25, 2006). The results of the investigation are included Rubicon's November 19, 2008 report entitled *Soil Vapor Extraction Pilot Test Report*, *Former Univar USA Inc. Facility, 1152 G Street, Fresno, California.*

The objectives of SVE pilot test were as follows:

- The primary objective of the vapor extraction pilot test was to assess the suitability of SVE for reduction of PCE in the vadose zone near off-site well MW-4.

- Identify potential offsite areas of contamination in the vadose zone which may be acting as a continuing source to ground water.

- Provide data for design of a full-scale offsite vapor extraction and treatment system.

To address the offsite vadose zone areas, 4 soil-vapor wells, wells VW-1, VW-2, VW-3 and VW-4 were installed. These four vapor wells were installed as cluster wells, with dual well casings. In referring to the individual well casings, the suffix "A" is used for the shallow well screen and "B" used for the deeper screen (e.g. VW-1A and VW-1B). The deeper well screens (VW-1B, VW-2B, VW-3B, and VW-4B) extend below the water table so that they may be also utilized as ground water monitoring wells. The locations of the soil vapor wells are shown in Plate 3.

5.1.2 Investigation Results

Two soil vapor extraction tests were conducted, one three step test, and one eight hour constant vacuum test. These tests were conducted in both the upper vadose zone wells VW-1A (extraction well), VW-2A (observation well), VW-3A (observation well), and VW-4A (observation well), as well as the lower vadose zone wells VW-1B, VW-2B, VW-3B, and VW-4B. Wells MW-12 and MW-13 acted as vacuum observation wells for the lower vadose zone although no soil vapor samples were collected from these two wells.

Vapor samples collected from both the extraction well and the observation wells were composed primarily of PCE. Some of the vapors also contained acetone, carbon disulfide, cyclohexane, dichlorodifluoromethane, ethanol, and hexane.

Univar is currently designing and permitting a SVE system remediate the vadose zone and, to the degree possible, groundwater in the vicinity of Well MW-4.

6.0 SITE CONCEPTUAL MODEL

The development of this Site Conceptual Model is based on an assessment of the results of investigations conducted since 1994 to evaluate the lateral extent of PCE in groundwater downgradient of the Site. Collectively, the assessment relies on Hydropunch™ groundwater analytical data, groundwater analytical and flow data derived from groundwater monitoring wells and lithologic data recorded from soil borings during Hydropunch™ boring and monitoring well installations.

6.1 Soil

The general soil profile encountered is shown on Cross Sections A-A', B-B', C-C' and D-D' (Plates 6 through 9, respectively). The assessment indicates that the stratigraphy in the vicinity of the Site consists predominantly of alternating layers of silts, clays, and sands with no substantial laterally continuous clay units present; suggesting that groundwater beneath the study area is representative of an unconfined water body. The cross section shown on Plate A-5 Illustrates the soil types observed in borings for City Wells 9A, 22A and 21A. Generally soils observed in the cross section consist predominantly of alternating layers of silts, clays and sands. However, what appear to be two laterally continuous, approximately 36 to 77 foot thick, clay units were logged between City Wells 9A and 22A in the interval between approximately 176 feet bgs and 410 feet bgs. The two clay units are separated by approximately 60 to 90 feet of alternating layers of sands, silts and clays. In addition, what appears to be a laterally continuous clay unit approximately 59 to at least 156 feet thick was logged between City Wells 22A and 21A in the interval between 439 feet bgs and 533 feet bgs. No laterally continuous clay units were observed in the stratigraphy between all three wells suggesting that the groundwater beneath the study area is predominantly representative of an unconfined water body (MACTEC, 2003). Further evaluation of the stratigraphy in the study area is required to confirm the presence of a competent clay layer beneath the study area.

6.2 Groundwater

6.2.1 Groundwater Flow

Groundwater records from as early as 1997 show groundwater in the study area flowing from a northwestern to northeastern direction. An apparent pumping depression created by City Well 22A located approximately 1,900 feet northwest of the Site appears to have an affect on groundwater flow in the vicinity of the Site.

6.2.2 PCE Distribution

The distribution of PCE in groundwater is shown in map view on Plates 4 and 5 and on cross sections A-A', B-B' and C-C' (Plates 6 through 9, respectively). As shown on Plate 4, PCE was reported in T1-3 at concentrations 0.71 ug/L during the most recent sampling event. These data and other existing data suggest that the eastern boundary of the plume in the study area is now approximately defined.

PCE concentrations are highest in vicinity of the recently installed groundwater monitoring/SVE wells VW-1 through VW-4. These wells were developed and sampled in September 2008 and at that time the groundwater samples contained PCE at concentrations ranging from 1,100 ug/L to 3,500 ug/L with the highest concentration reported in well VW-1. Groundwater quality data from Hydropunch™ samples collected during vapor well installation activities show PCE concentrations

in well VE-1 at 1,900 ug/L and 44 ug/L at depths of 115 feet bgs and 150 feet bgs, respectively. Hydropunch™ samples collected during well installation activities show PCE concentrations in well VE-2 at 990 ug/L, 95 ug/L and non detect at depths of 110 feet bgs, 135 feet bgs and 150 feet bgs, respectively (Plates 5 and 6). These data indicate that, PCE concentrations decrease with depth, however, the vertical extent of PCE impacts are not yet established to the 5ug/L limit in the vicinity of monitoring wells VW-1 through VW-4. Attempts were made to collect Hydropunch™ samples from approximately 110 feet bgs, 135 feet bgs, and 150 feet bgs in each boring. However, due to the presence of low permeability materials, the 135 foot bgs samples in wells VW-1, VW-3, and VW-4 were not be collected because of insufficient water yield.

Further downgradient, the data indicate that higher concentrations of PCE is present in the sand zones encountered between 120 and 150 feet suggesting that there is some vertical migration of the PCE as it moves downgradient (Plate 6). A groundwater contour map showing the distribution of PCE in groundwater from a depth interval of between 135 feet bgs and 155 feet bgs is shown on Plate 5. As shown on Plate 5 the PCE concentrations were highest in the vicinity of HST-1 and HST-2. PCE was also reported at a concentration of 8.6 ug/L in the groundwater sample from well T2-2 located along Transect 2. These data suggest the lateral and vertical extent of PCE impacts are not established to the 5ug/L limit on the downgradient portion of the plume. As shown on Plate 5, no PCE data has been recorded from the interval between 135 feet bgs to 155 feet bgs on the western portion of the study area. The lack of data from this interval indicates that the vertical extent of PCE impacts to the 5ug/L are not established on the western portion of the study area. In addition, the lateral extent of PCE impacts is not completely established between the Site and City Well 22A. The suspected influence of the pumping of City Well 22A on local groundwater flow suggests the need for additional shallow data to further evaluate the distribution of PCE in groundwater south of well MW-9.

The downgradient extent of elevated PCE concentrations in the vicinity of wells VW-1 through VW-4 needs further definition. As indicated previously, PCE concentrations in wells VW-1 through VW-4 ranged from 1,100 ug/L to 3,500 ug/L with PCE reported at a concentration of 1,100 ug/L in downgradient well VW-4.

It also appears that on the western margin there are two plumes with the boundary of the Univar related PCE located near sampling location T1-1 along the western end of Transect 1. The boundary also appears to be located along a north-south orientation with well MW-6 and sampling location T1-1. Hydropunch™ data from T1-1 showed PCE at a concentration below detection limits (from a depth of 105 feet bgs). The most recent round of groundwater monitoring data (September 2008) showed PCE at a concentration of 1.1 ug/L in well T1-1. Other data that supports this are the previously collected data from HP-6 where VOCs were not detected. HP-6 data and T1-1 data also support separation of the Univar plume from the unknown plume near MW-10.

Collectively, the data show groundwater flow is mostly towards the northwest and that there are at least two narrow and commingling north-south trending plumes of PCE (Plate 4). One of these plumes, the most easterly one, appears to originate at or near the former Univar facility. The origin of the second plume is unknown but it originates from somewhere south and west of the Site (cross and upgradient of the Site), as identified by the presence of higher concentrations of PCE in well MW-10. A possible third source is present near well MW-8 and, if present, commingles with both of the other two plumes. The source of PCE found in the sample collected from well MW-8 may represent an unknown source of PCE, as the concentration of PCE is greater at MW-8 (66 ug/L) than that at MW-6 (34 ug/L). Assuming groundwater flow is predominantly to the northwest, the source of PCE at MW-8 would likely be from an area west of the former Univar facility.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of these investigations, it appears that further delineation of the lateral and vertical extent of PCE is required. As shown on Plate 4, the lateral extent of PCE needs further definition downgradient of the Site, in the western portion of the study area and in the vicinity of monitoring wells VW-1 through VW-4. Further definition of the vertical extent is also required downgradient of the Site, in the vicinity of wells VW-1 through VW-4 and between the Site and City Well 22A (Plate 5). In addition, a further evaluation of the stratigraphy in the study area is recommended to confirm the presence of a competent clay layer that appears to be approximately 175 feet bgs. NCE proposes a two phased approach consisting of an investigation to assess the vertical extent of PCE impacts in the study area and evaluate the presence of a competent clay layer (Phase I). Phase II of the investigation includes a follow-on investigation to further assess the lateral extent of PCE impacts in the study area (Phase II). Concurrent with these investigative activities, Univar will be obtaining the necessary permits to construct and operate a SVE system in the vicinity of wells MW-4 and VW-1 through VW-4.

Proposed work activities for the Phase I work include the following:

- Advance exploratory borings to evaluate the presence of a competent clay (low permeability zone) layer at a depth of approximately 175 feet bgs at boring locations T2-2D, MW-5D, MW-14D, and MW-15D (Plates 4 and 5, Table 3)

- Collect in-situ groundwater samples at boring locations T2-2D, MW-5D, MW-14D, and MW-15D (Plates 5 and 6, Table 3).

- Complete deep monitoring wells at boring locations T2-2D, MW-5D, MW-14D and MW-15D. The wells will be constructed with screen placed in the interval determined by the in-situ groundwater sample results and the lithology encountered.

Phase I Exploratory Borehole Drilling and Well Installations

Four deep exploratory borings and deep monitoring wells (T2-2D, MW-5D, MW-14D and MW-15D) will be installed at the locations shown on Plate 5. The purpose of the borings is to establish the presence of a competent clay layer anticipated to occur at approximately 175 feet bgs and to evaluate the vertical extent of PCE in groundwater at these locations. The borings are anticipated to be advanced utilizing sonic drilling techniques. Beginning at the water table in-situ Hydropunch™ groundwater samples will be collected in borings T2-2D, MW-14D and MW-15D at approximate 20-foot intervals, or when coarse grained soil horizons are encountered. Hydropunch™ samples will be collected in a similar fashion in boring MW-5D beginning at a depth of 112 feet bgs (the bottom of well MW-5). To collect the sample, the boring will be drilled to a depth immediately above the desired sampling interval and the Hydropunch™ sampler will be pushed approximately 2 to 4 feet into the undisturbed water-bearing zone. The sampler will be retracted slightly allowing groundwater to flow into the tool's sample collection chamber. The groundwater sample will be retrieved and transferred to appropriate containers and analyzed for VOCs. An on-site mobile laboratory will be utilized to provide reel time groundwater analytical data to assist in the determination of well construction criterion. The borings will be terminated when the lithology indicates that approximately 10 to 15 feet of clay is present beginning at the target depth of approximately 175 feet bgs. If clay is not encountered at the target depth the boring will be terminated where the analytical results for two consecutive Hydropunch™ samples show PCE detections at concentrations below 5 ug/L. At the completion of sonic drilling activities, the borings

will be converted to groundwater monitoring wells. The wells will be constructed with screen placed in the interval directly above the clay or in the interval determined by the Hydropunch™ analytical data. The estimated screen lengths will be approximately 10 to 25 feet in length and will be established in the field based on the lithology encountered and by the Hydropunch™ analytical data. The monitoring wells will be constructed of 2-inch diameter, Schedule 40, flush-threaded, PVC blank and 10 to 25 feet of factory-slotted 0.020-inch PVC screen. Filter pack consisting of No. 3 Lonestar sand will extend approximately 2 feet above the top of the screened interval. A 1-foot thick bentonite plug will be set above the filter pack, with the remainder of the annular space grouted to the surface. The monitoring wells will be completed with a traffic-rated box. The well boxes will be set slightly above grade to prevent surface water from ponding. A locking expansion plug was installed in the wells

Phase II Well Installations

Shallow zone wells MW-14, MW-15 and T3-1 will be installed at the locations shown on Plate 5. The purpose of the borings is to further evaluate the lateral extent of PCE in groundwater at these locations (Plate 5). The borings are to be advanced utilizing drilling techniques. Beginning at the water table in-situ Hydropunch™ groundwater samples will be collected in all borings at approximate 20-foot intervals, or when coarse grained soil horizons are encountered. To collect the sample, the boring will be drilled to a depth immediately above the desired sampling interval and the Hydropunch™ sampler will be pushed approximately 2 to 4 feet into the undisturbed water-bearing zone. The sampler will be retracted slightly allowing groundwater to flow into the tool's sample collection chamber. The groundwater sample will be retrieved and transferred to appropriate containers and shipped to a California certified laboratory for VOCs analyses. The borings will be terminated at the target depth of approximately 150 feet bgs. At the completion of drilling activities the borings will be converted to 2-inch diameter groundwater monitoring wells. Monitoring wells MW-14 and MW-15 will be screened in the interval between 90 and 125 feet. Monitoring well T3-1 will be screened in the interval between 135 and 150 feet bgs. The monitoring wells will be constructed of 2-inch diameter, Schedule 40, flush-threaded, PVC blank and factory-slotted 0.020-inch PVC screen. Filter pack consisting of No. 3 Lonestar sand will extend approximately 2 feet above the top of the screened interval. A 1-foot thick bentonite plug will be set above the filter pack, with the remainder of the annular space grouted to the surface. The monitoring wells will be completed with a traffic-rated box. The well boxes will be set slightly above grade to prevent surface water from ponding. A locking expansion plug was installed in the wells.

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TABLES

Table 1
Summary of Historical Analytical Results for Selected Compounds
9/4/1996 to 9/11/2008
Univar USA Inc. Fresno, CA

		1,2-DCA (ug/L)	DCDFM (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	PCE (ug/L)	TCE (ug/L)
MW-1	04-Sep-96	<5 U	<0.5 U	<0.5 U	<0.5 U	**5100 D**	**3.7**
	17-Dec-97	<1 U	<0.5 U	<0.5 U	<0.5 U	**9600 D**	**6.6**
	20-Mar-98	<1 U	<0.5 U	<0.5 U	<0.5 U	**5900**	<1 U
	22-Jun-98	<250 U	<500 U	<0.5 U	<0.5 U	**13000**	<250 U
	23-Sep-98	<2 U	<5 U	<0.5 U	<0.5 U	**14000**	<2 U
	30-Dec-98	<12 U	<0.5 U	<12 U	<12 U	**11000**	<12 U
	27-Mar-99	<10 U	**20**	<10 U	<10 U	**13000**	**12**
	25-Jun-99	<0.5 U	<0.5 U	**1.2**	**1**	**12000**	**51**
	20-Sep-99	<5 U	<0.5 U	<5 U	<5 U	**6200**	**22**
	17-Dec-99	<5 U	<0.5 U	<5 U	<5 U	**6500**	**21**
	28-Mar-00	<10 U	<0.5 U	<10 U	<10 U	**8100**	<10 U
MW-1 (Dup) *	28-Mar-00	<10 U	<0.5 U	<10 U	<10 U	**7800**	<10 U
MW-1	25-May-00	<0.5 U	<0.3 U	<0.4 U	<0.4 U	**7200**	**20**
	25-Sep-00	<50 U	<50 U	<50 U	<50 U	**7000**	**58**
	07-Dec-00	<0.5 U	<1 U	<0.5 U	<0.5 U	**4400**	**46**
	27-Feb-01	<0.5 U	<1 U	<0.5 U	<0.5 U	**1300**	**12**
	10-May-01	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**1000**	**16**
	18-Sep-01	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**2400**	**63**
	08-Nov-01	<0.5 U	<0.5 U	**0.57**	<0.5 U	**2140**	**40**
	04-Mar-02	<0.5 U	<0.5 U	**0.93**	<0.5 U	**2900**	**25.3**
	31-May-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**2030**	**21.8**
	02-Oct-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**1800**	**11.6**
	20-Nov-02	<0.5 U	<0.5 U	**1.66**	<0.5 U	**128**	**0.51**
	28-Feb-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**904**	**13.2**
	13-Jun-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**863**	**6.66**
	21-Aug-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**1040**	**10.2**
	31-Dec-03	<1.3 U	<1.3 U	<1.3 U	<1.3 U	**680**	**6.1**
	17-Mar-04	<1.3 U	<1.3 U	<1.3 U	<1.3 U	**560**	**4.6**
	19-May-04	<1 U	<1 U	<1 U	<1 U	**480**	**4.5**
	26-Aug-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**400**	**3**
	17-Nov-04	<1 u	<1 u	<1 u	<1 u	**380**	**2.6**
	13-May-05	<0.5 U	<0.5 U	**1.2**	<0.5 U	**320**	**5**
	23-Nov-05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**280**	**2.1**
	06-Jun-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**380**	**2.2**
	07-Nov-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**270**	**1.5**
	23-May-07	<0.5 U	<0.5 U	**0.74**	<0.5 U	**180**	**1.6**
MW-2	04-Sep-96	<10 U	<0.5 U	<0.5 U	<0.5 U	**620 D**	<5 U
	17-Dec-97	<1 U	<0.5 U	<0.5 U	<0.5 U	**640 D**	<1 U
MW-2 (Dup) *	17-Dec-97	<1 U	<0.5 U	<0.5 U	<0.5 U	**490 D**	<1 U
MW-2	20-Mar-98	<1 U	<0.5 U	<0.5 U	<0.5 U	**610**	<1 U
	22-Jun-98	<5 U	<10 U	<0.5 U	<0.5 U	**470**	<5 U
MW-2 (Dup) *	22-Jun-98	<5 U	<10 U	<0.5 U	<0.5 U	**570**	<5 U
MW-2	23-Sep-98	<1 U	<2 U	<0.5 U	<0.5 U	**670**	<1 U
MW-2 (Dup) *	23-Sep-98	<2 U	<5 U	<0.5 U	<0.5 U	**640**	<2 U
MW-2	30-Dec-98	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**250**	<0.5 U

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		1,2-DCA (ug/L)	DCDFM (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	PCE (ug/L)	TCE (ug/L)
MW-2 (Dup) *	30-Dec-98	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**240**	<0.5 U
MW-2	27-Mar-99	<1 U	<1 U	<1 U	<1 U	**170**	<1 U
	25-Jun-99	<0.5 U	<0.5 U	**0.7**	<0.5 U	**310**	**0.6**
	20-Sep-99	<0.5 U	<0.5 U	**1.2**	<0.5 U	**350**	**0.8**
	17-Dec-99	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**220**	<0.5 U
MW-2 (Dup) *	17-Dec-99	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**250**	<0.5 U
MW-2	28-Mar-00	<2 U	<0.5 U	<2 U	<2 U	**130**	<2 U
	25-May-00	<0.5 U	<0.3 U	<0.4 U	<0.4 U	**140**	<0.4 U
	25-Sep-00	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**440**	**0.62**
	07-Dec-00	<5 U	<10 U	<5 U	<5 U	**350**	<5 U
MW-2 (Dup) *	07-Dec-00	<5 U	<10 U	<5 U	<5 U	**310**	<5 U
MW-2	27-Feb-01	<0.5 U	<1 U	<0.5 U	<0.5 U	**160**	<0.5 U
	10-May-01	<0.5 U	<0.5 U	**2.5**	<0.5 U	**71**	**0.5**
MW-2 (Dup) *	10-May-01	<0.5 U	<0.5 U	**4**	<0.5 U	**60**	**0.7**
MW-2	18-Sep-01	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**223**	<0.5 U
MW-2 (Dup) *	18-Sep-01	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**223**	<0.5 U
MW-2	08-Nov-01	<0.5 U	<0.5 U	**2.72**	<0.5 U	**372**	**0.79**
MW-2 (Dup) *	08-Nov-01	<0.5 U	<0.5 U	**2.49**	<0.5 U	**382**	**0.83**
MW-2	04-Mar-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**110**	<0.5 U
MW-2 (Dup) *	04-Mar-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**98.8**	<0.5 U
MW-2	31-May-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**118**	**0.54**
	02-Oct-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**219**	<0.5 U
	20-Nov-02	<0.5 U	<0.5 U	**2.06**	<0.5 U	**86.4**	<0.5 U
	28-Feb-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**162**	<0.5 U
	13-Jun-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**137**	<0.5 U
	21-Aug-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**150**	<0.5 U
	31-Dec-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**130**	**0.63**
	17-Mar-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**72**	<0.5 U
	19-May-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**68**	<0.5 U
	26-Aug-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**24**	**0.54**
	17-Nov-04	<0.5 u	<0.5 u	<0.5 u	<0.5 u	**55**	<0.5 u
	13-May-05	<0.5 U	<0.5 U	**30**	<0.5 U	**79**	**5**
	23-Nov-05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**31**	<0.5 U
	06-Jun-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**38**	<0.5 U
MW-3	04-Sep-96	<1 U	<0.5 U	<0.5 U	<0.5 U	**1.1**	<0.5 U
	17-Dec-97	<1 U	<0.5 U	<0.5 U	<0.5 U	**1.6**	<1 U
	20-Mar-98	<1 U	<0.5 U	<0.5 U	<0.5 U	**1.8**	<1 U
MW-3 (Dup) *	20-Mar-98	<1 U	<0.5 U	<0.5 U	<0.5 U	**1.9**	<1 U
MW-3	22-Jun-98	<0.5 U	<1 U	<0.5 U	<0.5 U	**5.2**	<0.5 U
	23-Sep-98	<0.5 U	<1 U	<0.5 U	<0.5 U	**1**	<0.5 U
	30-Dec-98	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
	27-Mar-99	<1 U	<1 U	<1 U	<1 U	**5.4**	<1 U
MW-3 (Dup) *	27-Mar-99	<1 U	<1 U	<1 U	<1 U	**5.4**	<1 U
MW-3	25-Jun-99	<0.5 U	<0.5 U	**1.4**	<0.5 U	**4.5**	<0.5 U
MW-3 (Dup) *	25-Jun-99	<0.5 U	<0.5 U	**1.4**	<0.5 U	**4.7**	<0.5 U

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MW-3	20-Sep-99	<0.5 U	<0.5 U	**1.8**	<0.5 U	**3.1**	**0.2 J**
	17-Dec-99	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**0.6**	<0.5 U
	28-Mar-00	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**2.8**	<0.5 U
	25-May-00	<0.5 U	<0.3 U	<0.4 U	<0.4 U	**1**	<0.4 U
MW-3 (Dup) *	25-May-00	<0.5 U	<0.3 U	<0.4 U	<0.4 U	**1**	<0.4 U
MW-3	25-Sep-00	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**0.72**	<0.5 U
MW-3 (Dup) *	25-Sep-00	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**0.74**	<0.5 U
MW-3	07-Dec-00	<0.5 U	<1 U	<0.5 U	<0.5 U	**1.9**	<0.5 U
	27-Feb-01	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
MW-3 (Dup) *	27-Feb-01	<0.5 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
MW-3	10-May-01	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
	18-Sep-01	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
	08-Nov-01	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**0.63**	<0.5 U
	04-Mar-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
	31-May-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**1.87**	<0.5 U
	02-Oct-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**1.75**	<0.5 U
	20-Nov-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
	28-Feb-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
	13-Jun-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**11.2**	<0.5 U
	21-Aug-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**6.76**	<0.5 U
	31-Dec-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**42**	<0.5 U
	17-Mar-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**5.8**	<0.5 U
	19-May-04	<0.5 U	<0.5 U	**0.52**	<0.5 U	**5.3**	<0.5 U
	26-Aug-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**0.87**	<0.5 U
	17-Nov-04	<0.5 u	<0.5 u	<0.5 u	<0.5 u	**4.9**	<0.5 u
	12-May-05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**1.4**	<0.5 U
	22-Nov-05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
	06-Jun-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**0.93**	<0.5 U
	07-Nov-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
	23-May-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
MW-4	02-Oct-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**2830**	**20.3**
	20-Nov-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**3450**	**20.1**
	28-Feb-03	<125 U	<0.5 U	<125 U	<125 U	**3970**	<125 U
	06-Jun-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**2990**	**26**
	21-Aug-03	<0.5 U	<0.5 U	**0.5**	**0.5**	**5120**	**46.9**
	30-Dec-03	<10 U	<10 U	<10 U	<10 U	**4300**	**40**
	18-Mar-04	<10 U	<10 U	<10 U	<10 U	**3900**	**33**
MW-4 (Dup) *	18-Mar-04	<10 U	<10 U	<10 U	<10 U	**3800**	**34**
MW-4	19-May-04	<5 U	<5 U	<5 U	<5 U	**2500**	**27**
	26-Aug-04	<5 U	<5 U	<5 U	<5 U	**4000**	**30**
MW-4 (Dup) *	26-Aug-04	<5 U	<5 U	<5 U	<5 U	**3900**	**30**
MW-4	17-Nov-04	<10 u	<10 u	<10 u	<10 u	**3600**	**26**
	13-May-05	<5 U	<5 U	<5 U	<5 U	**2700**	**23**
MW-4 (Dup) *	13-May-05	<5 U	<5 U	<5 U	<5 U	**2700**	**22**
	22-Nov-05	<10 U	<10 U	<10 U	<10 U	**4300**	**33**

See Last Page For Footnotes

Table 1
Summary of Historical Analytical Results for Selected Compounds
9/4/1996 to 9/11/2008
Univar USA Inc. Fresno, CA

		1,2-DCA (ug/L)	DCDFM (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	PCE (ug/L)	TCE (ug/L)
MW-4	23-Nov-05	<10 U	<10 U	<10 U	<10 U	**4200**	**34**
	06-Jun-06	<5 U	<5 U	<5 U	<5 U	**3600**	**25**
MW-4 (Dup) *	06-Jun-06	<5 U	<5 U	<5 U	<5 U	**3200**	**23**
MW-4	07-Nov-06	<5 U	<5 U	<5 U	<5 U	**3900**	**25**
MW-4 (Dup) *	07-Nov-06	<5 U	<5 U	**6.1**	<5 U	**4000**	**27**
MW-4	23-May-07	<5 U	<5 U	<5 U	<5 U	**2800**	**20**
MW-4 (Dup) *	23-May-07	<5 U	<5 U	<5 U	<5 U	**2700**	**19**
MW-5	02-Oct-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**5.01**	**2.69**
	20-Nov-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**7.48**	<0.5 U
	28-Feb-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**41.7**	**2.28**
	06-Jun-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**173**	<0.5 U
	21-Aug-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**34.3**	**2.21**
	30-Dec-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**55**	**2**
	17-Mar-04	<0.5 U	<0.5 U	**0.95**	<0.5 U	**38**	**2**
	19-May-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**24**	**2.4**
	26-Aug-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**9.4**	**0.9**
	17-Nov-04	<0.5 u	<0.5 u	<0.5 u	<0.5 u	**32**	**2**
	12-May-05	<1 U	<1 U	<1 U	<1 U	**560**	**1.6**
	03-Aug-05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**47**	**2.2**
	22-Nov-05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**60**	**2.8**
	06-Jun-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**110**	**3**
	07-Nov-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**69**	**3.1**
	23-May-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**210**	**2.7**
	28-Nov-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**210**	**2.7**
	09-Jun-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**230**	**1.8**
MW-6	02-Oct-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**3.96**	<0.5 U
	20-Nov-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**8.45**	<0.5 U
	28-Feb-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**6.72**	**0.65**
	06-Jun-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**8**	<0.5 U
	21-Aug-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**17.2**	**0.87**
	30-Dec-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**4.9**	**0.72**
	17-Mar-04	<0.5 U	<0.5 U	**0.86**	<0.5 U	**12**	**0.52**
	19-May-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**15**	**0.78**
	26-Aug-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**8.3**	<0.5 U
	17-Nov-04	<0.5 u	<0.5 u	<0.5 u	<0.5 u	**5.5**	**0.96**
	12-May-05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**35**	**0.59**
	23-Nov-05	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**13**	**1**
	06-Jun-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**24**	**0.64**
	07-Nov-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**22**	**0.93**
	23-May-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**11**	**0.59**
	28-Nov-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**97**	**0.51**
	09-Jun-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**34**	**0.81**
MW-7	02-Oct-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**23.5**	**1.31**

Table 1
Summary of Historical Analytical Results for Selected Compounds
9/4/1996 to 9/11/2008
Univar USA Inc. Fresno, CA

		1,2-DCA (ug/L)	DCDFM (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	PCE (ug/L)	TCE (ug/L)
MW-7	20-Nov-02	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**12.8**	<0.5 U
	28-Feb-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**15**	<0.5 U
	06-Jun-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**9.53**	<0.5 U
	21-Aug-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**37**	<0.5 U
MW-7 (Dup) *	21-Aug-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**39**	<0.5 U
MW-7	30-Dec-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**29**	**0.59**
	17-Mar-04	<0.5 U	<0.5 U	**0.85**	<0.5 U	**26**	<0.5 U
	19-May-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**26**	<0.5 U
	26-Aug-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**27**	<0.5 U
	17-Nov-04	<0.5 u	<0.5 u	<0.5 u	<0.5 u	**28**	**0.56**
	12-Sep-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**22**	<0.5 U
	06-Nov-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**39**	**0.59**
	06-Jun-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**22**	<0.5 U
	29-Nov-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**14**	<0.5 U
	10-Jun-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**27**	<0.5 U
MW-8	12-Dec-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**110**	<0.5 U
	17-Mar-04	<0.5 U	<0.5 U	**0.55**	<0.5 U	**180**	**1.3**
	19-May-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**180**	**1.2**
	26-Aug-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**25**	<0.5 U
	17-Nov-04	<0.5 u	<0.5 u	<0.5 u	<0.5 u	**170**	**1.1**
	12-Sep-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**110**	**0.9**
	06-Nov-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**210**	**1.2**
	06-Jun-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**98 D**	**0.68**
	28-Nov-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**62**	<0.5 U
	09-Jun-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**66**	<0.5 U
MW-9	12-Dec-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
	17-Mar-04	<0.5 U	<0.5 U	**0.52**	<0.5 U	**8.2**	<0.5 U
	19-May-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**10**	<0.5 U
	26-Aug-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**3.8**	<0.5 U
	17-Nov-04	<0.5 u	<0.5 u	<0.5 u	<0.5 u	**3.8**	<0.5 u
	12-Sep-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
	06-Nov-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**0.55**	<0.5 U
	06-Jun-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**0.79**	<0.5 U
	28-Nov-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**1.8**	<0.5 U
DUP-1 (MW- *	09-Jun-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**1.4**	<0.5 U
MW-9	09-Jun-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**1.4**	<0.5 U
MW-10	12-Dec-03	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**240**	**2.1**
	17-Mar-04	**0.5**	<0.5 U	<0.5 U	<0.5 U	**160**	**2.4**
	19-May-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**170**	**2.6**
	26-Aug-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**120**	**2.8**
	17-Nov-04	<0.5 u	<0.5 u	<0.5 u	<0.5 u	**73**	**1.5**
	06-Nov-06	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**80**	<0.5 U
	06-Jun-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**51**	**0.74**

Table 1
Summary of Historical Analytical Results for Selected Compounds
9/4/1996 to 9/11/2008
Univar USA Inc. Fresno, CA

		1,2-DCA (ug/L)	DCDFM (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	PCE (ug/L)	TCE (ug/L)
MW-10	28-Nov-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**12**	<0.5 U
	10-Jun-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**2.9**	<0.5 U
MW-11	12-Dec-03	**0.79**	<0.5 U	<0.5 U	<0.5 U	**260**	**4.8**
	17-Mar-04	**1.1**	<0.5 U	**0.61**	<0.5 U	**150**	**6.7**
	19-May-04	**1.2**	<0.5 U	<0.5 U	<0.5 U	**83**	**6**
	26-Aug-04	**1.1**	<0.5 U	<0.5 U	<0.5 U	**100**	**5.8**
	17-Nov-04	**1.2**	<0.5 u	<0.5 u	<0.5 u	**170**	**7.1**
	13-May-05	**0.85**	<0.5 U	<0.5 U	<0.5 U	**200**	**4.6**
	22-Nov-05	**1.3**	<0.5 U	<0.5 U	<0.5 U	**170**	**9.2**
	06-Jun-06	**0.77**	<0.5 U	<0.5 U	<0.5 U	**130**	**6.5**
	07-Nov-06	**0.57**	<0.5 U	<0.5 U	<0.5 U	**170**	**7.8**
	23-May-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**78**	**3.9**
	28-Nov-07	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**53**	**3.5**
	09-Jun-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**52**	**3**
MW-12	10-Sep-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**31**	<0.5 U
MW-13	10-Sep-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**250**	**14**
T1-1	23-May-07	**0.7**	<0.5 U	<0.5 U	<0.5 U	**0.52**	**2.8**
	29-Nov-07	**0.5**	<0.5 U	<0.5 U	<0.5 U	**1.1**	**7.8**
T1-1 DUP-1 *	29-Nov-07	**0.5**	<0.5 U	<0.5 U	<0.5 U	**1.1**	**8.1**
T1-1	10-Jun-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**0.69**	**5.4**
	10-Sep-08	**0.54**	<0.5 U	<0.5 U	<0.5 U	**1.1**	**5.3**
T1-2	23-May-07	**30**	<0.5 U	<0.5 U	<0.5 U	**63**	**7**
	28-Nov-07	**35**	<0.5 U	<0.5 U	<0.5 U	**54**	**7.2**
	10-Jun-08	**39**	<0.5 U	**6.5**	<0.5 U	**21**	**8.2**
	10-Sep-08	**50**	<0.5 U	**3.6**	<0.5 U	**31**	**5.1**
T1-3	10-Jun-08	**9.6**	**0.5**	<0.5 U	<0.5 U	<0.5 U	<0.5 U
	10-Sep-08	**12**	<0.5 U	<0.5 U	<0.5 U	**0.71**	<0.5 U
T2-1	10-Jun-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
	10-Sep-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U	<0.5 U
T2-2	10-Jun-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**12**	<0.5 U
	10-Sep-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**8.6**	<0.5 U
T2-3	10-Sep-08	<0.5 U	**0.5**	<0.5 U	<0.5 U	**1.5**	<0.5 U
VW-1B	10-Sep-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**3500**	**24**
VW-2B	10-Sep-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**2300**	**6.7**
DUP-1 (VW- *	11-Sep-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**1400**	**17**
VW-3B	11-Sep-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**1500**	**17**

Table 1

Summary of Historical Analytical Results for Selected Compounds

9/4/1996 to 9/11/2008

Univar USA Inc. Fresno, CA

		1,2-DCA (ug/L)	DCDFM (ug/L)	cis-1,2-DCE (ug/L)	trans-1,2-DCE (ug/L)	PCE (ug/L)	TCE (ug/L)
VW-4B	11-Sep-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**1100**	**7.9**
Bio 1	26-Aug-04	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**140**	**2.3**
OB-7	10-Sep-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**13**	<0.5 U
OB-8	10-Sep-08	<0.5 U	<0.5 U	<0.5 U	<0.5 U	**8.2**	<0.5 U

Detections in bold

* - Indicates a Duplicate sample

DCDFM=Dichlorodifluoromethane

Standard Qualifiers

U - Undetected at or below MDL

D - Result is from analysis of a diluted sample

E - Estimated value

- Corrected Value

TABLE 2. GROUNDWATER MONITORING WELL NETWORK
Univar USA Inc.
Fresno, California

Well ID	Top of Casing Elevation	Screen Interval Elevation	Borehole	Casing	Total Depth	Screen Opening	Screened Interval	Sand Pack Interval	Bentonite Interval
			Diameter	Diameter	(ft, bgs)	(inches)	(ft, bgs)	(ft, bgs)	(ft, bgs)
	(MSL)	(MSL)	(inches)	(inches)					
Univar Wells									
MW-1	287.45	201-181	10	4	106	0.020	86-106	83-106	78-83
MW-2	286.26	201-181	10	4	105	0.020	85-105	82-105	77-82
MW-3	288.43	201-181	10	4	107	0.020	87-107	84-107	79-84
MW-4	288.32	201-176	8	2	112	0.020	87-112	84-112	79-84
MW-5	285.79	199-174	8	2	112	0.020	87-112	84-112	79-84
MW-6	286.54	200-175	8	2	112	0.020	87-112	84-112	79-84
MW-7	287.58	199-174	8	2	114	0.020	89-114	86-114	81-86
MW-8	286.03	198-173	8	2	113	0.020	88-113	85-113	80-85
MW-9	284.54	195-170	8	2	115	0.020	90-115	87-115	82-87
MW-10	284.61	195-170	8	2	115	0.020	90-115	87-115	82-87
MW-11	288.60	199-174	8	2	115	0.020	90-115	87-115	82-87
MW-12	287.64	183-163	10	2	150	0.020	105-125	103-105	101-103
MW-13	287.86	183-163	10	2	150	0.020	105-125	103-105	101-103
T1-1	286.04	192-172	8	2	114	0.020	94-114	92-114	91-90
T1-2	273.62	192-172	8	2	102	0.020	82-102	80-107	79-80
T1-3	288.40	160-140	8	2	150	0.020	128-148	126-148	124-126
T2-1	287.23	152-137	8	2	155	0.020	135-150	133-150	131-133
T2-2	290.05	155-140	8	2	160	0.020	135-150	133-150	131-133
T2-3	288.93	154-139	8	2	155	0.020	135-150	133-150	131-133
OB-7			8	2	147	0.020	142-147	140-147	3-140*
OB-8	286.65	197-156	12	6	135	0.040	90-130	85-135	83-85
VW-1B	287.93	198-163	10	2	150	0.020	90-125	90-125	80-90
VW-2B	287.28	197-162	10	2	150	0.020	90-125	90-125	80-90
VW-3B	287.41	197-162	10	2	150	0.020	90-125	90-125	80-90
VW-4B	286.91	197-162	10	2	150	0.020	90-125	90-125	80-90

Table 3
Summary of Proposed Investigation

Boring/Well No.		Purpose	Drilling Tech.	Phase I	Phase II	Well Installation Sequence	City Access	Estimated Screened Interval	In-Situ Sampling Interval
Exploratory Boring-1 (MW-14D)	Deep Well	Investigate the presence of clay layer-assess the vertical extent of PCE.	Sonic	x		1	x	140 to 175	Collect in-situ sample at 20 foot intervals or in coarse grained unit
Exploratory Boring-2 (MW-5D)	Deep Well	Investigate the presence of clay layer-assess the vertical extent of PCE.	Sonic	x		2	x	140 to 175	Collect in-situ sample at 20 foot intervals or in coarse grained unit
Exploratory Boring-3 (MW-15D)	Deep Well	Investigate the presence of clay layer-assess the vertical extent of PCE.	Sonic	x		3	x	140 to 175	Collect in-situ sample at 20 foot intervals or in coarse grained unit.
Exploratory Boring-4 (T2-2D)	Deep Well	Investigate the presence of clay layer-assess the vertical extent of PCE.	Sonic	x		4	x	140 to 175	Collect in-situ sample at 20 foot intervals or in coarse grained unit.
MW-14	Shallow Well	Assess laterl extent of PCE	Hollow Stem		x		x	90 to 125	Collect in-situ sample at 20 foot intervals or in coarse grained unit.
MW-15	Shallow Well	Assess laterl extent of PCE	Hollow Stem		x		x	90 to 125	Collect in-situ sample at 20 foot intervals or in coarse grained unit.
T3-1	Shallow Well	Assess laterl extent of PCE	Hollow Stem		x		x	135-150	Collect in-situ sample at 20 foot intervals or in coarse grained unit.

FW = First water estimated to be at 110 feet

PLATES

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Site Location Map
Summary Report Groundwater Investigation
Former VW&R Inc. Facility
1152 G Street
Fresno, California

PLATE
1

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
YVG	A487.26.35		11/08	

0 1300

SCALE: 1 INCH = 1300 FEET

Reference: Aerial Photograph (2007) – Google Earth Pro

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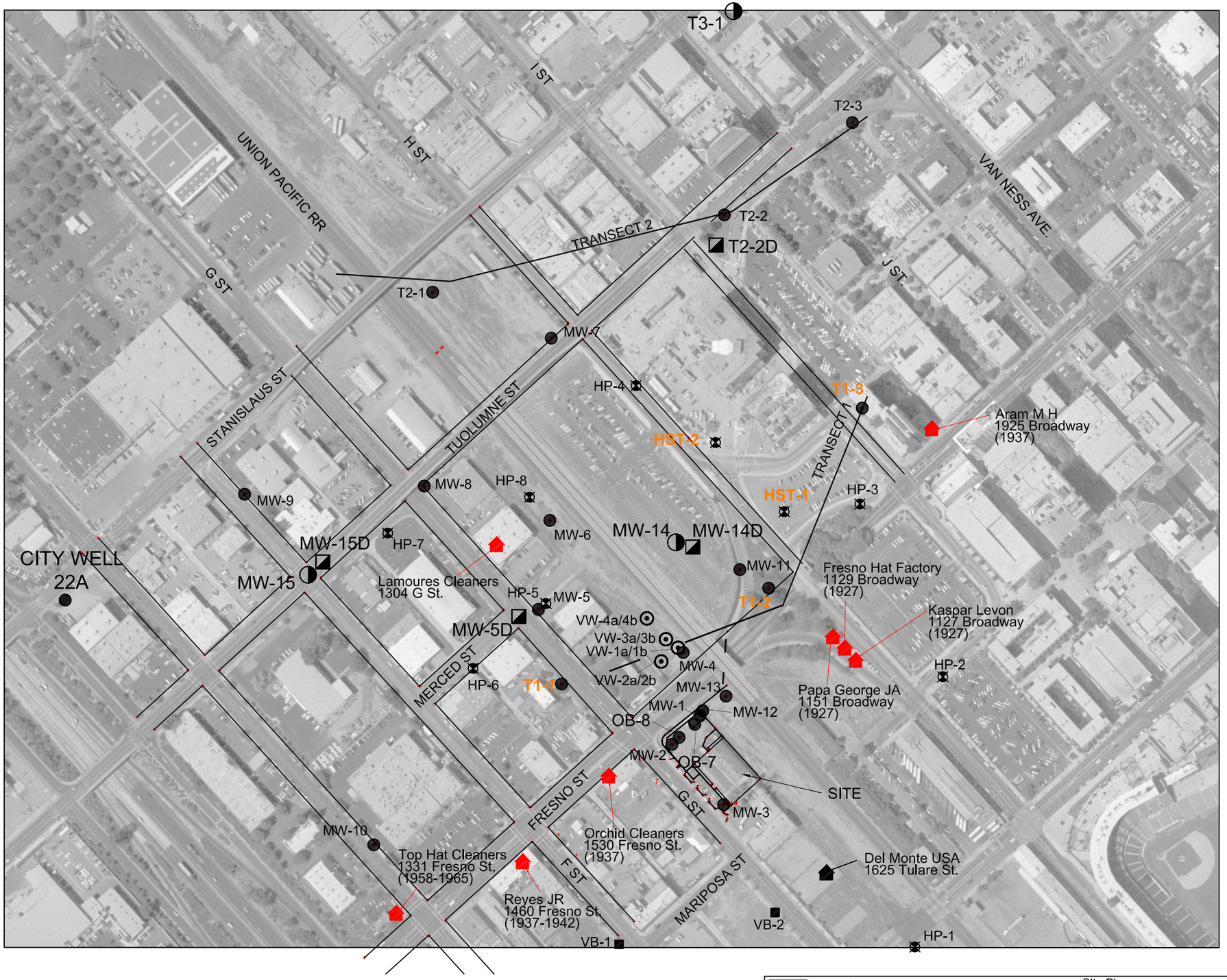
Vicinity Map
Summary Report Groundwater Investigation
Former VW&R Inc. Facility
1152 G Street
Fresno, CA

PLATE **2**

DRAWN	FILE NAME	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
YG	4002635101.dwg	A400.26.35		11/08	



T3-1 PROPOSED SHALLOW WELL LOCATION

T2-2D PROPOSED DEEP WELL LOCATION

HISTORICAL DRY CLEANERS

FORMER HYDROCARBON INVESTIGATION

MONITORING WELL LOCATION

HYDROPUNCH LOCATION

VAPOR WELL LOCATION

0 150 300
SCALE IN FEET

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Site Plan
Summary Report Groundwater Investigation
Former VW&R Inc. Facility
1152 G Street
Fresno, CA

PLATE 3

DRAWN	FILE NAME	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
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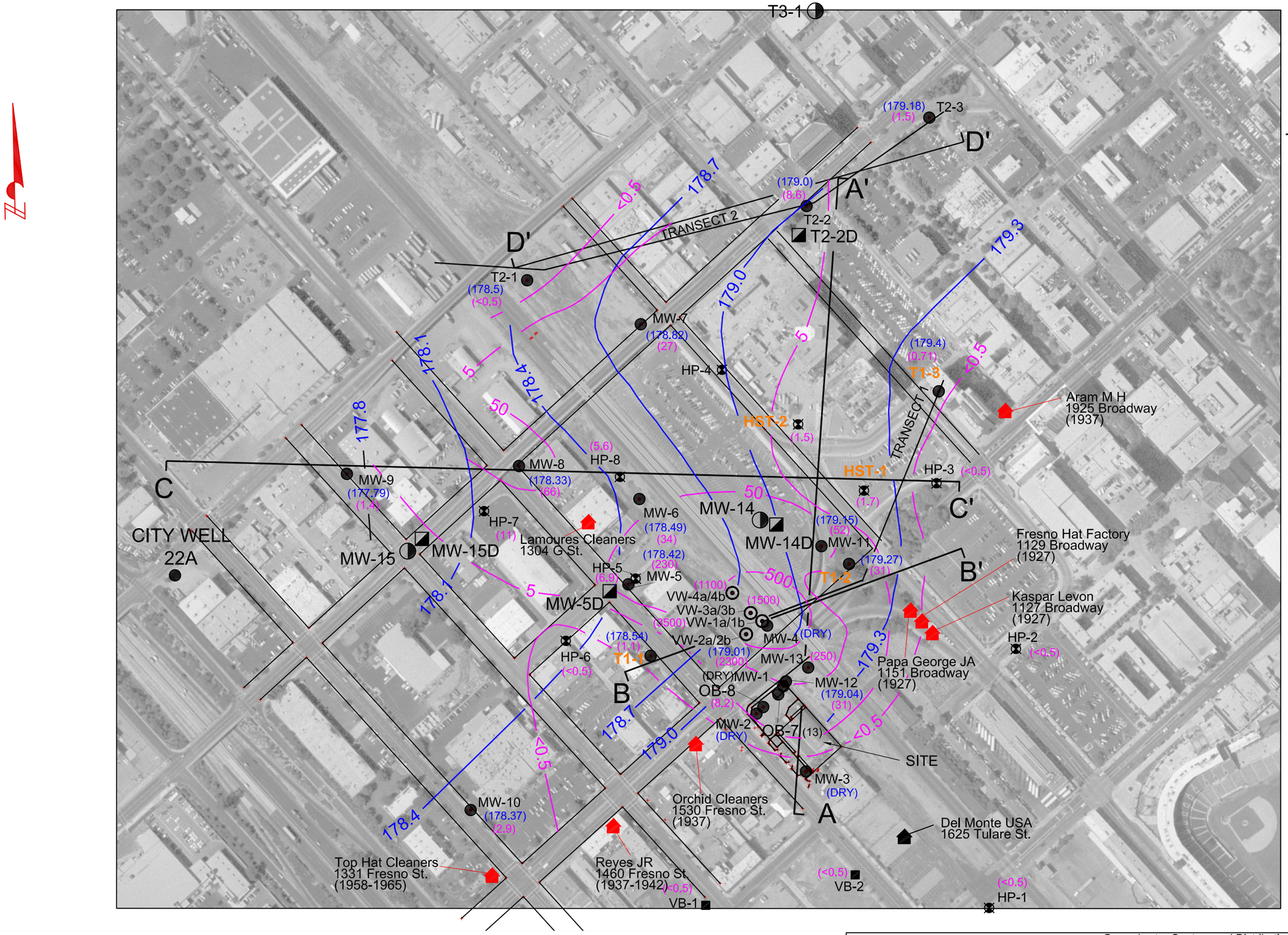

T3-1 PROPOSED SHALLOW WELL LOCATION

T2-2D PROPOSED DEEP WELL LOCATION

HISTORICAL DRY CLEANERS

FORMER HYDROCARBON INVESTIGATION

MONITORING WELL LOCATION

HYDROPUNCH LOCATION

VAPOR WELL LOCATION

179.0 GROUNDWATER ELEVATION (Ft., AMSL) (9/10/08)

(0.71) PCE CONCENTRATION IN ug/L

0 150 300
SCALE IN FEET

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Groundwater Contour and Distribution of PCE in Shallow Groundwater
Summary Report Groundwater Investigation
Former VW&R Inc. Facility
1152 G Street
Fresno, CA

PLATE 4

DRAWN	FILE NAME	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
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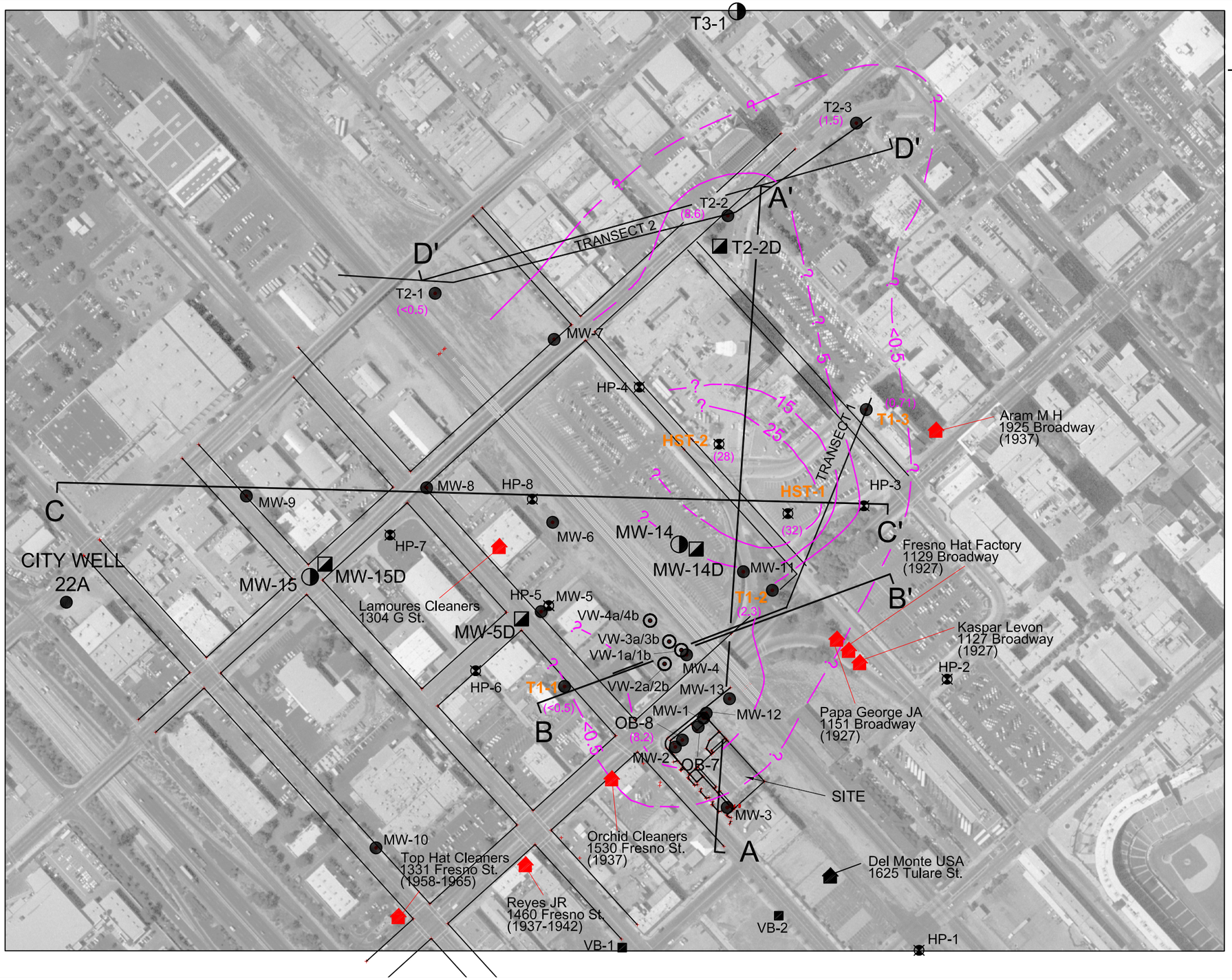

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Distribution of PCE in Deeper Zone
Summary Report Groundwater Investigation
Former VW&R Inc. Facility
1152 G Street
Fresno, CA

PLATE 5

DRAWN	FILE NAME	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
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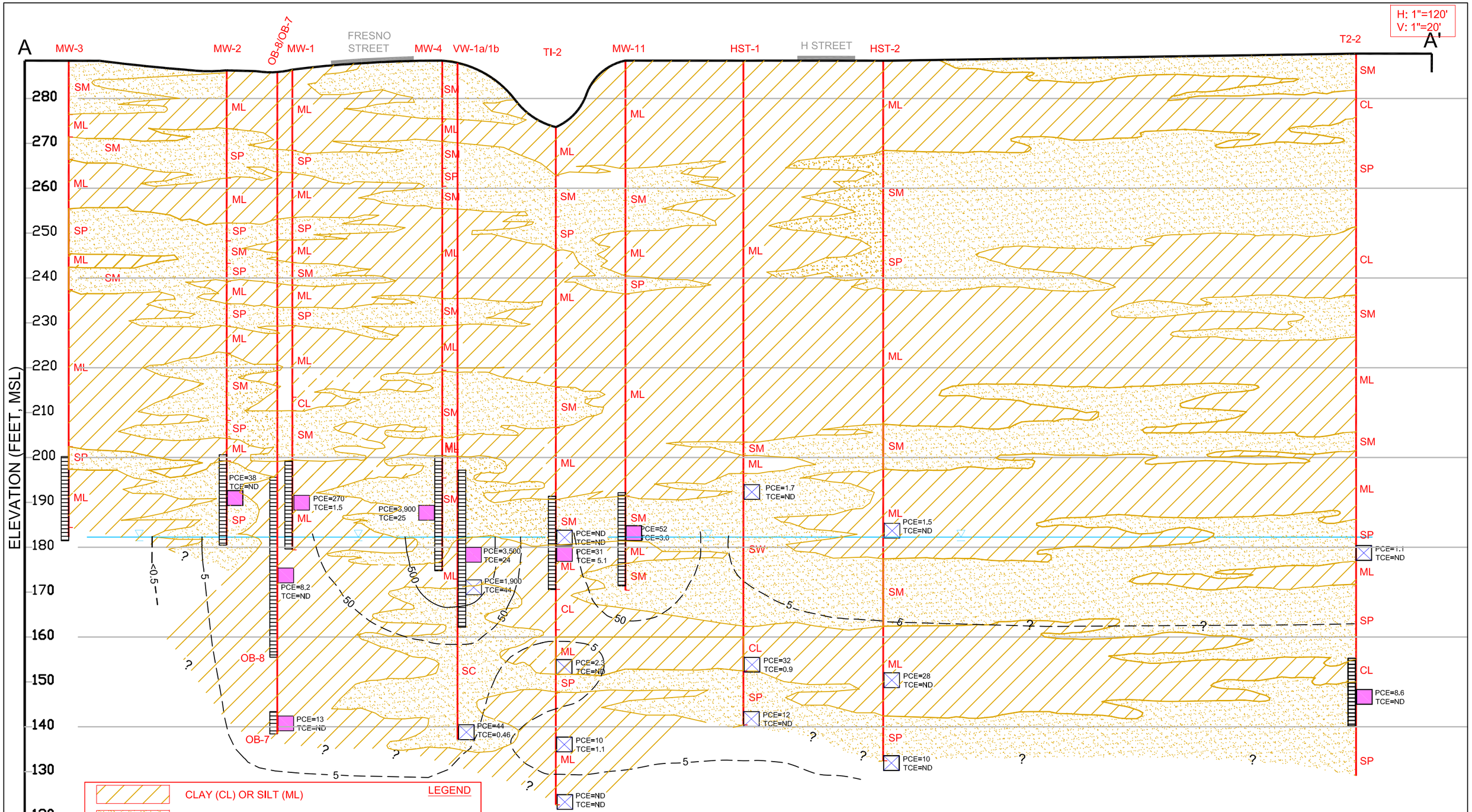

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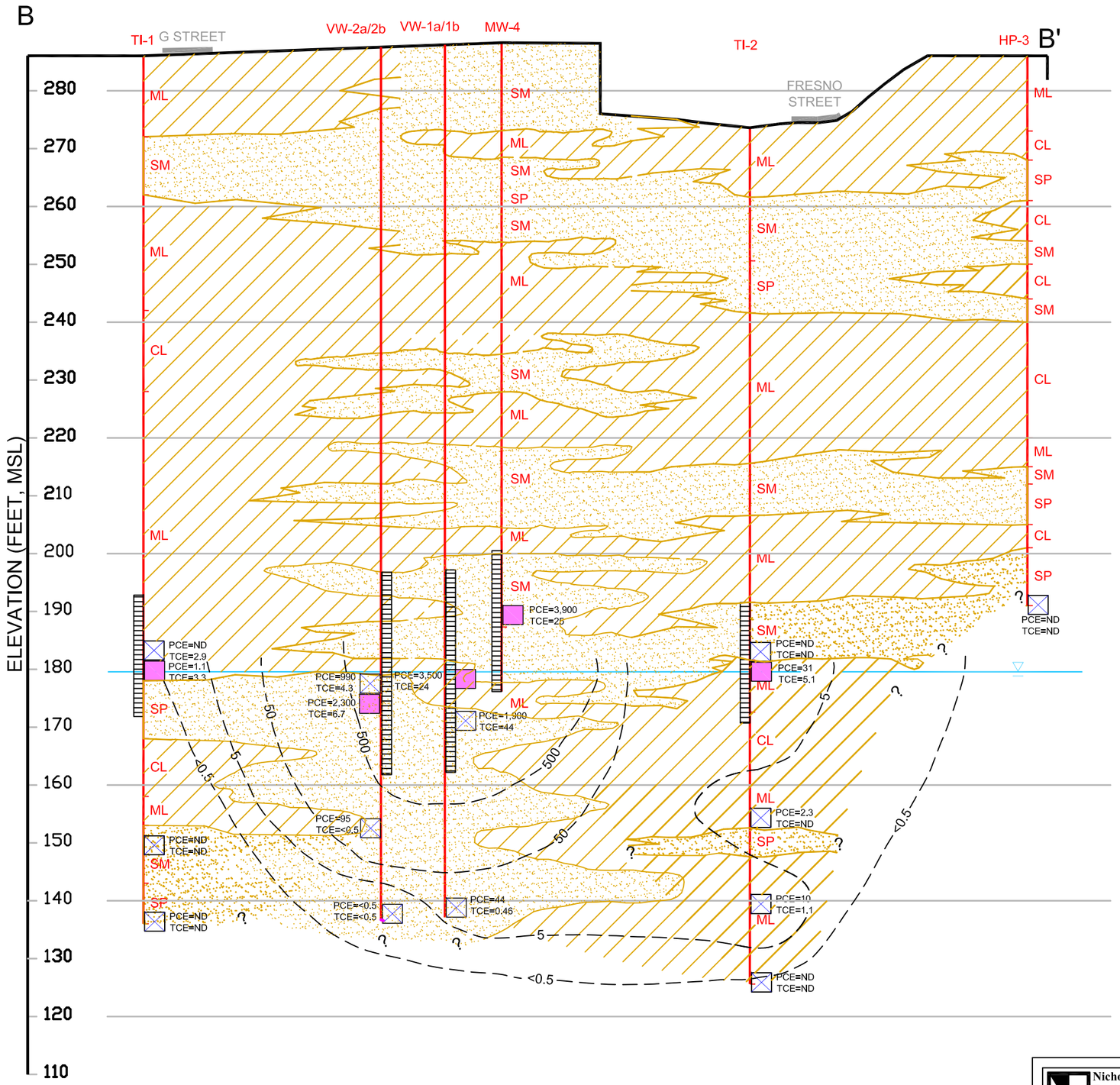
Cross Section A-A'
Summary Report Groundwater Investigation
Former VW&R Inc. Facility
1152 G Street
Fresno, California

PLATE 6

DRAWN	FILE NAME	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
YVG	4002535326.dwg	A400.08.35.043.2		2/08	



H: 1"=120'
V: 1"=20'

LEGEND

	CLAY (CL) OR SILT (ML)
	SAND (SP) OR SILTY SAND (SM)
	HYDROPUNCH SAMPLE
	MONITORING WELL SAMPLE
PCE=32	TETRACLOROETHANE (ug/L)
TCE=0.9	TRICHLOROETHENE (ug/L)
	GROUNDWATER ELEVATION
TI-2, MW-4	MONITORING WELL
HP-1, HST-1	HYDROPUNCH BORING
— —5— —	LINE OF EQUAL CONCENTRATION OF PCE
ND	NOT DETECTED

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Cross Section B-B'
Summary Report Groundwater Investigation
Former VW&R Inc. Facility
1152 G Street
Fresno, California

PLATE 7

DRAWN	FILE NAME	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
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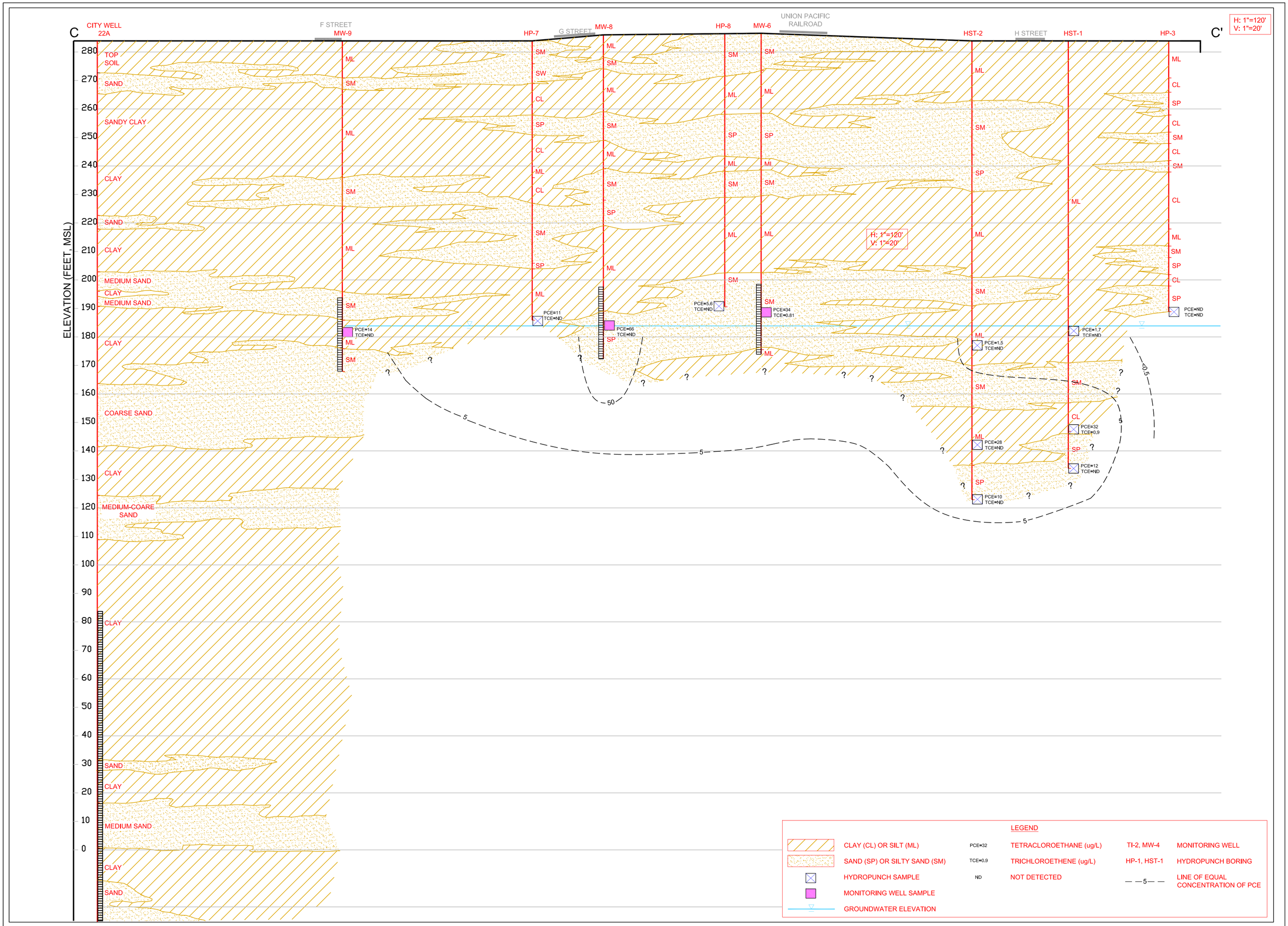

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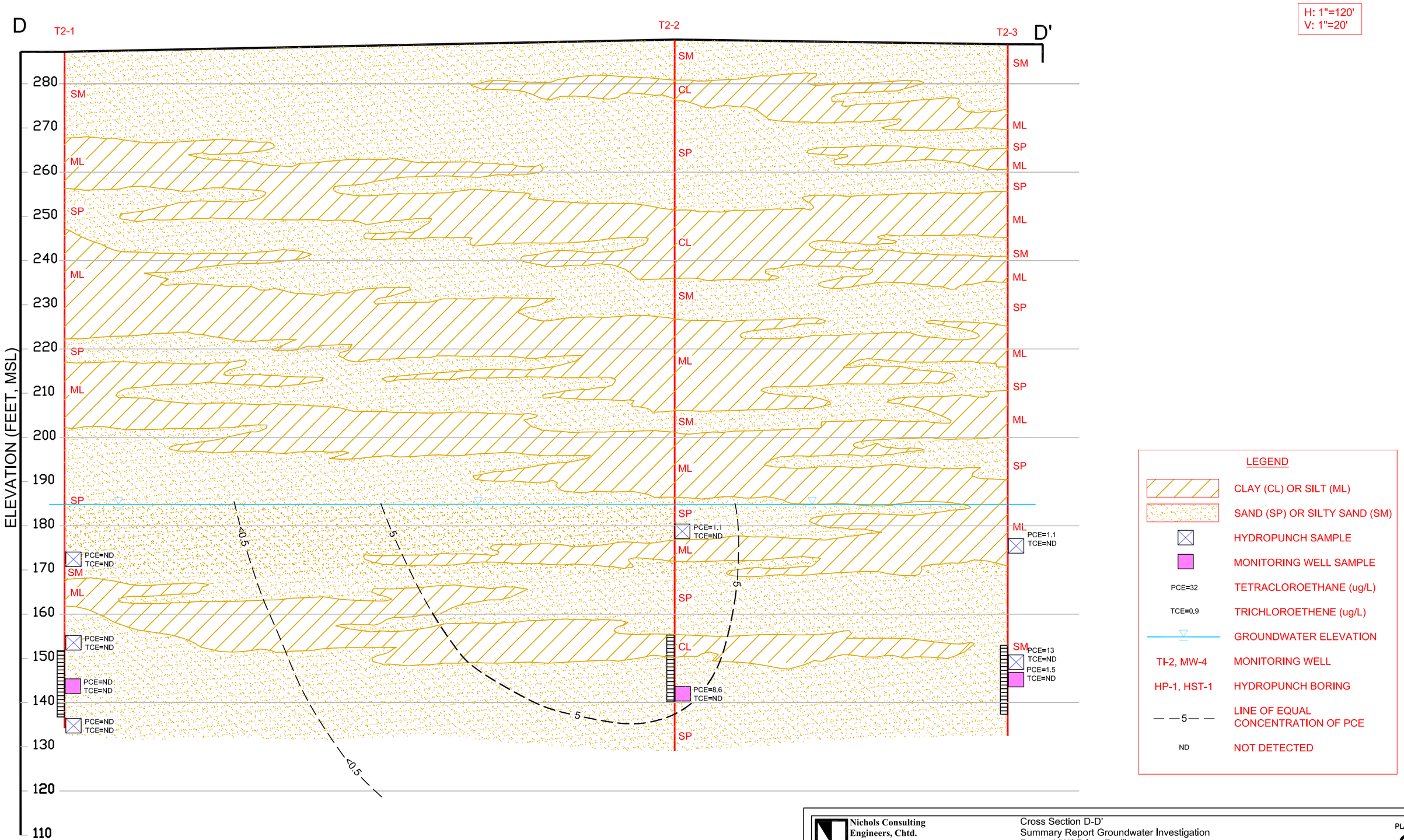
Cross Section C-C'
Summary Report Groundwater Investigation
Former VW&R Inc. Facility
1152 G Street
Fresno, California

PLATE 8

DRAWN	FILE NAME	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
YVG	4002535326.dwg	A400.08.35.043.2		2/08	



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(916) 388 5655

Cross Section D-D'
Summary Report Groundwater Investigation
Former VW&R Inc. Facility
1152 G Street
Fresno, California

PLATE 9

DRAWN	FILE NAME	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
YVG	4002535326.dwg	A400.08.35.043.2		2/08	

APPENDIX A

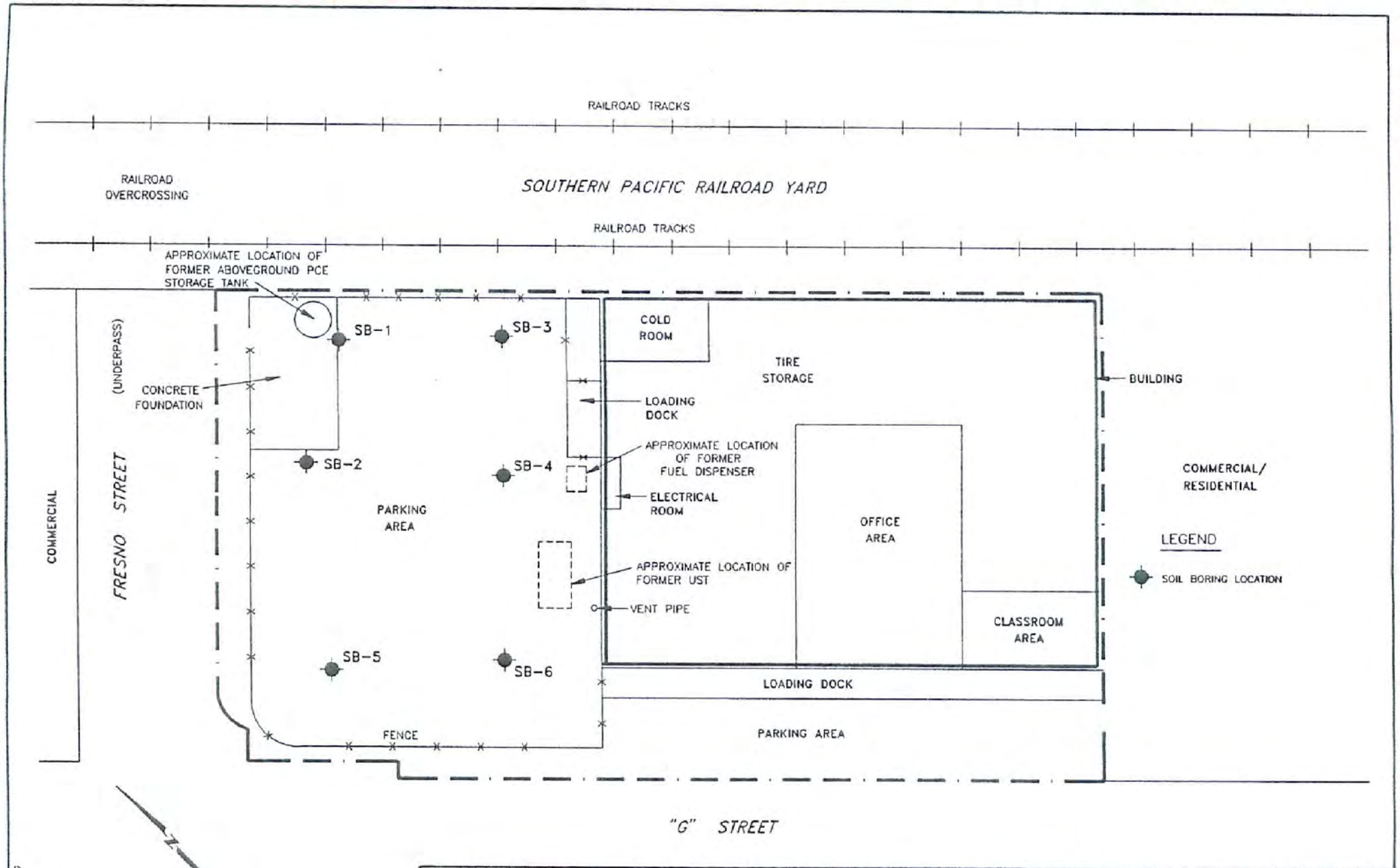
PREVIOUS INVESTIGATIONS

TABLE 1
SUMMARY OF SITE INVESTIGATIONS

September 1994 and February 1995	As part of a September 1994 and subsequent February 1995 Phase I and soil quality investigation, PCE was reported in soil samples collected near the former AST at concentrations of 0.2 to 13 milligrams per kilogram (mg/Kg) at 2 feet below ground surface (bgs) to 13 mg/Kg at a depth of 9 feet bgs (Twinning 1994 and 1995).
August 1995 and January 1996	In August 1995 a soil gas survey was conducted (HLA, 1995) and, in January 1996, another soil quality investigation was completed (HLA, 1996). Boreholes were drilled to a maximum depth of 70 feet bgs (Appendix A, Plate A-1). PCE was the only volatile organic compound (VOC) consistently detected and was reported in 34 of the 36 soil samples. PCE concentrations ranged from 0.0059 to 14 mg/Kg and were highest in boring SB-1 located in the vicinity of the former AST.
August 1996	In August 1996 a follow-up investigation was conducted and included the drilling and installation of two soil vapor extraction (SVE) wells, four soil vapor observation wells and three groundwater monitoring wells (Plate A-2). Groundwater analyses yielded results similar to the soil gas data; PCE levels in groundwater were greater nearest the former tank location (HLA, 1997). Concentrations of PCE in groundwater ranged from 1.1 micrograms per liter (ug/L) in the upgradient well (MW-3) to 9,000 to 14,000 ug/L in the well located adjacent to the former tank location (MW-1).
November and December 1997	During November and December 1997, Phase I of an offsite investigation was completed (HLA, 1998). This investigation consisted of the collection groundwater samples from seven boreholes (HP-1 through HP-7) and three deeper boreholes (VB-1 through VB-3) [Plate A-3]. Results of the investigation indicated that PCE was not present in groundwater at sampling locations VB-1, VB-2, HP-3, HP-4 and HP-6. Data collected from VB-3, HP-5 and HP-7 suggested that the lateral extent of PCE in groundwater extended north and northwest of the Site. Boring VB-3, located approximately 300 feet north of the Site, appeared to be located downgradient of the Site. PCE was not detected in Borring HP-4, located approximately 600 feet north-northwest of Boring VB-3.
June 1998	Univar implemented remedial actions at the Site in June 1998 with the installation of a soil vapor extraction (SVE) system. The SVE system consisted of three extraction well pairs, and a carbon system for vapor treatment. Each well pair included a shallow well screened from approximately 20 feet bgs to 50 feet bgs and a deeper well screened from 70 feet to 90 feet bgs.
August 2002	To further evaluate the lateral distribution of VOCs downgradient of the Site, a Phase II groundwater investigation was conducted and included the collection of one in-situ groundwater sample and installation and sampling of four shallow groundwater monitoring wells including wells MW-4, MW-5, MW-6, and MW-7 (Plate 3). Since these wells were installed, PCE has been reported in MW-4 at concentrations ranging from 2,500 ug/L to 5,120 ug/L. PCE has been reported in wells MW-5, MW-6, and MW-7 at concentrations ranging from 3.96 ug/L to 560 ug/L. In addition to the above, as part of the Phase II investigation an assessment of the hydrology in the site vicinity was conducted utilizing boring logs for the

TABLE 1 (CONT.)
SUMMARY OF SITE INVESTIGATIONS

	City owned water wells in conjunction with the existing investigation data. The assessment indicated that the stratigraphy in the vicinity of the Site consists predominantly of alternating layers of silts, clays and sands with no substantial laterally continuous clay units present, suggesting that groundwater beneath the study area is representative of an unconfined water body.
June 2003	Univar and the Regional Water Quality Control Board (RWQCB) met to discuss the investigation results and an approach to evaluate further the presence of PCE downgradient of the facility. The meeting resulted in a scope of work to conduct a Phase III groundwater investigation. The purpose of the Phase III investigation was to install monitoring wells to provide water level data to further refine the groundwater flow direction and to provide water quality data between the Site and a nearby water supply well.
December 2003	The initial portion of the Phase III groundwater investigation was completed and included the installation and sampling of four monitoring wells (MW-8 through MW-11) [Plate 3].
April 2006	Additional onsite investigations included the drilling of two borings, the collection of Hydropunch™ in-situ groundwater samples utilizing mud-rotary drilling techniques, evaluation of a data collection technique utilizing a Membrane Interface Probe (MIP) with Geoprobe push equipment and cone penetrometer test (CPT). The investigation also included the installation of one temporary groundwater monitoring well (OB-7) and one groundwater extraction well (OB-8) on the Site. MIP as an investigative technique was attempted because of it's ability to provide cost effective, real time assessment stratigraphy and data on the presence of VOCs in soil and groundwater both onsite and offsite of the former Univar Facility. Based on the Site conditions encountered, it was concluded that in-situ sampling of groundwater utilizing mud rotary drilling techniques and MIP with Geoprobe and CPT are not appropriate methods to assess the vertical distribution of PCE in groundwater.
June 2006	Due to the unsuccessful attempts of the MIP technique to assess the vertical distribution of PCE in groundwater, an alternate scope of work to perform the assessment was presented in NCE's May 2006 Revised Delineation Work Plan (NCE 2006). The overall objective was to assess the downgradient lateral and vertical extent of PCE in groundwater that is associated with the former Univar facility terminating where PCE is not detected at a concentration greater that 5 ug/L.



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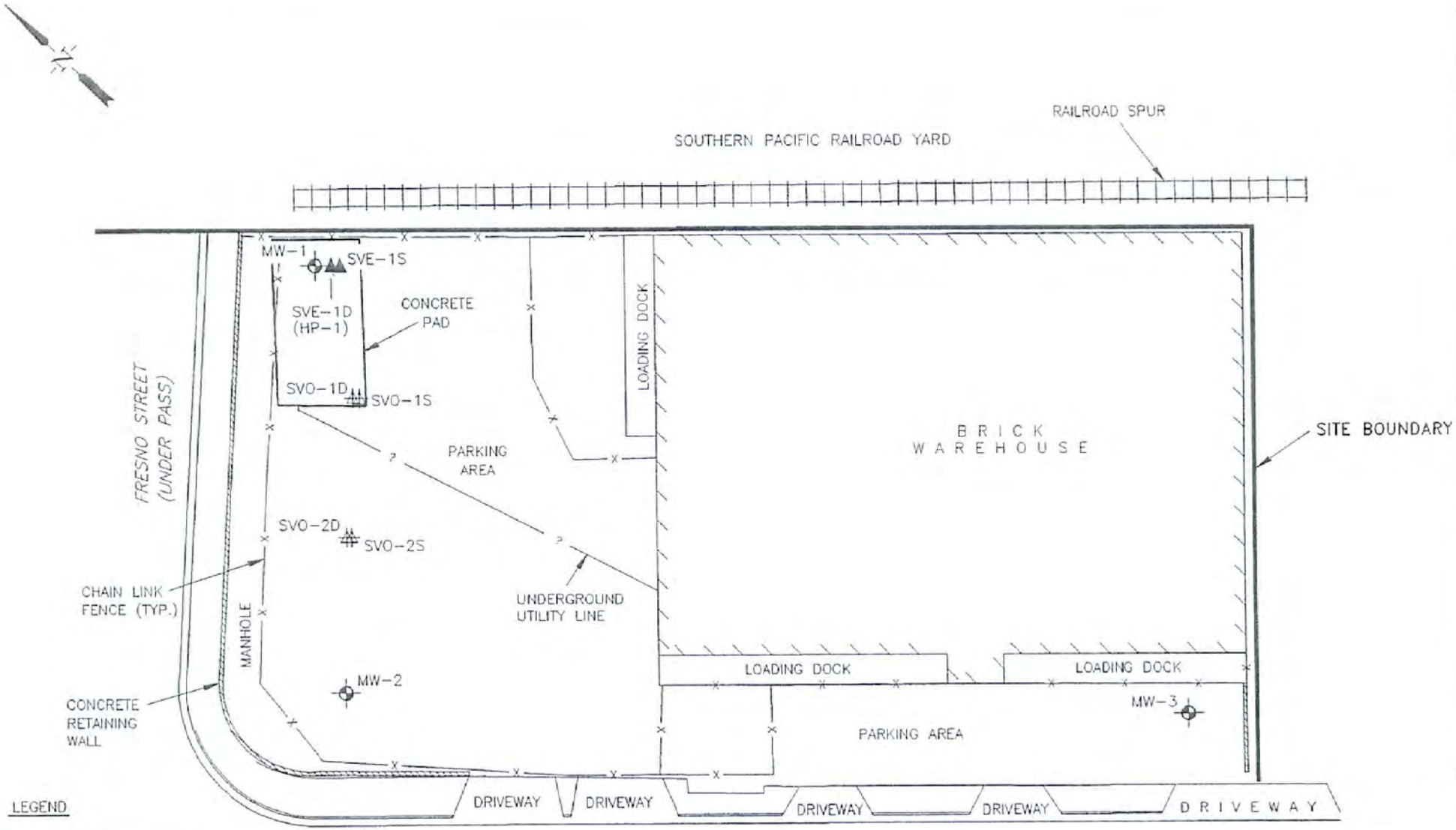
Soil Boring Locations

Soil Boring Investigation
Former VW&R Facility
Fresno, California

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
YG	32928.001.2		9/95	

PLATE
A-1



LEGEND

- MONITORING WELL LOCATION
- SOIL VAPOR OBSERVATION WELL
- SOIL VAPOR EXTRACTION WELL

SVE-1S = SHALLOW SOIL VAPOR EXTRACTION WELL
SVE-1D = DEEP SOIL VAPOR EXTRACTION WELL

SVO-1S = SHALLOW SOIL VAPOR OBSERVATION WELL
SVO-1D = DEEP SOIL VAPOR OBSERVATION WELL

HP-1 = HYDROPUNCH SAMPLE LOCATION

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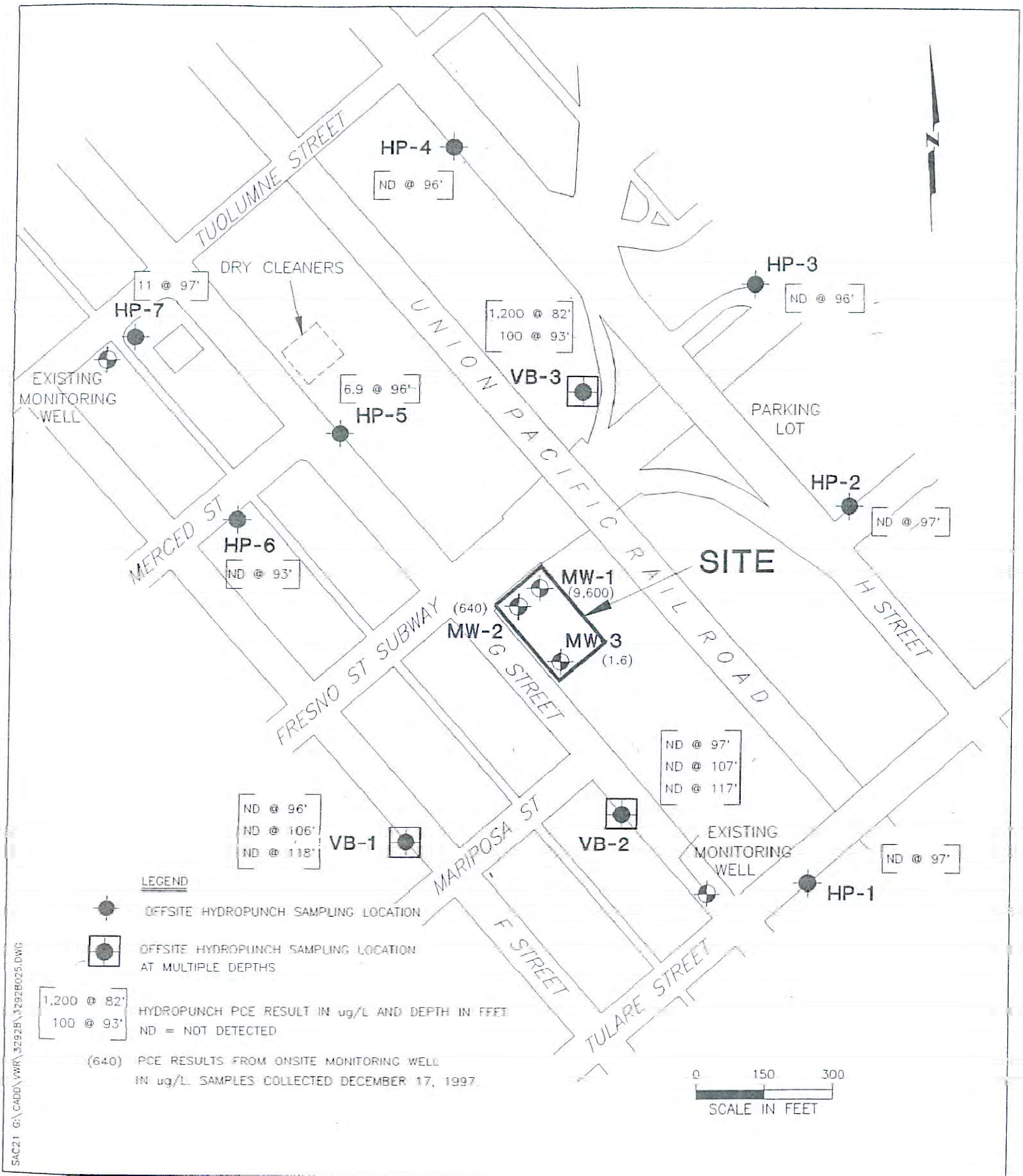
(916) 364-0793

Monitoring Well and Soil Vapor Extraction Well Location Map
Onsite Monitoring Well Installation
Former VW&R Inc. Facility
Fresno, California

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
YG	32928.004.6	CG	11/96	

PLATE
A-2



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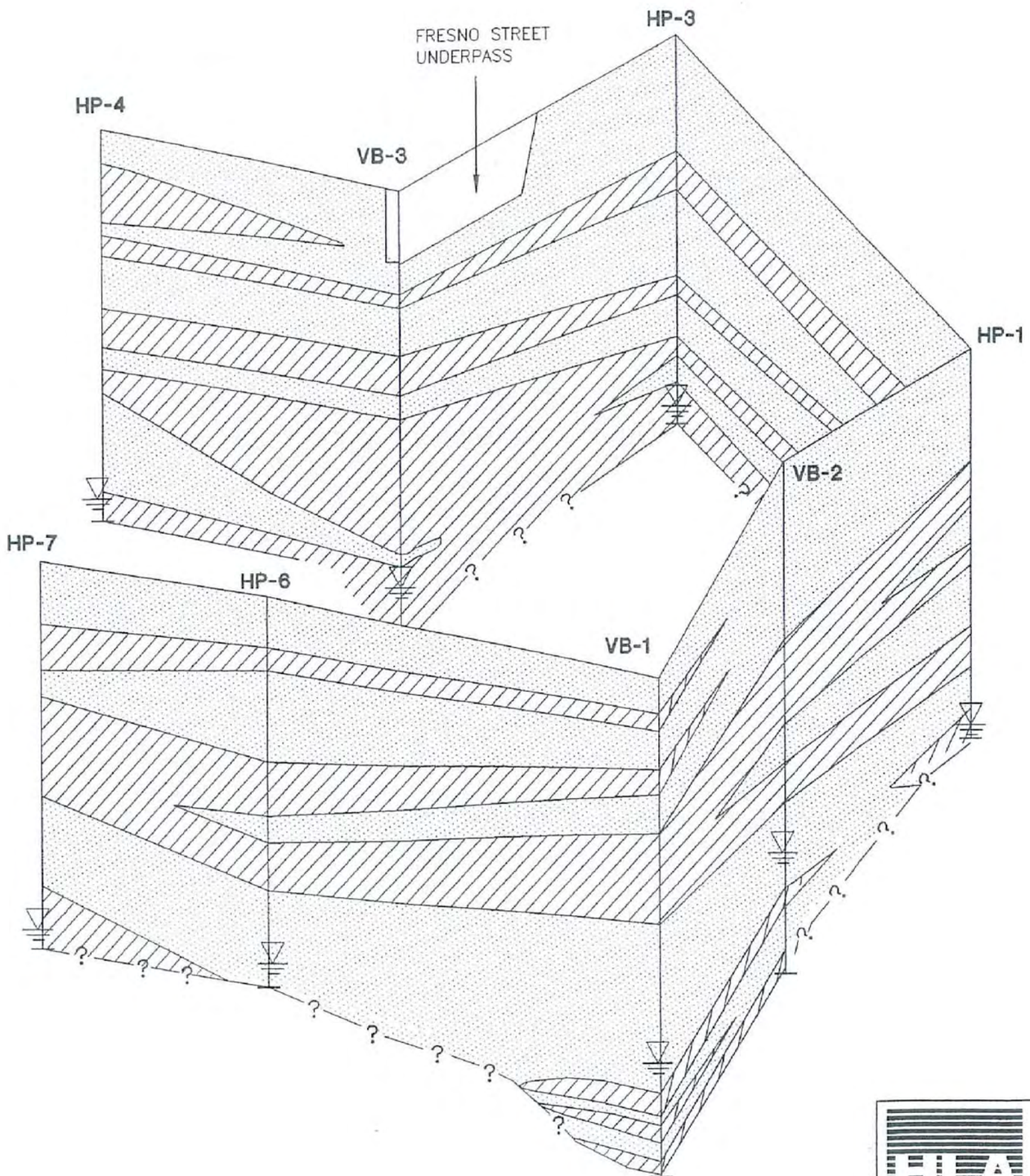
Sacramento, California 95827
(916) 364-0793

Distribution of PCE in Groundwater
Former VW&R Inc. Facility
1152 G Street
Fresno, California

PLATE
A-3

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
YG	32928.006.3		1/98	



0 15 30
1 INCH = 30 FEET
VERTICAL SCALE

0 200
1 INCH = 200 FEET
HORIZONTAL SCALE

SILTS AND CLAYS

SANDS, SILTY SANDS, AND CLAYEY SANDS

WATER TABLE

HARDING LAWSON ASSOCIATES
Engineering and
Environmental Services
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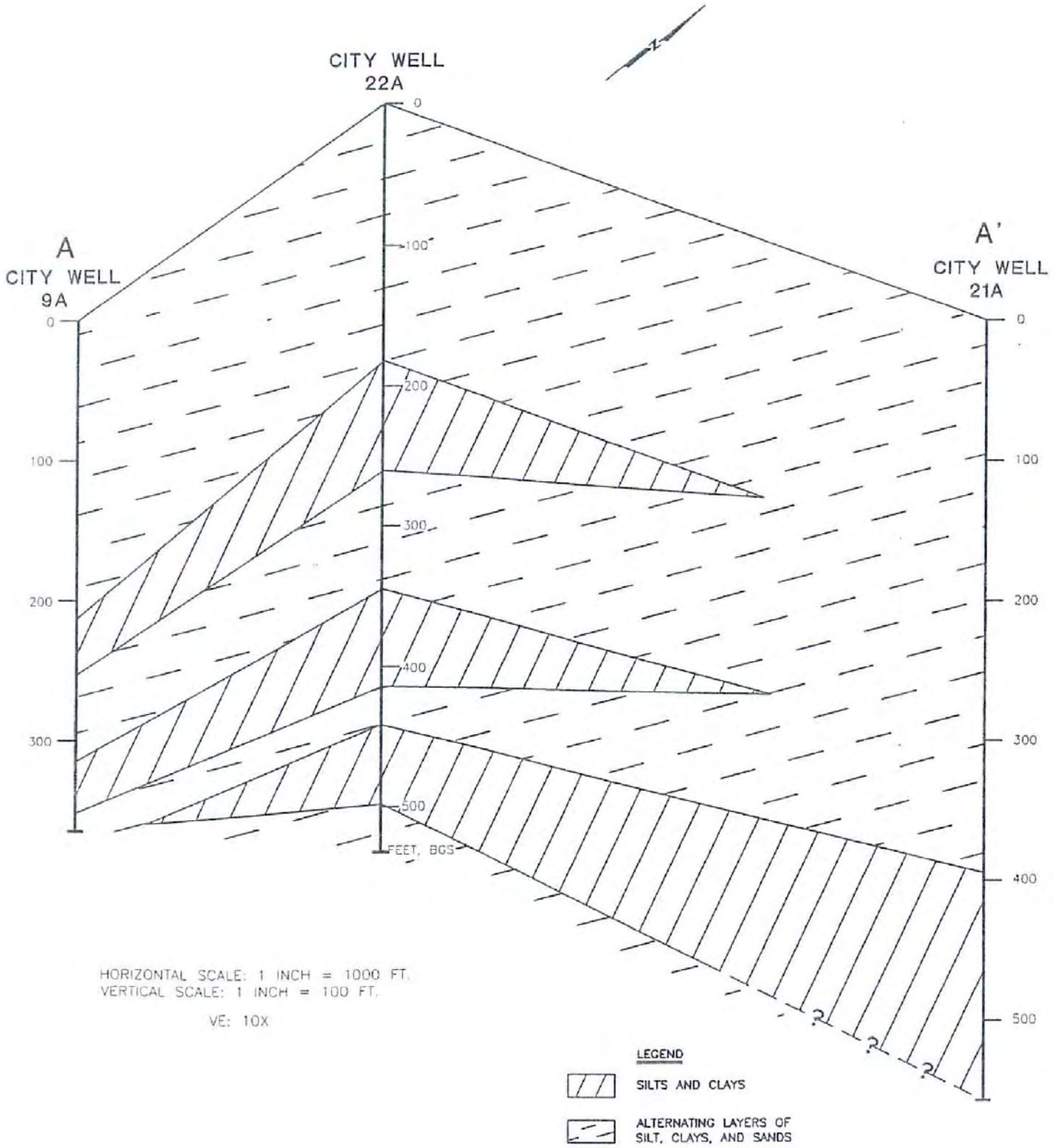
Sacramento, California 95827
(916) 364-0793

Fence Diagram
Former VW&R Inc. Facility
1152 G Street
Fresno, California

PLATE
A-4

DRAWN	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
YVG	32928.006.3		1/98	



MACTEC
Engineering and Consulting, Inc.
10265 Rockingham Drive, Suite 150
Sacramento, California 95827
(916) 364-0793

Stratigraphic Evaluation
Former Univar USA Inc. Facility
1152 G Street
Fresno, California

PLATE
A-5

DRAWN	FILE NAME	PROJECT NUMBER	APPROVED	DATE	REVISED DATE
YVG	56415013.DWG	56415		4/03	

LINK TO THIS MAP

GEOTRACKER

LAYERS

- ☒ SIGNIFIES A CLOSED SITE
- ☑ Leaking Underground Tank (LUST) Cleanup Sites
- ☑ Other Cleanup Sites
- ☑ Land Disposal Sites
- ☑ Military Sites
- ☑ WDR Sites
- ☑ Permitted Underground Storage Tank (UST) Facilities
- ☑ Monitoring Wells*
- ☑ DTSC Cleanup Sites
- ☑ DTSC Haz Waste Permit

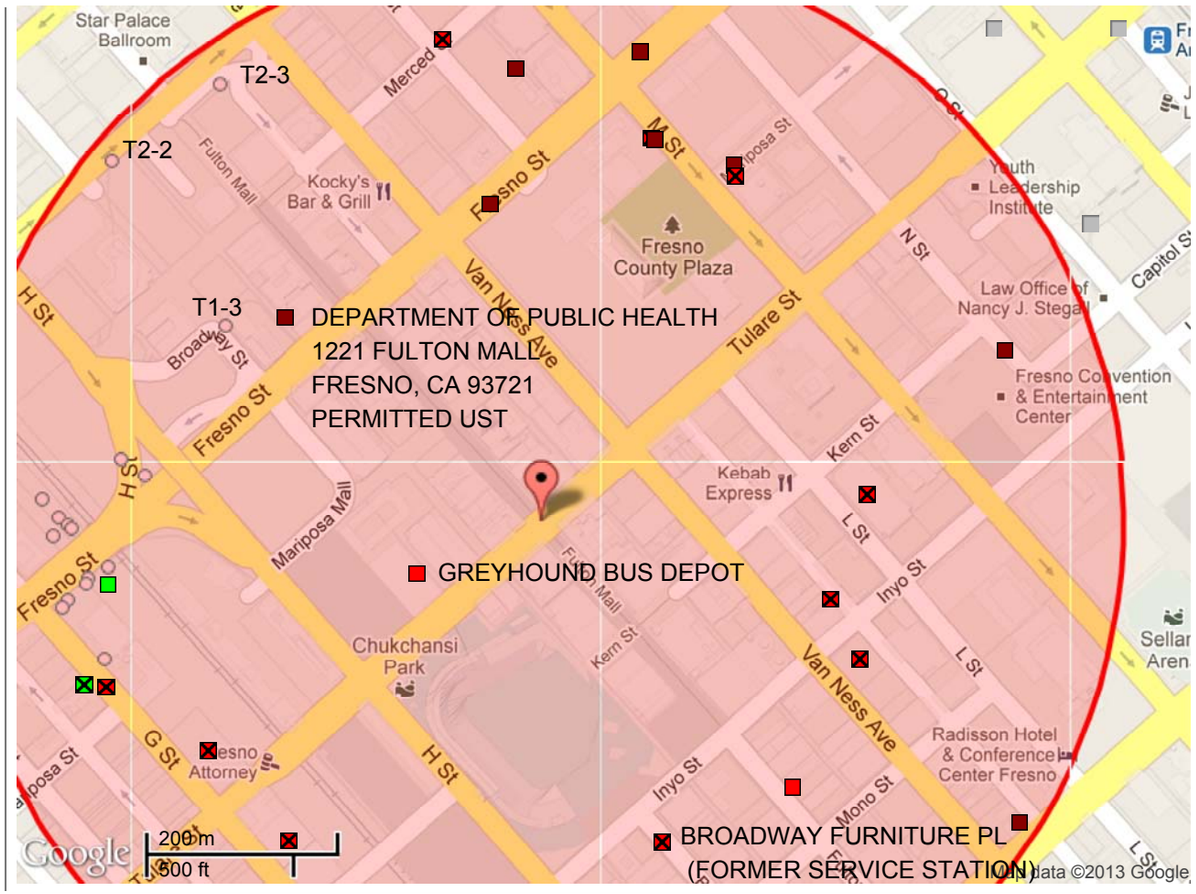
MAP SIZE

640x480

OPTIONS

☑ Site List - EXPORT TO EXCEL

24 Sites

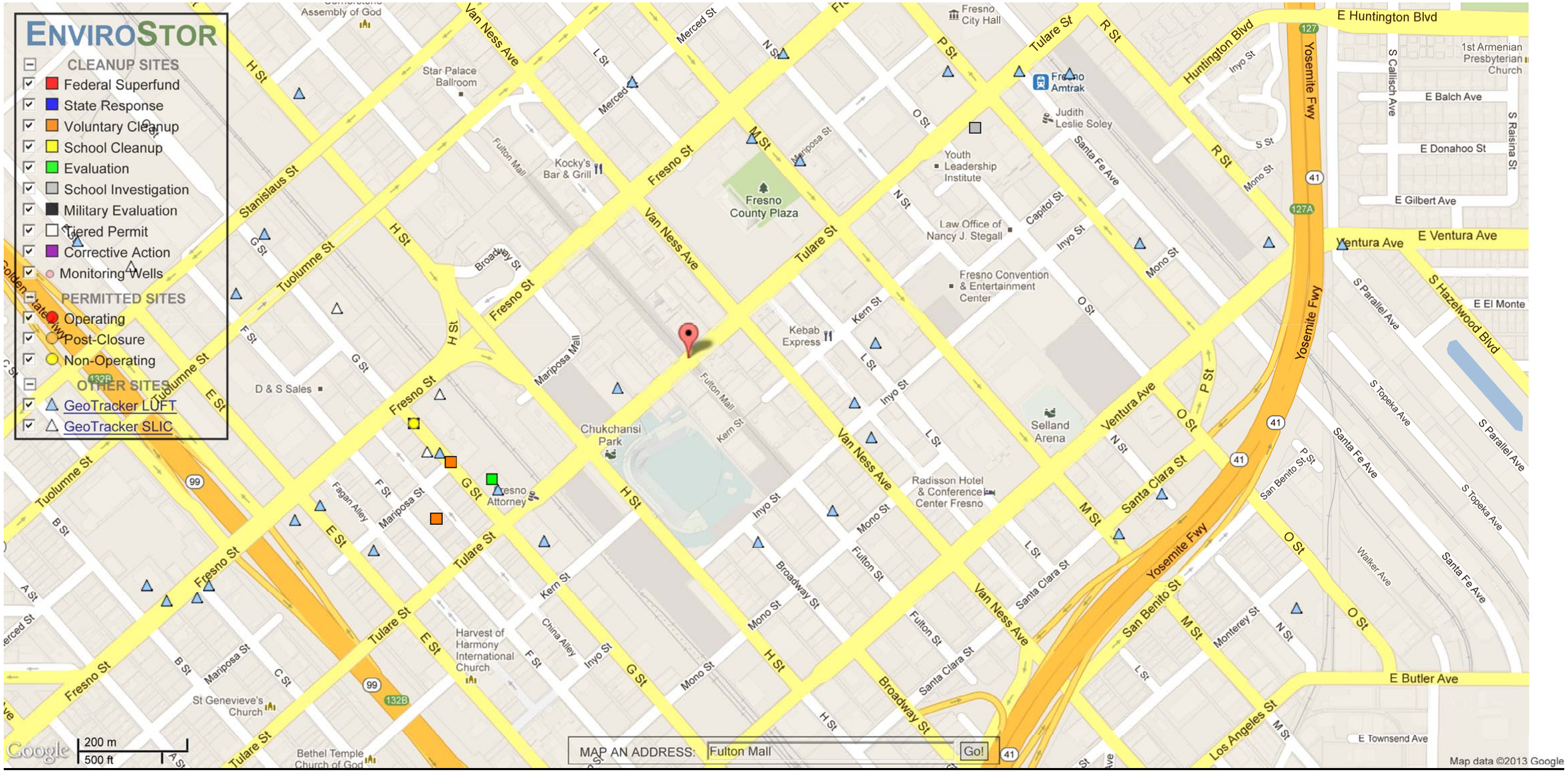


☑ SHOW SITES WITHIN 2000 FEET OF THE FOLLOWING ADDRESS: fulton mall, fresno, ca Go

SITE LIST

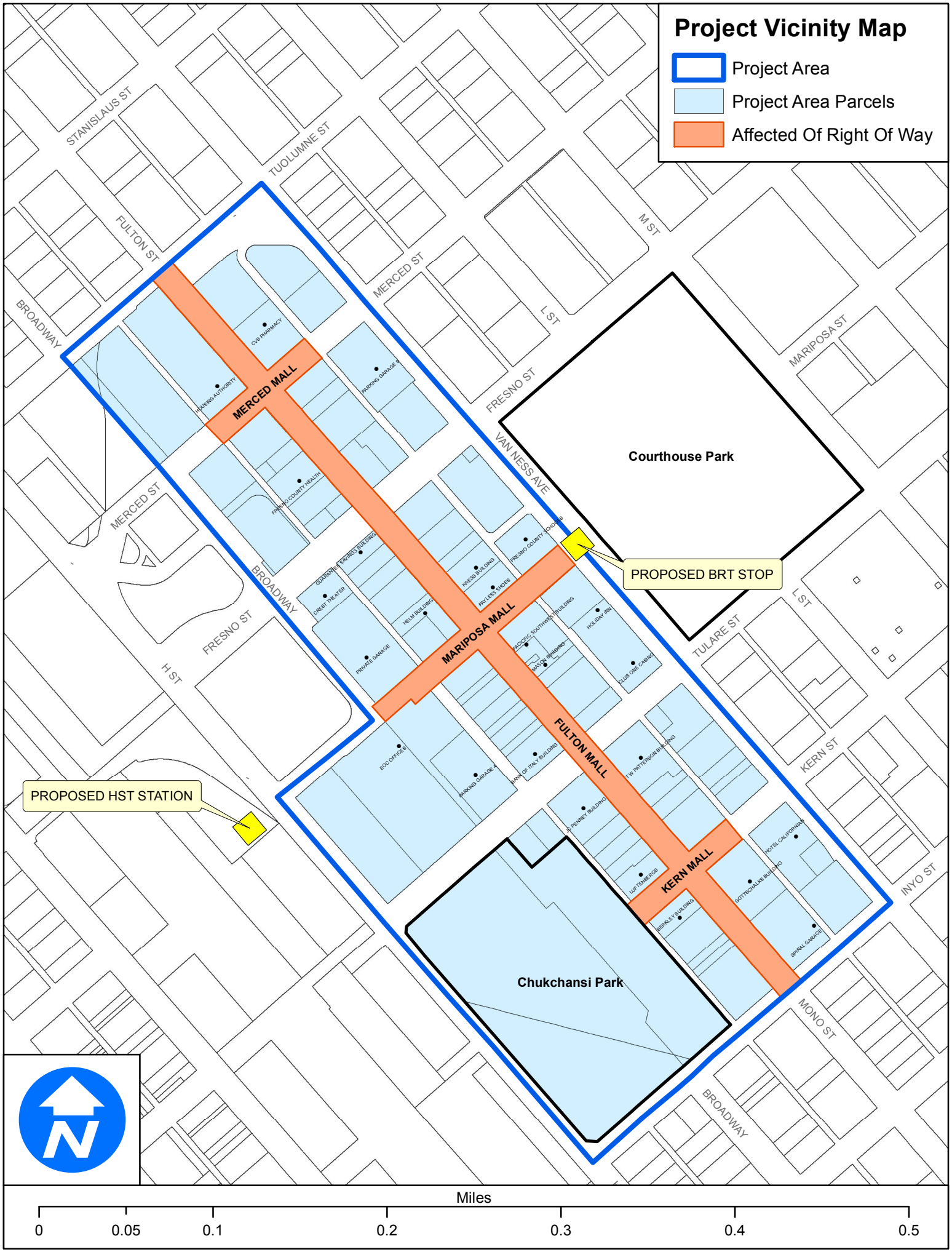
SITE NAME	GLOBAL ID	FAC ID	CLEANUP STATUS	ADDRESS	CITY
ARCHIVES RECORD STORAGE BLDG.	T0601900385		OPEN - SITE ASSESSMENT	742 FULTON ST	FRESNO
BROADWAY FURNITURE PARKING LOT (FORMER SERVICE STATION)	T0601989283		COMPLETED - CASE CLOSED	755 BROADWAY	FRESNO
COURTHOUSE MOTOR POOL		FA0269874		1155 M ST	FRESNO
DEL MONTE	T0601900175		COMPLETED - CASE CLOSED	1625 TULARE ST	FRESNO
DEL MONTE FOODS PARKING LOT	T0601900610		COMPLETED - CASE CLOSED	1626 TULARE ST	FRESNO
DEPARTMENT OF PUBLIC HEALTH		FA0269762		1221 FULTON MALL	FRESNO
FELIX AUTO MECHANIC	T0601900246		COMPLETED - CASE CLOSED	804 F ST	FRESNO
FRESNO CITY POLICE DEPT		FA0267545		2323 MARIPOSA MALL	FRESNO
FRESNO CITY POLICE DEPT.	T0601900576		COMPLETED - CASE CLOSED	2323 MARIPOSA	FRESNO
FRESNO CLINTON B.P.	T0601900478		COMPLETED - CASE CLOSED	2409 FRESNO ST N	FRESNO
FRESNO COUNTY CREDIT UNION PROPERTY	T0601900028		COMPLETED - CASE CLOSED	2211 MERCED ST	FRESNO
FRESNO COUNTY JAIL	T0601900260		COMPLETED - CASE CLOSED	1155 M ST	FRESNO

MAP AN ADDRESS: Go!



SITES CURRENTLY VISIBLE ON MAP — 6 SITES LISTED — EXPORT THIS LIST TO EXCEL

PROJECT NAME	STATUS	PROJECT TYPE	ADDRESS	CITY
EMMANUEL LUTHERAN CHURCH SCHOOL	NO ACTION REQUIRED	SCHOOL INVESTIGATION	EAST FORADOR AVENUE/NORTH MARIPOSA STREET	FRESNO
FORMER FRESNO 2 MANUFACTURED GAS PLANT SITE	ACTIVE	VOLUNTARY CLEANUP	MARIPOSA STREET BETWEEN F AND G STREETS	FRESNO
PG&E G STREET SUBSTATION	CERTIFIED	VOLUNTARY CLEANUP	1131 G STREET	FRESNO
PG&E MANUFACTURED GAS PLANT SQ-FK-FRS-2	INACTIVE - NEEDS EVALUATION	EVALUATION	BLOCK OF F, G, FRESNO AND TULARE STREETS	FRESNO
UNIVAR USA INC.	* INACTIVE	CORRECTIVE ACTION	1152 G ST	FRESNO
UNIVAR USA INC.	PROTECTIVE FILER	NON-OPERATING	1152 G ST	FRESNO


Project Vicinity Map
Project Area
Project Area Parcels
Affected Of Right Of Way
STANISLAUS ST
TUOLUMNE ST
FULTON ST
BROADWAY
MERCED ST
M ST
L ST
FRESNO ST
MARIPOSA ST
VAN NESS AVE
Courthouse Park
PROPOSED BRT STOP
MERCED MALL
MARIPOSA MALL
FULTON MALL
KERN MALL
TULARE ST
KERN ST
INYO ST
MONO ST
H ST
PROPOSED HST STATION
Chukchansi Park
CVS PHARMACY
HOUSING AUTHORITY
PARKING GARAGE
FRESNO COUNTY HEALTH
GUARANTEE SAVINGS BUILDING
CREST THEATER
HELM BUILDING
KRESS BUILDING
PAYLESS SHOES
FRESNO COUNTY SCHOOLS
PRIVATE GARAGE
PACIFIC SOUTHWEST BUILDING
MASON BUILDING
HOLIDAY INN
CLUB ONE CASINO
EOC OFFICES
PARKING GARAGE
BANK OF ITALY BUILDING
T W PATTERSON BUILDING
J C PENNEY BUILDING
LUFTENEGGER
BERKLEY BUILDING
GOTTSCHALKS BUILDING
HOTEL CALIFORNIAN
SPIRAL GARAGE
Miles
0
0.05
0.1
0.2
0.3
0.4
0.5

Appendix 8:
Sole-Source Aquifer - Water Quality Assessment

Sole-Source Aquifer - Water Quality Assessment

Fulton Mall Reconstruction Project

City of Fresno, California

Prepared for:

City of Fresno

2600 Fresno Street

Fresno, CA 93721

559.621.8366

Contact: Elliott Balch, Downtown Revitalization Manager

Prepared by:

FirstCarbon Solutions

220 Commerce, Suite 200

Irvine, CA 92602

714.508.4100

Contact: Michael Houlihan, AICP

Collin Ramsey, LEED AP

Report Date: November 20, 2013

Technical Report

Sole-Source Aquifer - Water Quality Assessment

Prepared For: Elliott Balch
City of Fresno

Prepared by: FirstCarbon Solutions | Michael Brandman Associates

Date: November 20, 2013

The purpose of this memorandum is to review and evaluate the potential short- and long-term water quality impacts to the City of Fresno's sole-source aquifer that may result from construction and implementation of the proposed Fulton Mall Project. The location of the project is illustrated on Figures 1 and 2 at the end of the technical report. The project site includes the existing 80-foot rights-of-way within Fulton Mall including Fulton between Inyo Street to Tulare Street, Tulare Street and Fresno Street, and Fresno Street and Tuolumne Street. The project also includes the existing 80-foot rights-of-way along (1) Kern between Van Ness Avenue and Home Run Alley, (2) Mariposa between Van Ness Avenue and Broadway, and (3) Merced between Van Ness Avenue and Congo Alley. In addition to the Mall, there are areas adjacent to the new streets within the Mall that would allow transitional streetscape to accommodate the project. Furthermore, the project includes a parcel at the Fresno County Economic Opportunities Commission campus near the Mariposa and Congo Alley intersection for the proposed tot lot.

The sole-source aquifer in the project area is known as the Fresno Sole Source Aquifer. This aquifer was designated under the authority of Section 1424(e) of the Safe Drinking Water Act, Federal Register (FR) Citation 44 FR 52751, Publication Date – September 10, 1979.

Project Purpose and Need

The purpose of the proposed project is to increase mobility and access in the Fulton Mall study area by providing more convenient multi-modal access options on the Mall and its cross streets; to improve visibility of businesses, offices and other amenities in the Fulton Mall study area by improving traffic circulation, thereby encouraging additional economic development in the area; and to increase the Fulton Mall study area's consistency with the requirements and goals of proposed land use plans by making the area more accessible to the public, thereby encouraging greater public use of the area an bolstering future economic development opportunities.

Proposed Project

The City of Fresno (City) proposes to reconstruct Fulton Mall as a complete street by reintroducing vehicle traffic lanes to the existing pedestrian mall. The Mall consists of six (6) linear blocks that were open to traffic prior to 1964 but now do not allow public vehicle access. The Mall is bound by Tuolumne Street to the north and Inyo Street to the south, and includes portions of three cross streets. The total length of the new roadways would be 0.67 mile; a total of 0.74 mile of existing Fulton Mall right-of-way would be affected.

The "Mall" refers specifically to the pedestrian areas between adjoining buildings located on the former City streets of Fulton, Mariposa, Merced, and Kern, which function as an integrated pedestrian Mall.

Fresno Street and Tulare Street, which do allow vehicle traffic, run through the Mall and divide it into three roughly equal sections. Mall landscaping elements include fountains, planters, benches, sculptures, electrical systems, irrigation systems, and two "tot lots." The Mall does not include the adjoining buildings or their façades. The City of Fresno is proposing two build options for the Fulton Mall Reconstruction Project. These two build options propose to reconstruct the Mall using "complete streets" design concepts. Complete streets are those designed to function as shared public space, or as "living streets" - for pedestrians, cyclists, outdoor businesses, and slow-moving, cautiously driven vehicles. Complete streets may include narrow roadways, corner bulb-outs, winding streets, and other traffic calming measures to lower driving speeds; street trees and other landscape elements; wide pedestrian sidewalks and crosswalks; and bicycle accommodations such as dedicated bicycle lanes or wide shoulders. The purpose of incorporating these design concepts into the proposed project is to retain portions of the historic fabric and character of the Mall, maintaining the key elements, feeling and unique experience of a pedestrian mall in downtown Fresno.

This Draft EIR addresses two build options, which are described below.

Project Option 1

Option 1 consists of reopening the Fulton Mall with two-way streets, with one lane of vehicular traffic in each direction alongside bicycle, pedestrian, and potentially other travel modes, along the length of the Fulton Mall and three cross streets: Merced between Congo Alley and Federal Alley, Mariposa between Broadway Plaza and Federal Alley, and Kern between Fulton and Federal Alley. On-street vehicle parking spaces would be reintroduced along the length of the Fulton Mall (including cross streets), mid-block pedestrian crossings would be provided, and construction of streetscape improvements would optimize the streets for the new blend of travel modes. One 11-foot-wide vehicle travel lane would run in each direction, with a parallel parking lane of 8 feet included on both sides of the streets. Sidewalks would include a typical 14-foot sidewalk on one side of the street and a 28-foot-wide promenade on the other. This promenade is intended to approximate the mall-like pedestrian experience of the original Eckbo Fulton Mall. Like the existing mall, the Option 1 promenade would feature artworks, water features, seating, and trees and would allow for walking and pedestrian-only seating, landscaping, and lighting. Pedestrians would be separated from vehicles. There are existing street rights-of-way adjacent to the new streets within the Mall that would include minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane striping. These improvements would provide transitional streetscape to accommodate the project. Under Option 1, the two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be consolidated into one larger tot lot at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley.

Project Option 2

Option 2 consists of reconnecting the street grid similar to Option 1, but would include rebuilding distinctive elements of the Fulton Mall in five to six specific locations, known as "vignettes," in their exact current size and configuration. The vignettes are intended to preserve existing shade trees and features of the historic Eckbo design, and would include many of the existing elements (sculptures, fountains, pavement pattern, trees, and so on). To accomplish this, the street would have gentle curves that would allow for greater preservation of historic features including fountains, art and existing shade trees. One 11-foot-wide vehicle travel lane would run in each direction and would curve through the vignettes. Outside the vignette areas, the street would straighten, and the landscape would include, where possible, an 8-foot-wide parallel parking lane, as well as a pedestrian-only walking, seating, vegetation, and public art area that varies between 14 and 44 feet wide on each side of the street. Within the vignettes, there would be no parking lane, and the existing Fulton Mall landscape elements would be kept intact as much as possible. The remaining space on each side of the street would be dedicated to pedestrian travel, seating,

vegetation, and artwork. There are existing street rights-of-way adjacent to the new streets within the Mall that would include minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane striping. These improvements would provide transitional streetscape to accommodate the project. Under Option 2, the two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be consolidated into one larger tot lot at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley.

Environmental Setting

Topography

The Fulton Mall project study area consists predominantly of developed land consistent with the characteristics of an urban center. Single- and multi-story buildings are located throughout the project study area. Fulton Mall and the Cross Malls consist of paved pedestrian pathways. The project study area has generally flat topography at an elevation of approximately 290 feet above mean sea level.

Climate

The City of Fresno has an “inland Mediterranean” climate including long, hot, dry summers and short, foggy winters with low rainfall. The average winter temperatures are in the high 50s degrees Fahrenheit (°F); temperatures below freezing are unusual. Average summer temperatures are in the 90s°F; however, over the greater Fresno area the average is 95°F. Many summer days have highs exceeding 100°F. The City of Fresno experiences, on average, a little more than 10 inches annual precipitation.

Soils

The general soil profile within Fulton Mall study area consists of four separate soil series: Delhi loamy sand, Hanford sandy loam, Madera loam, and San Joaquin sandy loam. The soils within the majority of the study area have been altered from their natural state because of grading and compaction for the construction of the existing Fulton Mall and adjacent buildings and infrastructure.

Underground Facilities

No underground storage tanks or monitoring wells are currently located within Fulton Mall. The nearest underground storage tank is located approximately 150 feet west of Fulton Mall and north of Fresno Street. The nearest groundwater monitoring well is located approximately 135 feet east of Fulton Mall and south of Tuolumne Street. There are also groundwater monitoring wells 225 feet west of Fulton Mall and adjacent to Tuolumne Street and 350 feet west of Fulton Mall along Broadway Place.

Surface Water

The primary surface water feature within the City of Fresno is the San Joaquin River, which generally serves as the City’s northern boundary. At 366 miles long, the San Joaquin River is the largest river in Central California, spanning from the Sierra Nevada Mountains to the San Francisco Bay via the San Joaquin Valley. Much of the water that flows through the San Joaquin River is used for irrigation purposes, as much of the agricultural production in the San Joaquin Valley depends on water that at least originated in the River.

The San Joaquin River has been identified by the Central Valley Region Water Quality Control Board (RWQCB) as having numerous beneficial uses, including municipal and domestic water supply, agricultural, industrial, recreational, freshwater and wildlife habitat, and migration and spawning grounds. Water quality in the San Joaquin River is affected by both natural and anthropogenic sources, including soil

erosion; stormwater runoff; wastewater discharges, industrial, residential, and agricultural runoff; recreational activity; and flora and fauna. While the segment of the San Joaquin River in the City is not considered substantially impaired, significant downstream portions of the River throughout the Valley and near the Sacramento-San Joaquin Delta are affected by various constituents and pollutants, usually because of agricultural runoff. The portion of the San Joaquin River in the City does, however, appear on the State Water Resources Control Board's 2010 Impaired Water Bodies/303(d) List for invasive species (non-native fish species).

In addition to the San Joaquin River, a network of agricultural canals and flood control channels traverse the City. Numerous agricultural ponds, recharge basins, and other similar features also dot the City's landscape.

Ground Water

The City of Fresno is underlain by the Kings River Subbasin, which, along with 6 other subbasins, comprises the San Joaquin Basin. In turn, the San Joaquin Basin is located within the Tulare Lake Hydrologic Region. The Tulare Lake Hydrologic Region spans approximately 10.9 million acres (17,000 square miles) and includes most of Fresno County. The Region encompasses the southern one-third of the Central Valley Regional Water Quality Control Board (RWQCB).

Groundwater quality throughout the Tulare Lake Hydrologic Region is generally suitable for most urban and agricultural uses, and meets primary and secondary drinking water standards for municipal use. Local impairments are found in the Tulare Lake Hydrologic Region's groundwater supply, however, with high total dissolved solids (TDS), nitrate, arsenic, and organic compounds acting as the primary constituents of concern within the Region. With the exception of western portion of the Tulare Lake Hydrologic Region, the Region lacks any substantial low permeability units that would isolate deep from shallow aquifers. As such, most of the aquifer underlying the project area is unconfined. As a single, unconfined aquifer, the groundwater basin within the project area has been designated as a Sole Source Aquifer as authorized by Section 1424(e) of the Federal Safe Drinking Water Act. This designation means that project area is dependent on a single source of groundwater and that this sole source must be protected from contamination.

While the groundwater supply within the Kings River Subbasin generally meets drinking water standards, with the exception of the northwest portion of the City, extensive contamination occurs throughout the City. Of the City's 272 groundwater wells, 96 wells are impacted by one contaminant plume, 33 wells are impacted by two contaminant plumes, and 5 wells are impacted by three contaminant plumes. Thirty-four of the City's active wells currently have wellhead treatment systems.

Several different types of pollutants have contaminated portions of the City. Major contaminant plumes include dibromochloropropane (DBCP), ethylene dibromide (EDB), trichloropropane (TCP), other volatile organic compounds (VOCs) like trichlorethylene (TCE), tetrachloroethylene (PCE), nitrate, manganese, radon, chloride, and iron. Nitrate, pesticides, and nutrients in agricultural drainage are currently found within much of the project area's groundwater supply, and their levels exceed some drinking water standards established by the State. While nitrates may occur naturally, their presence is often attributed to anthropogenic reasons. Leaking septic tanks, which are prevalent in the less dense southeast portion of the City, are a substantial source of nitrate contamination. Another major problem facing the City's groundwater supply is the presence of DBCP in the City's groundwater wells. This fumigant was widely used in the 1960s to control nematodes in vineyards and is now present in down gradient groundwater wells.

Storm Drainage System

Storm drain facilities are located within the Fulton Mall study area. A storm drain is located under Fulton Mall between Inyo Street and Tuolumne Street. Addition storm drains are located within Merced Mall between Van Ness Boulevard and H Street, Fresno Street between Van Ness Boulevard and H Street, Mariposa Mall between the alley east of Fulton Mall and H Street, Tulare Street between the alley west of Fulton Mall and H Street, Kern Mall between the alley west of Fulton Mall and the alley east of Fulton Mall, and along Home Run Alley between Kern Mall and Tulare Street. Each of the existing subsurface drainage distribution facilities identified above is currently adequate to serve the existing uses.

The existing Fulton Mall and the Cross Malls currently have storm drain inlets that convey water to the existing subsurface drainage distribution facilities. There are currently 63 storm drain inlets within Fulton Mall and 32 storm drain inlets within the Cross Malls. The existing storm drain inlets within the malls are adequate to convey storm water to the subsurface drainage distribution facilities.

The existing subsurface storm drain facilities are connected to one of several larger east-west and northeast-southwest trending trunk lines. These trunk lines connect with a series of existing drainage basins located along S. West Street in the southwestern portion of the City of Fresno and extend to existing retention basins. Storm water from Fulton Mall is not currently treated on site. The storm water is conveyed to the storm drain system and eventually is conveyed to existing retention basins. The retention basins provide a natural filtration of storm water that is collected from the downtown area prior to infiltrating into the groundwater aquifer. No additional storm water treatment is provided.

Potential Project Impacts

Short-Term Construction Impacts

Construction of the proposed Fulton Mall project would require reconstruction activities that would disturb more than one acre. During these activities, there would be a potential for stormwater flows to carry onsite sediments, debris, and constituents into the existing storm drainage facilities that serve the project area. Once within the storm drainage system, these materials could be conveyed downstream and into local waterways. Since these materials have the potential to enter the storm drainage system during the construction phase, there is a potential for the proposed project to degrade water quality. As addressed in the Environmental Setting discussion above, the project area is underlain by a single, unconfined aquifer. In light of this, any degradation of water quality within this aquifer would be especially problematic, as the groundwater basin within the project area has been designated as a Sole Source Aquifer as authorized by Section 1424(e) of the Federal Safe Drinking Water Act.

Project construction would also require the use of gasoline- and diesel-powered equipment and vehicles, including bulldozers, backhoes, flatbed trucks, water pumps, and air compressors. Chemicals such as gasoline, diesel fuel, oils, paints, and solvents would likely be used during project construction. An accidental release of any of these substances could degrade the quality of stormwater runoff and contribute additional sources of pollution into the storm drainage system.

There are, however, regulatory mechanisms in place that would reduce the effects of project construction on water quality, including the National Pollutant Discharge Elimination System (NPDES) General Permit. Construction of the proposed project would be required to comply with the requirements of the NPDES General Permit. The NPDES Permit Program, which is administered by the Central Valley RWQCB, helps control water pollution by regulating point sources that discharge pollutants into receiving waters during both construction and operational activities.

Any development project disturbing more than one acre of soil must obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit

Order 2009-0009-DWQ). Construction activities subject to the Construction General Permit includes clearing, grading, and other ground- disturbing activities such as stockpiling or excavation. The Construction General Permit requires development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Among other mandated items that are included in a SWPPP, the SWPPP would contain features designed to protect against substantial soil erosion as a result of water and wind erosion, known as Best Management Practices (BMPs). Common BMPs include maintaining or creating drainages to convey and direct surface runoff from bare areas and installing physical barriers such as berms, silt fencing, waddles, straw bales, and gabions.

Surface water drainage from the Fulton Mall study area is conveyed to existing retention basins that are used to recharge groundwater. The implementation of BMPs as part of the SWPPP would minimize effects on the sole-source aquifer. Furthermore, the implementation of the BMPs would minimize construction sediment and contamination constituents from entering the groundwater by way of nearby monitoring wells.

Construction activities associated with the project do not include the installation of underground storage tanks or monitoring wells. The existing Fulton Mall features that will be removed as part of the construction activities do not contain deep pilings that would provide access to the existing aquifer. In addition, construction activities will not generate liquid waste. Demolition activities will generate solid waste and each type of material such as pavement concrete and green waste from trees and shrubs will be removed from the site with the use of dump trucks. The nearest existing wells to the proposed construction site are located adjacent to Tuolumne Street and are 140 feet and 150 feet from the site. These monitoring wells are located

The depth of excavation during construction is estimated to be approximately 15 feet below ground surface. The nearest risk of groundwater contamination is from the Van Waters Roger site located at 1152 G Street. This site is currently an open cleanup site with tetrachloroethene that has been released to soils and groundwater. A remediation action plan has been prepared for the site and monitoring wells that include one well located approximately 135 feet east of Fulton Mall and south of Tuolumne Street, a second well 225 feet west of Fulton Mall and adjacent to Tuolumne Street, and a third well 350 feet west of Fulton Mall along Broadway Place have been installed. Two of the three monitoring wells are located on sidewalks and a third is located on a concrete pad. The top of all three monitoring wells are raised above street level, flush with the concrete sidewalk or concrete pad, covered, and include waterproof locking well caps. Based on the distance of the monitoring well to the proposed construction activities, the location of the wells above street level, and the presence of water proof locking well caps, the wells would not provide a direct route for any potential construction contaminants to access the aquifer. Furthermore, construction activities which include excavation activities up to 15 feet below ground surface would not impact groundwater because the depth of groundwater in this area is between 73 feet and 121 feet below ground surface. Therefore, the proposed project would not result in a substantial impact on groundwater quality.

Long-Term Operational Impacts

Based on highway storm water runoff data collected by the Caltrans Storm Water Research and Monitoring Program, typical pollutants from California highways include heavy metals, sediment, and litter. All constituents and parameters in nearby surface water bodies found to be elevated or exceeding published water quality standards could be potential concerns for the proposed project.

The pedestrian mall is currently served by 95 storm drain inlets that collected surface flows from the project area. Adjacent streets such as Fresno and Tulare Streets also have their own storm drain facilities that convey flows from the roadway. Both the onsite and adjacent storm drain facilities presently connect

with the existing storm drain facilities located throughout Fulton Mall vicinity, as addressed in the Environmental Setting discussion above. These existing storm drain facilities are connected to one of several larger east-west and northeast-southwest trending trunk lines, which eventually connect with a series of existing drainage basins located along S. West Street in the southwestern portion of the City of Fresno. As previously stated, the existing subsurface drainage distribution facilities identified above are currently adequate to serve the existing uses found in the project area. The proposed project includes removal of the impervious pavement throughout Fulton Mall and replacing the pavement with an asphalt street and concrete sidewalk that are also impervious. No increase in impervious surfaces would occur with the proposed project.

Due to the reconstruction of Fulton Mall and the Cross Malls with the implementation of complete streets for Fulton, Kern, Mariposa, and Merced streets, the location of the existing storm drain inlets will be modified. The existing storm drain inlets that are located within the future street (i.e., between the proposed curbs and gutters of each street) will be relocated to the curb face because the future streets will be designed to include a crown in the middle of the street so that surface water will flow to the curb face.

The project will also include the reconstruction of the sidewalks adjacent to the future streets. Therefore, there may be relocation of additional existing storm drain inlets. The inlets may remain in the sidewalks or the sidewalk may be graded so that surface water flows to the street and eventually to the storm drain inlets at the curb face.

Although the proposed project would potentially reintroduce vehicles onto Fulton, Mariposa, Merced, and Kern Streets, the project would not contribute additional pollutants to the existing storm drain system because the project will result in a redistribution of existing vehicles. No increase in vehicles would occur with the implementation of the project. No changes in the treatment of storm water after the project is complete would occur. Storm water would continue to be conveyed to down gradient retention basins that would provide natural filtration prior to storm water infiltrating into the groundwater aquifer. The project will not include the generation of liquid or solid waste. Therefore, the project would result in no long-term impact on water quality and will not have a long-term impact on the existing sole-source aquifer.

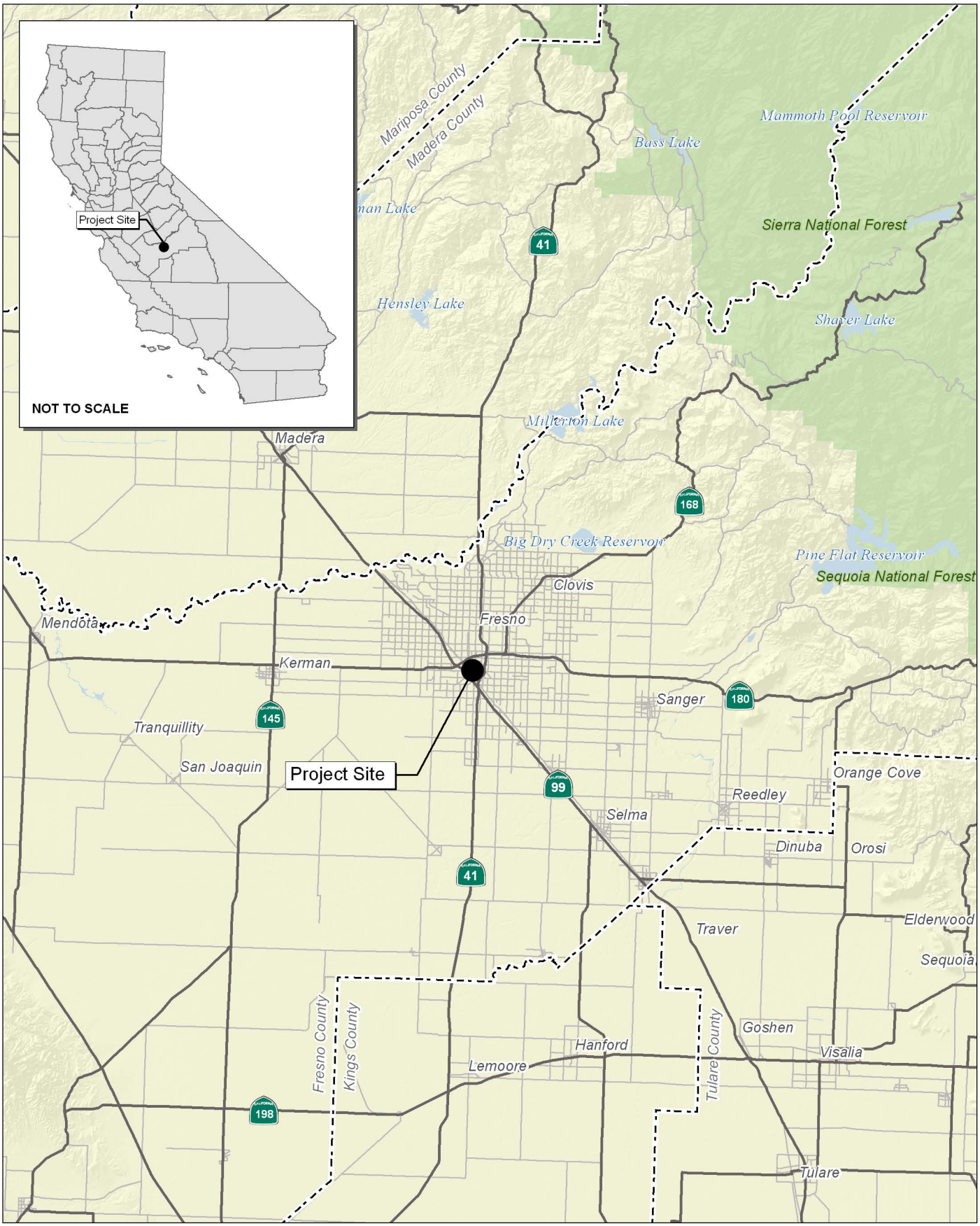
The project does not include any improvements that would be beneficial to the existing sole source aquifer.

Mitigation Measures

Prior to the issuance of grading permits, construction of the Fulton Mall project would be required to comply with all applicable requirements of the NPDES Permit Program, which includes the preparation and participation with the Construction General Permit and implementation of a SWPPP and BMPs. Notice of Construction (NOC) shall be submitted to the Central Valley Regional Water Quality Control Board (RWQCB) at least 30 days before the start of construction and submission of a Notice of Construction Completion (NCC) shall be submitted to the RWQCB upon completion of construction and stabilization of the project site.

> Prior to the issuance of a grading permit, specific locations of relocated storm drain inlets within the existing malls shall be approved by the City of Fresno Public Works Department.
>
> Prior to issuance of a grading permit, a response plan for accidental spills during construction activities shall be prepared.

Implementation of the above measures would minimize the short-term construction impacts on water quality.



Source: Census 2000 Data, The CaSIL, MBA GIS 2013.

NORTH

10 5 0 10 Miles

Michael Brandman Associates

Figure 1
Regional Location Map

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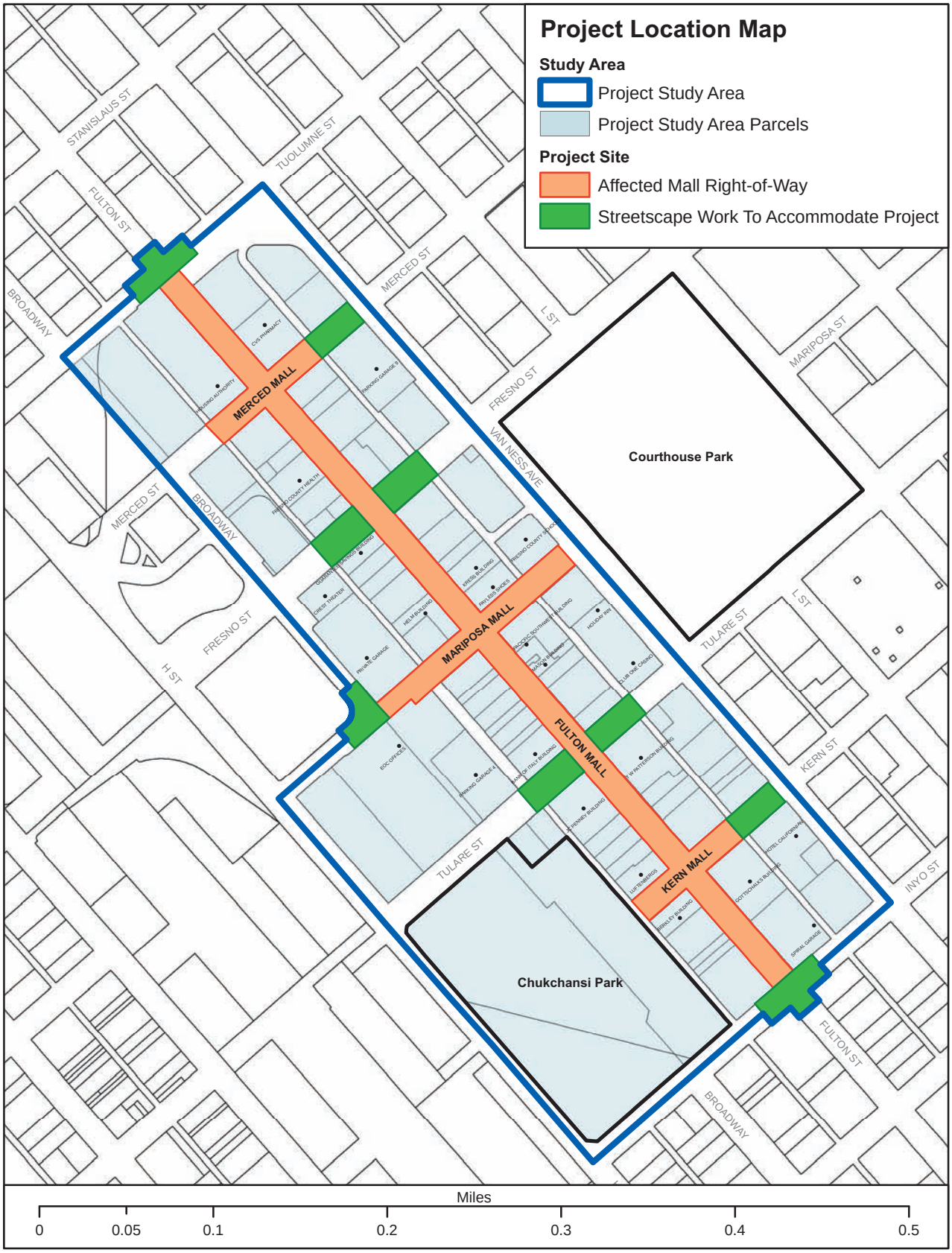
CITY OF FRESNO • FULTON MALL RECONSTRUCTION PROJECT
SOLE-SOURCE AQUIFER - WATER QUALITY ASSESSMENT



Michael Brandman Associates

Figure 2
Project Location Map

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CITY OF FRESNO • FULTON MALL RECONSTRUCTION PROJECT
SOLE-SOURCE AQUIFER - WATER QUALITY ASSESSMENT

Appendix 9:
Community Impact Assessment

Community Impact Assessment

Fulton Mall Reconstruction Project

City of Fresno, California

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Chapter 1 Introduction

This Community Impact Assessment is prepared for the Fulton Mall Reconstruction by Caltrans, or an authorized agent, in accordance with Caltrans standards as defined in the Standard Environmental Reference. The information in this document has been prepared to comply with the National Environmental Policy Act (NEPA), and other substantive environmental laws applicable to the subjects addressed in this document.

Per authority under "NEPA Assignment Memorandum of Understanding", the environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S. Code 327.

This Community Impact Assessment addresses land use, growth, community character, and traffic/transportation/pedestrian and bike facilities. This assessment does not include the following topics because they will be addressed as part of focused technical studies.

Air Quality	Noise
Biology	Traffic
Cultural Resources	Visual
Hazardous Materials	Water Quality/Sole-Source Aquifer

1.1 What is a Community Impact Assessment

The purpose of this report is to provide information regarding social, economic, and land use effects of the project so that final transportation decisions will be made in the public interest. The report is intended to clearly describe the relevant existing conditions and the potential socioeconomic impacts of the project.

The National Environmental Policy Act requires consideration of social and economic impacts of projects in the preparation of the environmental document.

1.2 Laws and Regulation

Consideration of federal, state, and local environmental laws, executive orders, and other policies in the planning process is noted below.

National Environmental Policy Act (NEPA). The project has been evaluated in accordance with the requirements as set forth in Section 102 of NEPA, CEQA Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500 et seq.). Reasonable alternatives have been considered during the planning process. Potential environmental effects have been included in the evaluation for the project alternatives, and all procedural review requirements of the aforementioned rules and regulations will be met as part of the environmental process.

Section 106 of the National Historic Preservation Act of 1966, as Amended. Section 106 of the National Historic Preservation Act provides for the preservation of significant historical and archaeological data from loss and destruction. A Historic Resources Evaluation Report and a Historic Property Survey Report have been prepared for the project.

Section 4(f) of The Department of Transportation Act. This section preserves publicly owned public parklands, waterfowl and wildlife refuges, and significant historic sites. A Section 4(f) evaluation has been prepared for the proposed project.

Section 6(f) of the Land and Water Conservation Act. Act requires that the conversion of lands or facilities acquired with Land and Water Conservation Act funds be coordinated with the Department of Interior. The project site includes two tot lots within Fulton Mall that were improved in 2008 with Land and Water Conservation Act funds. The proposed project includes the relocation of both of these resources into two separate or one combined tot lot within the project area. A Section 6(f) evaluation has been prepared in conjunction with the Section 4(f) evaluation.

Title VI of the Civil Rights Act of 1964. Title VI of the Civil Rights Act of 1964 prohibits discrimination based on race, color, and national origin in programs and activities receiving federal financial assistance. The City of Fresno is receiving federal financial assistance for the proposed project. The implementation of the project will increase the economic productivity, access and visibility, quality of life benefits, and improved use of cultural resources that will be provided to all people and will not result in discrimination based on race, color, or national origin. Therefore, the proposed project would comply with Title VI of the Civil Rights Act of 1964.

Executive Order (EO) 12898 - Environmental Justice. This Executive Order requires the identification and evaluation, as appropriate, of disproportionately high and adverse human health or environmental effects of Federal programs, policies, and activities on minority populations and low-income populations. The evaluation found that the

proposed project would not cause disproportionately high and adverse effects on any minority or low-income populations.

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, and as amended in 1987. Compliance with this act ensures that owners of real property to be acquired for Federal or federally-assisted projects are treated fairly and consistently, and to encourage and expedite acquisition. The proposed project will not result in the acquisition of real property because the project is located within existing rights-of-way of Fulton Mall, Kern Mall, Mariposa Mall, and Merced Mall. The project will result in the temporary relocation of five vendors who currently have a business license to use mobile retail carts within the mall area. During construction, these vendors will be required to relocate to portions of the malls that are not under construction.

The Americans with Disabilities Act (ADA) of 1990. This Act prohibits discrimination based on disability that is defined as a physical or mental impairment that substantially limits a major life activity. The proposed project includes ADA access at intersections throughout the project. In addition, ADA access will be provided during construction activities. Therefore, the proposed project would comply with this Act.

CFR 652 Accommodation for Pedestrians and Bicyclists. This regulation requires that the safe accommodation of pedestrians and bicyclists be given full consideration during the development of Federal-aid highway projects, and during the construction of such projects. The special needs for the elderly and the handicapped shall be considered in all Federal-aid projects that include pedestrian facilities. Where current or anticipated pedestrian and/or bicycle traffic present a potential conflict with motor vehicle traffic, every effort shall be made to minimize the detrimental effects on all highway users who share the facility.

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) incorporates Sections 109(h). This Act provides funds for transportation enhancement activities such as landscaping and beautification, rehabilitation and operation of historic transportation facilities. The proposed project does not anticipate receiving ISTEA funds therefore, this Act does not apply to the proposed project.

Section 128 of Title 23 (Highways) of the United States Code of Federal Regulations (CFR). Section 128 states that any state transportation department which submits plans for a Federal-aid highway project involving the by passing of or, going through any city, town, or village, either incorporated or unincorporated, shall certify to the Secretary that it has had public hearings, or has afforded the opportunity for such hearings. The

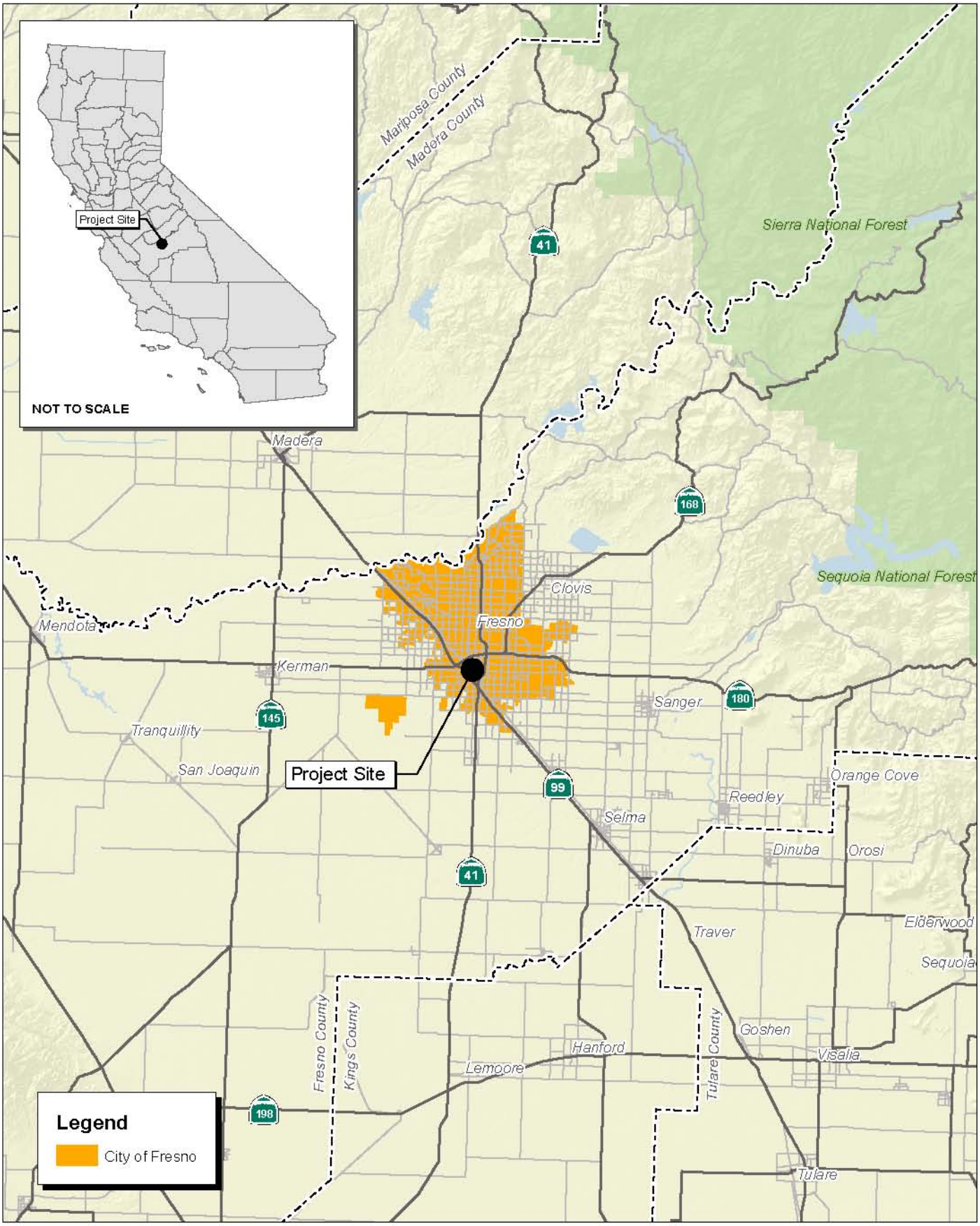
proposed project is not extending through a city, town, or village; and therefore, Section 128 does not apply to the proposed project.

1.3 Assessment Process and Methodology Used

This community impact assessment used various methods to characterize the project area. The identification of land use was described using the existing land use plans, aerial photography, as well as a site visit. Growth information as well as economic information was based on an Urban Decay Study that was prepared for the Fulton Corridor Specific Plan. Community characteristics were based on Census information at the tract level for population and race as well as poverty status. Information regarding the character of the community of the Project Study Area was also based on discussions with City staff and a site visit. Traffic and transportation information was based on a traffic report prepared for Fulton Mall as well as a review of aerial photographs and the Fresno Area Express website information for bus routes.

1.4 Proposed Project

The purpose of the proposed project is to increase mobility and access in the Fulton Mall study area by providing more convenient multi-modal access options on the Mall and its cross streets; to improve visibility of businesses, offices and other amenities in the Fulton Mall study area by improving traffic circulation, thereby encouraging additional economic development in the area; and to increase the Fulton Mall study area's consistency with the requirements and goals of proposed land use plans by making the area more accessible to the public, thereby encouraging greater public use of the area an bolstering future economic development opportunities.



Source: Census 2000 Data, The CaSIL, MBA GIS 2013.

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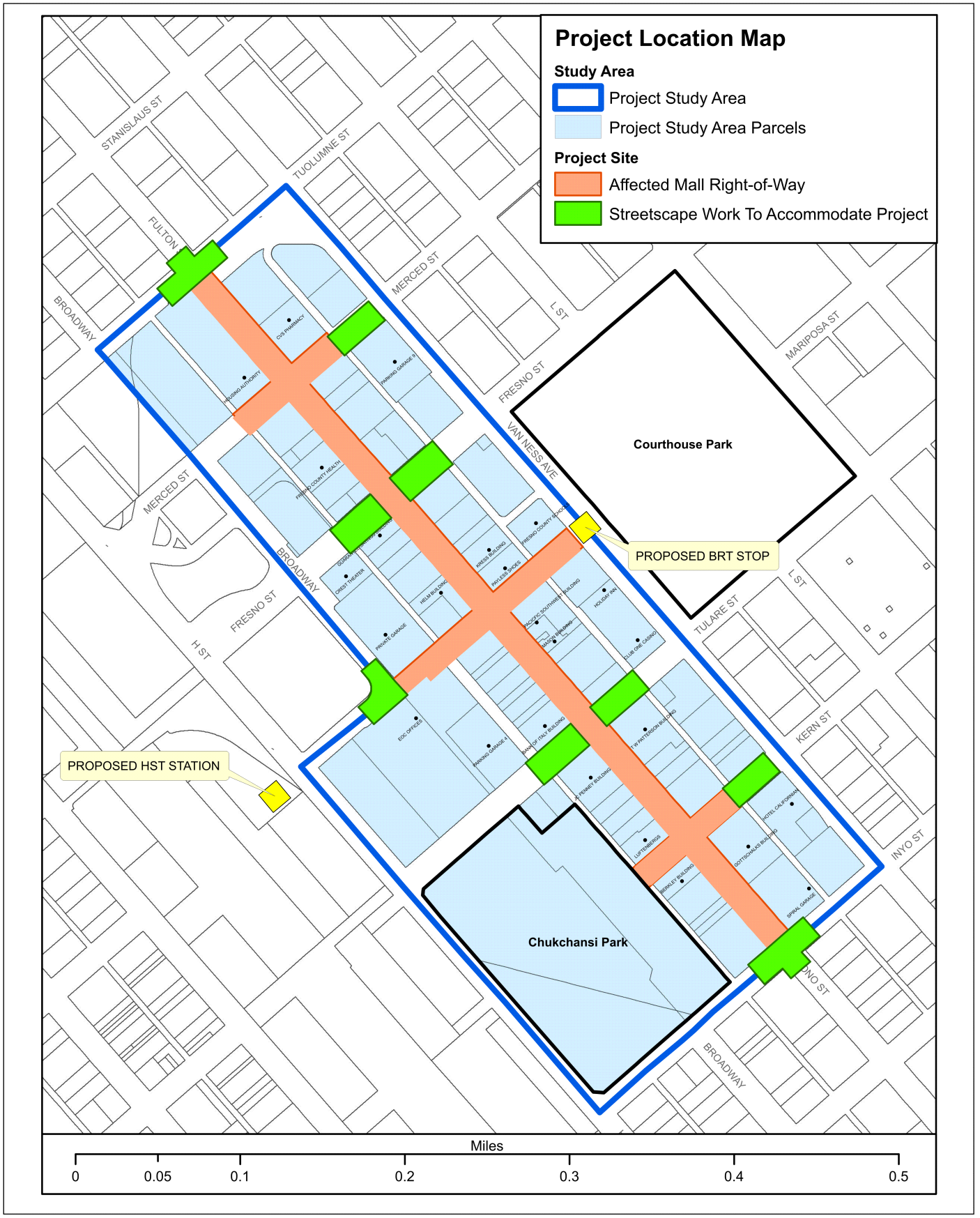
NORTH

10 5 0 10 Miles

Figure 1-1
Regional Vicinity Map



Michael Brandman Associates

Figure 1-2
Project Study Area

The City of Fresno (City) proposed to reconstruct Fulton Mall as a complete street by reintroducing vehicle traffic lanes to the existing pedestrian mall. The Mall consists of six linear blocks that were open to traffic prior to 1964 but now do not allow public vehicle access. The Mall is bounded by Tuolumne Street to the north and Into Street to the south, and includes portions of three cross streets. The total length of the new roadways would be approximately 0.67 mile; a total of 0.74 mile of existing Fulton Mall right-of-way would be affected.

The "Mall" refers specifically to the pedestrian areas between adjoining buildings located on the former City streets of Fulton, Mariposa, Merced, and Kern, which function as an integrated pedestrian mall. Fresno Street and Tulare Street, which do allow vehicle traffic, run through the Mall and divide it into three roughly equal sections. Mall landscaping elements include fountains, planters, benches, sculptures, electrical systems, irrigation systems, and two "tot lots." The Mall does not include the adjoining buildings or their facades.

The City of Fresno is proposing two build options for the Fulton Mall Reconstruction Project. These two build options propose to reconstruct the Mall using "complete streets" design concepts. Complete streets are those designed to function as shared public space, or as "living streets" - for pedestrians, cyclists, outdoor businesses, and slow-moving, cautiously driven vehicles. Complete streets may include narrow roadways, corner bulb-outs, winding streets, and other traffic calming measures to lower driving speeds; street trees and other landscape elements; wide pedestrian sidewalks and crosswalks; and bicycle accommodations such as dedicated bicycle lanes or wide shoulders. The purpose of incorporating these design concepts into the proposed project is to retain portions of the historic fabric and character of the Mall, maintaining the key elements, feeling and unique experience of a pedestrian mall in downtown Fresno.

The Draft EIR addresses two build options, which are described below.

1.4.1 Project Option 1

Alternative 1 consists of reopening the Fulton Mall with two-way streets, with one lane of vehicular traffic in each direction alongside bicycle, pedestrian, and potentially other travel modes, along the length of the Fulton Mall and three cross streets: Merced between Congo Alley and Federal Alley, Mariposa between Broadway Plaza and Federal Alley, and Kern between Fulton and Federal Alley.. On-street vehicle parking spaces would be reintroduced along the length of the Fulton Mall (including cross streets), mid-block pedestrian crossings would be provided, and construction of streetscape improvements

would optimize the streets for the new blend of travel modes. One 11-foot-wide vehicle travel lane would run in each direction, with a parallel parking lane of 8 feet included on both sides of the streets. Sidewalks would include a typical 14-foot sidewalk on one side of the street and a 28-foot-wide promenade on the other. This promenade is intended to approximate the mall-like pedestrian experience of the original Eckbo Fulton Mall. Like the existing mall, the Option 1 promenade would feature artworks, water features, seating, and trees and would allow for walking and pedestrian-only seating, landscaping, and lighting. Pedestrians would be separated from vehicles. There are existing street rights-of-way adjacent to the new streets within the Mall that would include minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane striping. These improvements would provide transitional streetscape to accommodate the project. Under Option 1, the two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be consolidated into one larger tot lot at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley.

1.4.2 Project Option 2

Option 2 consists of reconnecting the street grid similar to Option 1, but would include rebuilding distinctive elements of the Fulton Mall in five to six specific locations, known as “vignettes,” in their exact current size and configuration. The vignettes are intended to preserve existing shade trees and features of the historic Eckbo design, and would include many of the existing elements (sculptures, fountains, pavement pattern, trees, and so on). To accomplish this, the street would have gentle curves that would allow for greater preservation of historic features including fountains, art and existing shade trees. One 11-foot-wide vehicle travel lane would run in each direction and would curve through the vignettes. Outside the vignette areas, the street would straighten, and the landscape would include, where possible, an 8-foot-wide parallel parking lane, as well as a pedestrian-only walking, seating, vegetation, and public art area that varies between 14 and 44 feet wide on each side of the street. Within the vignettes, there would be no parking lane, and the existing Fulton Mall landscape elements would be kept intact as much as possible. The remaining space on each side of the street would be dedicated to pedestrian travel, seating, vegetation, and artwork. There are existing street rights-of-way adjacent to the new streets within the Mall that would include minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane striping. These improvements would provide transitional streetscape to accommodate the project. Under Option 2, the two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton,

would be consolidated into one larger tot lot at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley.

1.4.3 Alternative 3

The third Alternative is the no-build Alternative. New streets would not be constructed and the Mall would remain as it now exists. Currently, there are seven of the original 20 fountains within the Mall landscape that are in working order. Three sculptures have been placed in storage due to vandalism and the threat of theft.

1.5 Project Area

The proposed Fulton Mall Reconstruction project is located in Downtown Fresno (Exhibit 1). Fulton Mall consists of six blocks bounded by Van Ness Avenue to the east, Inyo Street to the south, Broadway/H Street to the west, and Tuolumne Street to the north (Exhibit 2). Tulare Street and Fresno Street divide the Mall into three equal portions. The project site includes the existing 80-foot rights-of-way within Fulton Mall including Fulton between Inyo Street to Tulare Street, Tulare Street and Fresno Street, and Fresno Street and Tuolumne Street. The project also includes the existing 80-foot rights-of-way along (1) Kern between Van Ness Avenue and Home Run Alley, (2) Mariposa between Van Ness Avenue and Broadway, and (3) Merced between Van Ness Avenue and Congo Alley. In addition to the Mall, there are areas adjacent to the new streets within the Mall that would allow transitional streetscape to accommodate the project. Furthermore, the project includes a parcel at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley for the proposed tot lot.

1.6 Project Study Area

The study area for the Fulton Mall Reconstruction includes Fulton Mall, Kern Mall, Mariposa Mall, and Merced Mall and the building and structures adjacent to these malls (Figure 1-2). In addition to land uses within structures adjacent to the malls, the study area was established based on existing circulation. The original vision for the malls was the establishment of a core superblock that encompassed 12 city blocks with a ring road adjacent to the superblock. The creation of a car-free core superblock was not fully implemented because Tulare Street and Fresno Street continued to provide access through the Fresno Mall area. The boundaries of the original superblock form the boundaries of the study area. The study area extends from Inyo Street on the south to Tuolumne Street to the north and from Van Ness Avenue on the east to Broadway Street and H Street on the west.

The Project Study Area, which encompasses approximately 65 acres, is located within the 655-acre Fulton Corridor Specific Plan (FCSP) that provides long-term goals and detailed policies for the future development within the FCSP. The FCSP is located within the 7,290-acre Downtown Neighborhoods Community Plan (DNCP), which also provides goals and policies for the future development within the DNCP area. Both the FCSP and DNCP includes implementation plans to foster growth, improve access and parking, and increase sustainable development and economic productivity in downtown Fresno.

1.7 Regional Area

The regional area for this community impact assessment is defined as the City of Fresno city limits that encompass approximately 113 square miles (72,224 acres) and extends from the San Joaquin River on the north to just south of Central Avenue on the south and from Grantland Avenue on the west to approximately Temperance Avenue on the east.

Chapter 2 Land Use

2.1 Existing and Future Land Use

This section describes the existing and future land uses within the Fulton Mall study area. The study area currently has a mix of land uses and approximately 29 percent of the structures are vacant. The majority of the vacancy within the study area includes office uses, which represent approximately 12 percent of all structures, and retail/restaurant uses, which represent approximately 17 percent of all structures within the study area.

2.1.1 Affected Environment

Existing Land Uses

The Fulton Mall study area includes office, retail/restaurant, recreation-clubhouse, other commercial such as a hotel and theater, and residential (Figure 2-1). The structures located along Fulton Mall include multiple stories with storefronts on the ground floor and additional uses within the upper stories. The study area includes structures that range from one story to 16 stories. Based on a review of the Urban Decay Study prepared for the Fulton Mall in 2012, approximately 26 percent of the ground floor storefronts within the Project Study Area are vacant. Table 1 depicts the amount of building square footage for each land use within the study area.

Table 1: Land Use and Building Square Footage within Fulton Mall Study Area

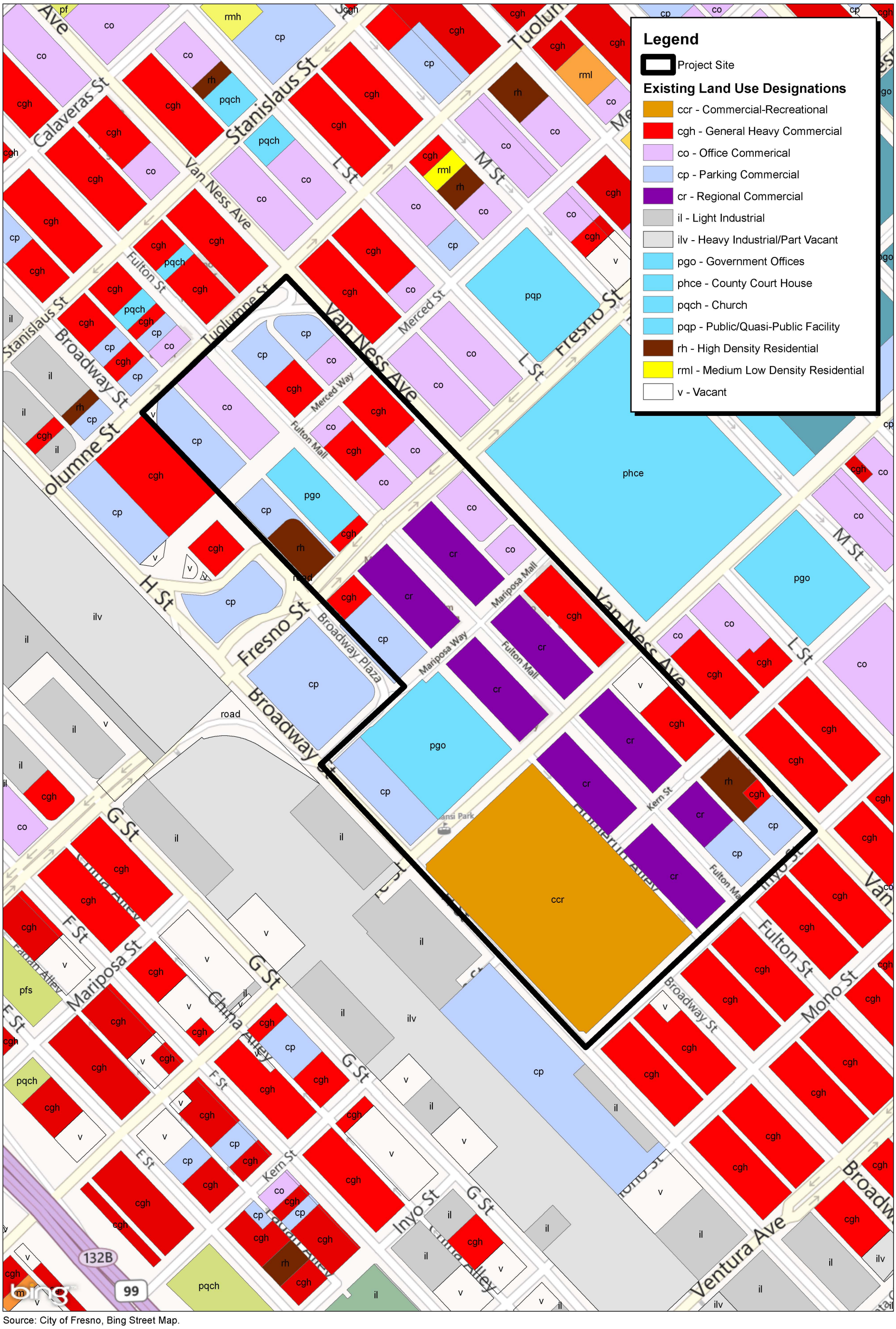
Land Use	Total Building Square Footage
Office[1]	648,964
Retail / Restaurant[2]	1,232,504
Rec - Clubhouse[3]	46,007
Other Commercial[4]	164,075
Residential[5]	149,003
Parking	239,184
Total	2,479,737

Table 1 (cont.): Land Use and Building Square Footage within Fulton Mall Study Area

Land Use	Total Building Square Footage
[1] Office is identified on Figure 2-1 as co and pgo. [2] Retail/Restaurant is identified on Figure 2-1 as cgh and cr. [3] Recreation Clubhouse is identified on Figure 2-1 as ccr. This includes the clubhouse facilities associated with Chukchansi Park. [4] Other Commercial is identified on Figure 2-1 as cgh. [5] Residential is identified on Figure 2-1 as rh. There is a co designation that currently includes residential. Source: Rosenow Spavacek Group, Inc., 2012.	

The study area also includes surface parking, structured parking, and a vacant lot. The study area includes approximately 2,800 parking spaces. Approximately 75 percent of those spaces are located within structures while 25 percent of the parking spaces are within surface parking lots. There are 14 on-street parking spaces within the study area. There is one vacant lot at the southwest corner of Tulare Street and Van Ness Avenue. The vacant lot encompasses approximately 20,000 square feet (sf).

In addition to land uses within the existing structures along Fulton Mall, there are two recreational areas for children within Fulton Mall. These areas are tot lots with playground equipment and sand areas. One of the tot lots is located within Fulton Mall immediately north of Kern Mall and encompasses 966 sf of active play equipment area. The second tot lot is also within Fulton Mall immediately south of Merced Mall and encompasses 806 sf of active play equipment area. These lots were improved with new play equipment in 2008 using federal Land and Water Conservation Fund (LWCF) and State Proposition 40 grant dollars, and their future use and conversion is governed by Section 6(f) of the LWCF Act. Today most, though not all, of this equipment remains functional for the children to use.



Source: City of Fresno, Bing Street Map.

Michael Brandman Associates

NORTH

380 190 0 380 Feet

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Figure 2-1
Existing Land Use

Planned Land Uses

The Fulton Mall study area is currently zoned as Commercial Trading District (C-4) (Figure 2-2). Based on a review of the City of Fresno Zoning Ordinance, this designation allows a variety of retail, commercial, office, and residential uses. The City is currently proposing a specific plan, Fulton Corridor Specific Plan (FCSP) that encompasses the study area. The FCSP encompasses approximately 655 acres within the downtown area and proposes the entire study area to be designated Central Business District 1. This proposed designation would allow land uses that consist of commercial, retail, and office activity to support active streetscapes and walking located on ground levels within buildings. Upper floors and the floor area behind shop fronts are flexible for a wide variety of office, civic, lodging, housing or additional commercial uses. The intent of the FCSP is to encourage investment and growth within the downtown area. The land uses identified in the FCSP are consistent with the General Plan Update land use designations within the Project Study Area (Figure 2-3).

Within the Fulton Mall Project Study Area, there are development applications that have been submitted to the City. These applications include the following:

1. CVS is proposing to relocate from their current location at the northeast corner of Fulton Mall and Merced Mall and construct a new 15,524 sf retail store at the corner of Van Ness Avenue and Tuolumne Street. Construction is anticipated to be completed in 2014.

2. 1155 Fulton Mall - Tenant improvements are proposed with minor exterior improvements for new Federal offices. These improvements are anticipated to be completed in 2013.

3. 1101 Fulton Mall - Tenant improvements are proposed for a new restaurant. Timing of these improvements is not known.

4. 959 Fulton Mall (JC Penney Building) - Tenant improvements are proposed for approximately 66 residential units on the second through the fifth floors. According to property owner, timing of these improvements are contingent on the Fulton Mall Reconstruction Project.

5. Pacific Southwest Building at the southeast corner of Fulton Mall and Mariposa Mall - Tenant improvements are proposed for a restaurant lounge on the 15th and 16th floors. According to property owner, timing of these improvements are contingent on the Fulton Mall Reconstruction Project.

6. Hotel Californian at the southwest corner of Van Ness Avenue and Kern Street - Tenant improvements are proposed along the Kern Street side of the structure to re-introduce storefronts along Kern Street. Timing of these improvements is not known.

7. Storm Drain Replacement - The City is replacing the existing storm drain located in the middle of Fulton Mall between Inyo Street and Tuolumne Street.

8. Water Line Replacement - The City is replacing existing water lines within Kern Mall between Federal Alley and Home Run Alley and Mariposa Mall between Federal Alley to Congo Alley.

9. Sewer Line Replacement - The City is replacing existing sewer lines within Kern Mall between Van Ness Avenue and Home Run Alley and within Merced Mall between Van Ness Avenue and Congo Alley.

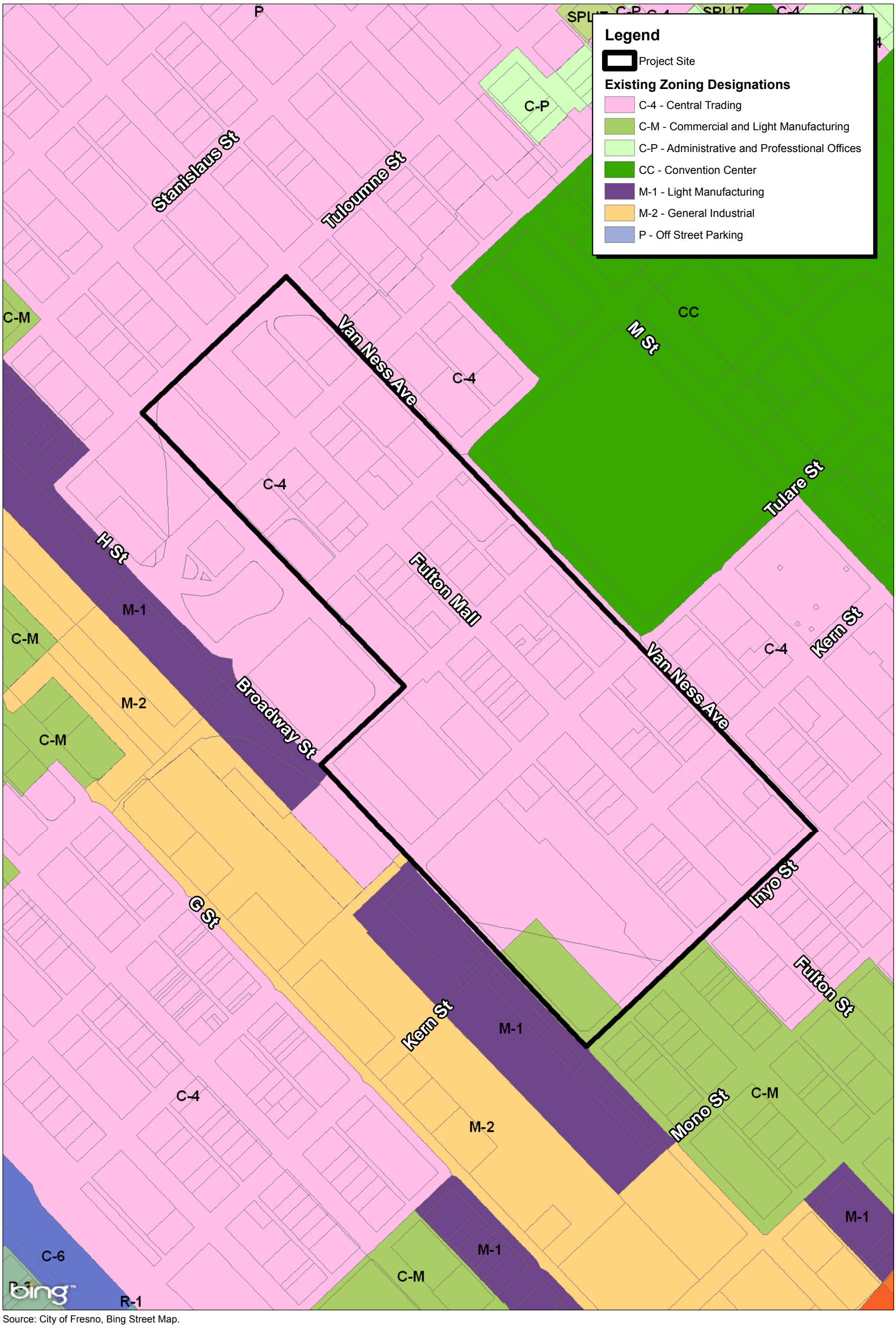
10. Mariposa Plaza Activation Project - The Mariposa Plaza is proposed to be redesigned to increase the number of community events.

Within the community at large and outside of the Fulton Mall Project Study Area, there are various development projects proposed. These include the following:

11. Van Ness Avenue Pedestrian Crossing at Mariposa Mall - A new signal is proposed along Van Ness Avenue at Mariposa Mall. This pedestrian signal is being funded by the Federal Transit Authority.

12. Bus Rapid Transit Stop - As part of the Bus Rapid Transit program, a bus stop is proposed along Van Ness Avenue at Mariposa Mall. The bus stop is planned to be on a platform in the middle of Van Ness Avenue. Access to the platform would be provided at street level. Funding for this project is being provided by the Federal Transit Authority.

13. High Speed Rail Station - The proposed station is located along the existing Union Pacific railroad tracks between Fresno Street and Tulare Street.



Source: City of Fresno, Bing Street Map.

Michael Brandman Associates

NORTH

380 190 0 380 Feet

Figure 2-2
Existing Zoning

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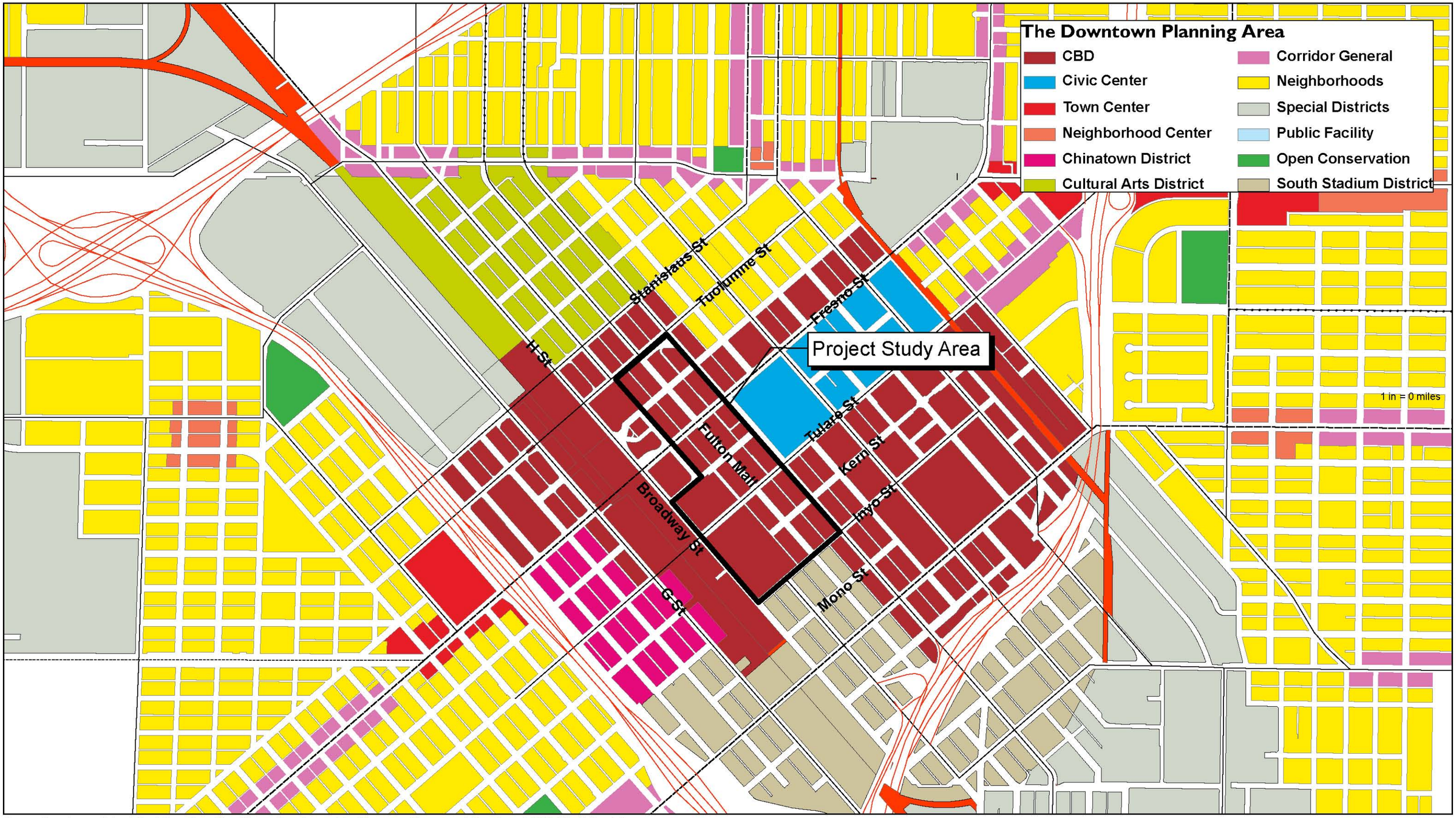


Source: Boundary and circulation information, City of Fresno Development And Resource Management Department, 2010; World Street Map, developed by Esri using DeLorme basemap layers, Automotive Navigation Data, USGS, UNEP-WCMC, Tele Atlas Dynamap, 2009

NORTH

Michael Brandman Associates

Figure 2-3
General Plan Updated Land Use

14. Residential Projects - There are numerous other projects proposed or under construction within the community at large, i.e. the Fulton Corridor Specific Plan Area and outside the Fulton Mall Project Study Area. These include, but are not limited to, an approximate 350 total new housing units in various locations in the Cultural Arts District (located north of the Project Study Area) and Chinatown located west of the Project Study Area).

In addition to the development project that are proposed within the community at large, the future development of the FCSP and DNCP will result in a substantial amount of additional development. Both plans are expected to be fully built out by the year 2035. The anticipated development in both plans are shown in Table 2.

Table 2: Development Potential Within FCSP and DNCP

Land Use	Development (in dwelling units, square feet, acres)		
	FCSP	DNCP (Excluding FCSP)	FCSP + DNCP
Residential (units)	6,293	3,697	9,990
Office (sf)	3,900,000	2,000,000	5,900,000
Retail (sf)	1,600,000	350,000	1,950,000
Industrial (sf)	150,000	2,900,000	3,050,000
Open Conservation (acres)	31	33	64
Source: Impact Sciences 2012.			

2.1.2 Environmental Consequences

The implementation of the build alternatives for the proposed Fulton Mall Reconstruction project will result in direct effects to the existing tot lots that are used for public recreation. The two tot lots encompass approximately 1,772 square feet of active play equipment area. Under the Land and Water Conservation Fund Act, this recreational resource must be suitably replaced within three years if the land it occupies is converted to other uses. During the construction period, the removal of this resource would create a temporary adverse effect. The provision of an equal square footage of active play space within the Project Study Area will reduce the long-term effect so that the effect is not adverse. The long-term restoration or replacement of the playground equipment will provide a beneficial recreational effect because all equipment will be functional for the children to use.

No additional existing or planned land uses within the Project Study Area would be directly affected with the implementation of the build alternatives. However, the build alternatives would improve access and parking, resulting in an indirect increase in shoppers and the economic productivity of Fulton Mall. An increase in economic productivity will encourage the reoccupation of the existing vacant ground floor stores and induce the existing businesses and property owners to invest in store upgrades. This indirect growth will result in a beneficial impact on the future land uses within Fulton Mall.

The No Build Alternative would retain the existing land uses including the tot lots and pedestrian mall. Therefore, this alternative would result in no effects on land use.

2.1.3 Avoidance, Minimization, and Mitigation Measures

The implementation of the build alternatives (Alternatives 1 and 2) will result in beneficial land use impacts associated with the proposed tot lot equipment and will not require measures.

The No Build Alternative (Alternative 3) would not affect land use and no avoidance, minimization, or mitigation measures are required.

2.2 Consistency with Federal, State, Regional, and Local Plans

2.2.1 Affected Environment

Various plans and programs are applicable to the proposed project. These applicable plans and programs are listed below.

Transportation Plans

Fresno COG is an association of city and county governments created to address regional transportation issues as well as other regional issues. Its members include the County of Fresno and the 15 incorporated cities within the County.

Fresno COG develops long-term solutions for regional challenges such as transportation, air quality, growth management, hazardous waste management, and air quality. Because these issues cross city and county boundaries, Fresno COG works with cities, counties, and public agencies in the region to develop plans and strategies to address regional issues. The Fresno COG has developed strategies that specifically address the growth and transportation issues facing Southern California as documented in adopted plans including the Regional Transportation Plan (RTP, adopted in 2011), the Federal Transportation Improvement Program (FTIP, adopted in 2012 and 2013), and the Federal

Statewide Transportation Improvement Plan (FSTIP, adopted 2012). Following is a discussion of each of these plans and program.

Regional Transportation Plan

Transportation control measures provided by Fresno COG include those contained in the Regional Transportation Plan (RTP), the most current version of which is the 2011 RTP. The 2011 RTP has control measures to reduce emissions from on-road sources by incorporating strategies such as high occupancy vehicle interventions, transit, and information-based technology interventions. The measures implemented by Air Resources Board and Fresno COG affect the Project indirectly by regulating the vehicles that the residents may use and regulating public transportation.

The project is included in the 2011 RTP through 2011 RTP Amendment #2 as Project ID FRE500768. The FHWA and FTA completed review of the conformity determination for the 2011 RTP and found that the document conforms to the applicable state implementation plan in accordance with the provisions of 40 CFR Parts 51 and 93. The FHWA and FTA issued the determination on December 14, 2010. The FHWA and FTA issued a determination of conformity for the 2011 RTP Amendment #2 on December 14, 2012.

Fresno COG is currently circulating the 2014 RTP for informal and early public review and comment. The 2014 RTP, also called the Regional Transportation Plan 2040, charts a 25-year course to the year 2040. The 2014 RTP addresses greenhouse gas emission reductions and other air emissions with a goal of sustainable planning.

Federal Statewide Transportation Improvement Plan

The Federal Statewide Transportation Improvements Plan (FSTIP) covers a four-year period from 2012/2013 through 2015/2016, which includes the listings of proposed transportation projects in the rural non MPO areas of the state, and incorporates by reference projects listed in the MPO's 2013 FTIPs. Fresno COG submitted their board-approved 2013 FTIP to Caltrans, including 2013 FTIP Amendment #1 made August 2012. The FSTIP was transmitted from Caltrans to FHWA on November 5, 2012. The FHWA and FTA completed review of California's 2013 FSTIP, and approved the document as proposed. The FHWA and FTA determined the 2013 FSTIP conforms to the SIP on December 14, 2012. The 2013 FSTIP incorporated by reference those projects included in the 2012/2013 Federal Transportation Improvement Programs (FTIP) adopted by the MPOs in California. This conformity determination includes Fresno COG 2013 FTIP Amendment #1, which lists the project.

Federal Transportation Improvement Plan

The FTIP is a compilation of project lists from the State Transportation Improvement Program (STIP), urbanized and non-urbanized areas, and other programs using federal funding. The 2013 FTIP is composed of two parts. The first is a priority list of projects and project segments to be carried out in a four-year period. The second is a financial plan that demonstrates how the TIP can be implemented. The project was included in the 2013 FTIP Appendix F, Regional Transportation Plan Project Listing 2011 through 2035, as RTP ID FRE500768. The project was also included in 2013 FTIP Amendment #1, dated August 2012, as Project ID FRE130069. Since the 2013 FSTIP incorporated by reference those projects included in the 2012/2013 Federal Transportation Improvement Programs (FTIP) adopted by the MPOs in California, this conformity determination includes Fresno COG 2013 FTIP Amendment #1, which lists the project.

City of Fresno 2025 General Plan

The City of Fresno 2025 General Plan was adopted in 2002 and currently serves as a guide to enable government at all levels, private enterprise, community groups, and individual citizens to make decisions and utilize community resources in a manner that will realize progress toward a common vision of a measurably enhanced physical, economic, and social environment.

Following are the applicable goals and policies of the City of Fresno 2025 General Plan, which are included in the Public Facilities Element.

Policy E-1-a: Implement the following classified street system in accordance with adopted engineering design standards and the 2025 Fresno General Plan Land Use and Circulation Map (Exhibit 4) and the Transportation (Streets and Highways) Element Map (Exhibit 7) adopted and incorporated herein depicting the location and general alignment of streets and highways.

Policy E-1-f: Allow a Level of Service “D” (“LOS D”) as the acceptable level of traffic congestion on major streets. LOS “D” according to the Caltrans and COFCG accepted LOS criteria, as developed by the Florida Department of Transportation, means moderate congestion at peak traffic periods; approaching unstable flow with reduced speeds, limited maneuverability, and loss of convenience; average speeds range from 9 to 17 miles per hour on arterials with stopped delays of 40 seconds or less.

Policy E-2-h: Limit the number of driveway access points on all major streets to minimize traffic disruption and protect traffic flows. No development shall be approved if it will adversely affect the flow of traffic on a public street below an acceptable

standard to be determined by the Public Works Director and based upon the policies noted herein.

City of Fresno Draft General Plan Update

The City of Fresno has prepared and made available for public review a comprehensive update to its General Plan, which is anticipated to be adopted in 2014. The update provides a policy direction for the long-term development and maintenance of the City. It provides guidance to decision-makers when making determinations about the allocation of resources and the future physical form and character of development in the City. The land uses and circulation system within the General Plan Update are consistent with the proposed land uses and circulation system proposed in the Downtown Neighborhoods Community Plan (DNCP) and Fulton Corridor Specific Plan (FCSP). The General Plan Update proposes that the Downtown planning area would be further refined through specific and community plans, such as the proposed DNCP and FCSP, and further implemented through updates to the Development Code for regulations specific to the Downtown. The goals within the DNCP and FCSP are being proposed as objectives within the General Plan Update to ensure consistency between the General Plan Update and the DNCP and FCSP.

The following proposed policies from the Fresno General Plan Update are applicable to the proposed project.

Goal MT-1 Create and maintain a transportation system that is safe, efficient, provides access in an equitable manner, and optimizes travel by all modes.

Policy MT-1-h"Complete Streets" Concept Implementation. Provide transportation facilities upon a "Complete Streets" concept that facilitates and balanced use of all travel modes (pedestrians, bicyclists, motorists, and transit users), meeting the transportation needs of all ages and abilities and providing mobility for a variety of trip purposes. Implementation actions will include:

- Meeting the needs of all users within the street system as a whole; each individual street does not need to provide all modes of travel, but travel by all modes must be accommodated throughout the planning area;
- Continuing to adopt refined street cross-section standards as appropriate in response to needs identified;
- Considering the impact of streets on public health by addressing storm water runoff quality, air quality, and water conservation among other factors; and

- Adhering to the City's Water Efficient Landscape Ordinance for median and streetscape plantings and irrigation methods.

Policy UF-11 Revitalize the Fulton Mall.

Central Area Community Plan

The Central Area Community Plan was approved in 1989 and encompasses approximately 1,500 acres bound by Highway 99, Highway 41 and Highway 180. The Community Plan provides a tool for the future development of the planning area. Following are the goal and policies of the Community Plan that are applicable to the proposed project.

Fulton Mall District Goal: Retain the Fulton Mall as a multifunctional, primarily pedestrian environment and improve its physical condition and economic vitality as a District with strong linkages to other Central Area activity centers; and promote the image of this District as a high quality, unique, comfortable and secure area which is accessible and attractive for business, recreation, tourism and a variety of special activities.

Essential to this setting is proximity of significant and attractive housing opportunities within the Central Area, and an environment reflective of the community's appreciation for its cultural diversity and historic importance.

Fulton Mall District Policy 1: Enhance linkage between the Fulton Mall District and other Central Area districts to strengthen interaction between them. Improve vehicular and pedestrian circulation around and access within the Fulton Mall District to optimize public convenience and safety, consistent with high standards of aesthetic quality.

Fulton Mall District Policy 2: Reinforce the emerging "three-node pattern: of retail, service and office activities with the north node principally as a public/private urban office park; the central node, as a blend of specialty shops, private and government offices; and south node, mainly as a diverse mix of unique retail shopping and services which cater to Central Area employees, residents, tourists and shoppers.

Fulton Mall District Policy 4: Improve the appearance of public and private property through measures that result in a high level of maintenance.

Fulton Mall District Policy 5: Encourage the redesign and remodeling of functionally obsolete office and retail business buildings to accommodate new uses that will stimulate activity along Fulton Mall network.

Fulton Mall District Policy 6: Establish and maintain an environment characterized by enhanced security, public convenience, easy access and orientation.

Fulton Mall District Policy 8: Improve and maintain the Fulton Mall as an exciting, physically and visually superior pedestrian environment for the people of Fresno, the San Joaquin Valley and the world.

Draft Downtown Neighborhood Communities Plan

The City of Fresno has prepared and made available for public review the draft Downtown Neighborhoods Community Plan (DNCP), which is anticipated to be adopted in early 2014. If adopted, the DNCP would be the community's tool for guiding the successful regeneration of Downtown Fresno and its surrounding neighborhoods. The Plan provides long-term goals for the Plan Area and detailed policies concerning a wide range of topics, including land use and development, transportation, the public realm of streets and parks, infrastructure, historic resources, and health and wellness. The project site is located near the center of the DNCP, which encompasses 7,290 acres.

Following are the applicable goals and policies of the draft DNCP.

Goal 3.3 Create a network of complete streets and multi-modal transportation strategies.

Policy 3.3.1 Create "complete streets" in the Downtown Neighborhoods so that all streets accommodate the needs of all potential users - vehicles, pedestrians, cyclists, transits vehicles and freight.

Policy 3.3.6 Prioritize space for pedestrians and bicycles in the design and improvement of public right-of-way. As part of the implementation of this policy, design new roadways or retrofit existing roadways to have wider sidewalks and/or an improved pedestrian-oriented streetscape.

Policy 3.3.8 In order to decrease conflicts between automobiles and pedestrians, consolidate existing and minimize new curb cuts and driveways throughout the Plan Area.

Goal 3.4 Physically improve the Downtown Neighborhoods' roadways and manage the transportation system to enhance safety and quality of life.

Policy 3.4.3 Reestablish an interconnected street grid comparable to Fresno's original grid pattern in order to increase walkability and improve connections to parks, open space, schools, and neighborhood centers.

Draft Fulton Corridor Specific Plan

The City of Fresno has prepared and made available for public review the draft Fulton corridor Specific Plan (FCSP), which is anticipated to be adopted in early 2014. If adopted, the FCSP would be the community's tool for guiding the future development of Downtown Fresno. The Plan provides long-term goals for the FCSP area and detailed policies concerning a wide range of topics, including land use and development, historic resources, the public realm, transportation, and infrastructure. The project site is located near the center of the FCSP, which encompasses 655 acres. The FCSP is located within the DNCP.

Following are the applicable goals and policies of the draft FCSP.

Goal 9-1 Provide a comprehensive transportation, circulation, and parking system that improves quality of life in Downtown.

Policy 9-1-2 Design new roadways or retrofit existing roadways to have wider sidewalks and a pedestrian-oriented streetscape.

Policy 9-1-4 Along Commercial and mixed-use streets, minimize driveways and driveway crossings of the pedestrian right-of-way.

Policy 9-1-6 Install new or retain existing on-street parking (parallel or angles) along all streets, except where precluded by lack of curb-side access or right-of-way. The type of parking shall depend on the adjacent land use and roadway classification.

Policy 9-1-12 Reestablish an interconnected street grid comparable to Fresno's original grid pattern in order to increase walkability and improve connections to parks, open space, schools, and neighborhood centers.

Goal 9-4 Make parking convenient and easy to find.

2.2.2 Environmental Consequences
Transportation Plans

Regional Transportation Plan

The Project was included in the regional emissions analysis conducted by Fresno COG for the conforming 2011 Regional Transportation Plan (2011 RTP), under the RTP ID FRE500768, as identified in the 2011 RTP Amendment #2. The description of RTP ID FRE500768 in the RTP projects list is:

> In the City of Fresno, at 4 locations; reintroduce 2-lane undivided complete streets.
>
> 1) Fulton Mall between Tuolumne and Inyo Streets
> 2) Merced Mall from Congo Alley to Federal Alley
> 3) Mariposa Mall from Broadway Street to Federal Alley
> 4) Kern Mall from Fulton Mall to Federal Alley

FHWA determined the 2011 RTP conforms to the SIP on December 14, 2010. This analysis found that the 2011 RTP and, therefore, the individual projects contained in the 2011 RTP, are conforming projects, and will have air quality impacts consistent with those identified in the state implementation plans for achieving the NAAQS.

The 2011 RTP Amendment #2 was adopted by Fresno COG and the 2011 RTP Amendment #2 conformity was approved by FHWA on December 14, 2012. The Project's design concept and scope have not changed significantly from what was analyzed in the 2011 RTP Amendment #2. Therefore, the Project is consistent with Amendment #2 of the 2011 RTP.

Federal Statewide Transportation Improvement Plan

The FHWA and FTA completed review of California's 2013 FSTIP, and approved the document as proposed. The FHWA and FTA determined the 2013 FSTIP conforms to the SIP on December 14, 2012. Therefore, the proposed project is consistent with the Federal Statewide Transportation Improvement Plan.

Federal Transportation Improvement Plan

The 2013 FSTIP incorporated by reference those projects included in the 2012/2013 Federal Transportation Improvement Programs (FTIP) adopted by the MPOs in California. This conformity determination includes Fresno COG 2013 FTIP Amendment

#1, which lists the project. Therefore, the proposed project is consistent with the Federal Transportation Improvement Plan.

City of Fresno 2025 General Plan

The proposed project has been evaluated for its consistency with the 2025 General Plan goals and policies because the 2025 General Plan is the currently adopted plan for the City. Alternatives 1 and 2 propose to reclassify the rights-of-way within Fulton Mall between Tuolumne Street and Inyo Street to a Collector street. This reclassification is not consistent with Policy E-1-a of the Public Facilities Element because this policy makes reference to the 2025 General Plan Circulation Element Map, which does not identify the rights-of-way within Fulton Mall as a major street.

Policy E-1-f discusses the LOS D policy for roadways. The implementation of Alternatives 1 and 2 will result in the redistribution of existing traffic. Under the existing plus project scenario, the surrounding intersections would operate at LOS D or better after the redistribution of existing traffic volumes. In the existing plus project plus cumulative scenario, there will be two intersections where the project would contribute to an exceedance of the LOS D policy in the year 2035. Both Alternatives 1 and 2 would not be consistent with Policy E-1-f.

Policy E-2-h includes the limitation of driveway access points on all major streets. The Fulton Mall rights-of-way are not designated as a major street on the City's Circulation Element Map. However, the proposed project would result in the re-classification of the Fulton Mall as a Collector street. Alternatives 1 and 2 do not include the addition of driveway access points on the proposed streets, and therefore, both of these alternatives would be consistent with Policy E-2-h.

City of Fresno 2035 draft General Plan Update

The proposed project has been evaluated for its consistency with the draft General Plan Update goals and policies because this plan is anticipated to be adopted in 2014 Alternatives 1 and 2 propose to reconstruct Fulton Mall using "complete streets" design concepts, which would be consistent with Policy MT-1-h in the General Plan Update. In addition, both alternatives would be consistent with Policy UF-11, which proposes to revitalize the Fulton Mall.

Central Area Community Plan

The Fulton Mall District Goal included in the Central Area Community Plan identifies retention of Fulton Mall as a multifunctional, primarily pedestrian environment. Both Alternatives 1 and 2 would not be consistent with the key premise of maintaining the

mall as a pedestrian-only environment. The Fulton Mall District Goal also includes improvement of its physical condition and economic vitality. The implementation of Alternatives 1 and 2 would indirectly increase the economic productivity of Fulton Mall, and therefore, would be consistent with this portion of the Goal. Alternatives 1 and 2 would improve vehicular circulation around and access within the Fulton Mall District, and as a result would be consistent with Fulton Mall District Policy 1. Both alternatives would also result in long-term improvement in the aesthetic appearance by removing the dirty, stained, and cracked pavement, the cracked and stained planters, and the inoperable fountains. The alternatives would include new pavement for the sidewalks, refurbish the sculptures, and provide new lighting systems. The improvements under Alternatives 1 and 2 would improve the appearance of the publicly-owned Fulton Mall and be consistent with Fulton Mall District Policy 4.

Alternatives 1 and 2 would provide streets that would increase access to the area. This increase in access is anticipated to influence growth within the Fulton Mall District. This growth is anticipated to occur through the reoccupation of the ground floors of existing vacant buildings as vehicle access and parking become available. As a result, both alternatives would stimulate activity along the Fulton Mall network and would be consistent with Fulton Mall District Policy 5.

The enhancement of security, public convenience, easy access and orientation that are identified in Fulton Mall District Policy 6 are desired elements in the implementation of Alternatives 1 and 2. The provision of streets under both alternatives would increase access and convenience to shop within Fulton Mall. The streets would also allow motorists improved orientation to specific destinations within Fulton Mall. Therefore, Alternatives 1 and 2 would be consistent with Fulton Mall Policy 6.

Fulton Mall District Policy 8 identifies the retention of Fulton Mall as an exciting, physically, and visually superior pedestrian environment. The introduction of streets under Alternatives 1 and 2 would result in a shared environment between pedestrians and motorists. As a result, Alternatives 1 and 2 would not be consistent with Fulton Mall district Policy 8.

Draft Downtown Neighborhood Communities Plan

The proposed project has been evaluated for its consistency with the draft DNCP goals and policies because the City anticipates adopting the DNCP in 2014. There are various goals and policies of the DNCP that are relevant to the proposed project. The DNCP identifies the creation of “complete streets” in Goal 3.3 and Policy 3.3.1. Alternatives 1

and 2 include the reconstruction of Fulton Mall using "complete streets," and therefore, these alternatives would be consistent with the goal and policy. In addition, the DNCP includes policies to prioritize space for pedestrians in the improvement of the public right-of-way (Policy 3.3.6) and decrease conflicts between automobiles and pedestrians by minimizing new curb cuts and driveways (Policy 3.3.8), Alternatives 1 and 2 would be consistent with both of these policies because these alternatives will include sidewalks for pedestrians and no new curb cuts or driveways are proposed. Therefore, Alternatives 1 and 2 would be consistent with Policy 3.3.6 and Policy 3.3.8. The DNCP also has a goal and policy related to enhancing safety and quality of life and reestablishing an interconnected street grid comparable to Fresno's original grid pattern. Both Alternative 1 and 2 would include sidewalks and curbs so vehicular and bicycle traffic is separated from pedestrian traffic. In addition, both alternatives include new streets along Fulton Mall, Kern Mall, Mariposa Mall, and Merced Mall and would reestablish the original street grid. Therefore, both alternatives would be consistent with Goal 3.4 and Policy 3.4.3.

Draft Fulton Corridor Specific Plan

There are also various goals and policies of the draft FCSP that are relevant to the proposed project. The FCSP identifies the provision of a transportation, circulation, and parking system that improves the quality of life in Downtown in Goal 9-1. Both Alternatives 1 and 2 would provide streets within Fulton Mall and increase the number of shoppers within the Mall. The increase in shoppers will increase the number of "eyes" within the Mall and deter crime-related activities, and therefore, improve the quality of life in the Mall. Both alternatives would be consistent with Goal 9-1. The DNCP also includes the provision of pedestrian-oriented streetscapes (Policy 9-1-2), minimization of driveways and driveway crossing (Policy 9-1-4), and installation of on-street parking. Alternatives 1 and 2 are consistent with these policies because both alternatives provide streetscapes that include trees, benches, sculptures and other artwork within the sidewalk areas. In addition, both alternatives do not include any driveways or driveway crossings. Furthermore, both alternatives include on-street parking to allow shoppers to park near their retail store destination. The FCSP also includes a similar policy as the DNCP related to the reestablishment of an interconnected street grid (Policy 9-1-12). Both Alternatives 1 and 2 will be consistent with Policy 9-1-12). Finally, the FCSP includes a goal (Goal 9-4) to make parking more convenient and easy to find. The provision of on-street parking adjacent to the retail stores will make parking easier to find. Therefore, both alternatives would be consistent with Goal 9-4.

The No Build Alternative (Alternative 3) would retain the existing pedestrian mall in its current state. The retention of the pedestrian mall would not conflict with the goals and policies of the City's plans and programs. Alternative 3 would not be consistent with the transportation plans; however, this inconsistency would not result in substantial effects because this alternative would retain the existing pedestrian mall.

2.2.3 Avoidance, Minimization, and Mitigation Measures

Alternatives 1 and 2 would be consistent with the various transportation plans, as well as the goals and policies of the City of Fresno draft 2035 General Plan Update, the draft DNCP, and the draft FCSP. Alternatives 1 and 2 would not be consistent with elements of the 2025 General Plan and Central Area Community Plan until amendments to these plans are approved. Narrative changes, as specified below, would be required. Furthermore, the traffic intersection improvements referenced below for the Project Options 1 and 2 to be consistent with Policy E-1-f would be required.

2025 General Plan

Policy E-1-a: An amendment to the Circulation Element Map would be required to specify to reclassify the rights-of-way within Fulton Mall between Tuolumne Street and Inyo Street to a Collector street.

Policy E-1-f: Mitigation identified in the Supplemental Traffic Impact Report would be implemented to improve the intersections so that the project's contribution to the exceedance of LOS D at two intersections would be reduced.

Central Area Community Plan

Fulton Mall District Goal: An amendment to the Circulation Element Map of the 2025 General Plan would be required for Alternatives 1 and 2 to reclassify the Fulton Mall from a pedestrian-oriented facility to a collector street.

Fulton Mall District Policy 8: Narrative changes to the Plan would need to be provided to re-classify the Mall from a pedestrian-only environment to a collector street. The No Build Alternative (Alternative 3) would result in no adverse impacts to transportation and land use plans. No avoidance, minimization, or mitigation measures are required as part of the No Build Alternative.

2.3 Park and Recreation

2.3.1 Affected Environment

The City of Fresno currently has a mix of regional, community, neighborhood, pocket, and mini parks within the city limits. A limited number of parks are provided in the downtown area. There are two parks, Courthouse Park and Densmore Skate Park that are located within the 655-acre FCSP. No parks are located within the Project Study Area. There are two recreational areas for children within Fulton Mall. These areas are tot lots with playground equipment and sand areas. One of the tot lots is located within Fulton Mall immediately north of Kern Mall and encompasses 966 sf of active play equipment area. The second tot lot is also within Fulton Mall immediately south of Merced Mall and encompasses 806 sf of active play equipment area. Today most, though not all, of this equipment remains functional for the children to use.

2.3.2 Environmental Consequences

The implementation of the build alternatives for the proposed Fulton Mall Reconstruction project will result in direct effects to the existing tot lots that are used for public recreation. The two tot lots encompass approximately 1,772 square feet of active play equipment area. Alternatives 1 and 2 would result in the relocation of the tot lots and they will be consolidated into one larger tot lot within the Project Study Area at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley. During the construction period, the removal of this resource would create a temporary adverse effect. The provision of an equal square footage of active play space within the Project Study Area will reduce the long-term effect so that the effect is not adverse. The long-term restoration or replacement of the playground equipment will provide a beneficial recreational effect because all equipment will be functional for the children to use.

The No Build Alternative would retain the existing land uses including the tot lots and pedestrian mall. Therefore, this alternative would result in no effects on parks and recreation.

2.3.3 Avoidance, Minimization, and Mitigation Measures

Alternatives 1 and 2 will result in beneficial land use impacts associated with the proposed tot lot equipment and will not require measures.

The No Build Alternative (Alternative 3) would not affect parks and recreational facilities and no avoidance, minimization, or mitigation measures are required.

Chapter 3 Growth

3.1 Affected Environment

The Fulton Mall is limited to pedestrian traffic. This limitation has resulted in businesses within the Project Study Area grossly under-performing and storefronts having a high vacancy rate. There is a lack of convenient parking spaces in front of stores, and no visibility for drive-by vehicular traffic. Parking is located around the perimeter of the study area; however, due to the broken street grid, motorists find it confusing to navigate to a parking area and then navigate to the businesses and stores by foot. There is no clear view into the Mall area from its ends, and the landscape largely blocks views of the storefronts.

The underperformance of the Fulton Mall has occurred for many years. Starting around 1970, business in Downtown Fresno began to decline due to increasingly rapid growth in the northern parts of the City and the opening of the major suburban shopping mall, Fashion Fair. This caused department stores within the Project Study Area to leave Downtown Fresno. The opening of additional shopping malls within the City resulted in further declines in economic activity in Downtown.

The Project Study Area became an area of low levels of retail and other economic activity. In fact, urban decay data show that challenges in lease and vacancy rates are several times more severe on the Fulton Mall than in the rest of Downtown, compared with citywide and regional averages. The Project Study Area is devoid of any significant activity on weeknights after 5 pm when workers leave Downtown.

Numerous efforts are underway to address this problem. In 2010, property owners voted to create an assessment district, which is today managed by the Downtown Fresno Partnership. This district, which is centered on Fulton Mall, funds promotions, events, and advocacy on behalf of the area. The City is also undertaking a wholesale rewrite of its land use plans and zoning codes that govern the downtown, in order to encourage investment and development in Downtown and healthy, mixed-income neighborhoods in the surrounding 7,290 acres.

3.2 Environmental Consequences

Although the proposed project does not include additional land uses within the Project Study Area, the provision of streets will increase access to the area. This increase in access is anticipated to influence growth within the Project Study Area. This growth is

anticipated to occur through the reoccupation of the ground floors of existing vacant buildings as vehicle access and parking become available. This cause-and-effect relationship is bolstered by letters received from two Fulton Mall property owners and developers who recently acquired major historic buildings in support of a City application for funding related to the Fulton Mall Reconstruction Project. The owner of the JC Penney building, who is planning the creation of 66 housing units, wrote that "like any development project…access to and around the property is of utmost concern to me in making this kind of investment" (Maghame 2012). The owner of the Pacific Southwest and Helm Buildings, who is planning to develop a mix of housing, office, and entertainment space, wrote that "addressing the access and infrastructure issues surrounding my properties…is my main source of hesitation about investing in housing units there" (Khatchadourian 2012).

This reoccupation is considered a beneficial impact on the existing land uses within the Project Study Area because additional tenants and customers are expected to increase the economic productivity of the Project Study Area. Following is a discussion of the proposed project's influence of growth under each alternative.

Alternative 1 - Based on the Economic Impact Analysis for the Fulton Mall Alternative Plans prepared in June 2011, the reopening of Fulton Street and adding on-street parking is anticipated to reduce the existing ground floor vacancies from 26 percent to nine percent, close to citywide levels. The reoccupation would represent leasing approximately 79,200 sf of the existing 122,700 sf of vacant ground floor space. Assuming sales only at the present-day rate in the Study Area of $78.88 per sf per year, the new occupancy would generate $6.25 million in annual sales. Nearly all of the sales tax which would be $513,840 per year would accrue to the City of Fresno.

Alternative 2 - Based on the Economic Impact Analysis prepared in June 2011, the reopening of Fulton Street and adding fewer on-street parking spaces compared to Alternative 1 is anticipated to reduce the existing ground floor vacancies from 26 percent to 15 percent. The reoccupation would represent leasing approximately 51,900 sf of retail space of the existing 122,700 sf of vacant ground floor space. Assuming sales only at the present-day rate in the Study Area of $78.88 per sf per year, the new occupancy would generate $4.09 million in annual sales. The annual sales tax generated from the annual sales would be $336,721 per year.

Alternative 3 - Based on the Economic Impact Analysis prepared in June 2011, the retention of the existing pedestrian mall is anticipated to increase existing ground floor

vacancies from 26 percent to 35 percent, which represents an increase of approximately 44,600 sf of vacancies. Assuming sales at the present-day rate in the Study Area of $78.88 per sf per year, this represents a loss of $3.52 million in annual sales and a reduction in annual sales tax revenue of $289,359 per year.

Interest in developing in Downtown Fresno overall has been on the rise for several years. The City's General Plan Update encourages even more infill development to account for an even greater portion of the city's overall growth in coming years. The Fulton Corridor Specific Plan attempts to respond to — and propel — this trend by implementing a new zoning code that is more appropriate to a developed urban area. The Fulton Mall Reconstruction Project fits with this effort, by making the most densely built part of the Downtown more accessible and therefore ripe for development of housing and other uses. Because the density along the Fulton Mall is so much greater than other areas, activity in the Study Area fuels itself, and the increases in economic productivity expected to occur as a result of implementing the build alternatives are therefore substantial.

Construction activities associated with the reoccupation of the vacant buildings is not expected to result in a substantial increase in noise. Furthermore, two of the three locations with existing noise sensitive land uses (i.e., the Masten Towers and Hotel Californian residential complexes) are not located directly adjacent to the portion of the malls proposed for construction of street improvements. A third location, the Pacific Southwest Building is located directly adjacent to the proposed street improvements; however, the existing residences that are located within this building are located in the upper floors (above the tenth floor) of the 16-story building. Therefore, construction activities would not result in adverse noise effects on these residences.

3.3 Avoidance, Minimization, and Mitigation Measures

The implementation of the build alternatives (Alternatives 1 and 2) will influence growth in the Project Study Area, in conjunction with other City plans and projects, and this growth is expected to result in a beneficial effect on the economic activity for the Project Study Area and would not result in adverse environmental effects. No mitigation measure will be required.

The No Build Alternative (Alternative 3) is anticipated to result in negative growth by increasing ground floor vacancies within the Project Study Area. No avoidance, minimization, or mitigation measures are assumed as part of the No Build Alternative.

Chapter 4 Community Character

4.1 Population and Housing

4.1.1 Affected Environment

Regional Population Characteristics/Community Character

As of 2010, the City of Fresno had a population of 494,665 persons, as reported by the 2010 U.S. Census Bureau. Since 2000, the City of Fresno added 67,000 new residents, a 15.7 percent increase. Fresno County had a 2010 population of 930,450, growing approximately 16 percent since 2000.

The City's race characteristics are provided in Table 3 in Section 4.1.1.2 below. As shown, whites are the dominant race within the City while people with a Hispanic origin are the dominant ethnicity within the City.

The median household income in the City of Fresno was $43,440 (U.S. Census Bureau, May 2013) and within the County of Fresno was $46,903 (U.S. Census Bureau, July 2013). Per capita incomes are $19,978 (U.S. Census Bureau, May 2013) and $20,638 (U.S. Census Bureau, July 2013), respectively. These incomes are between 24 percent and 33 percent lower than the California median income of $61,632 (U.S. Census Bureau, July 2013) and the per capita income of $29,634 (U.S. Census Bureau, May 2013).

Neighborhoods/Communities/Community Character

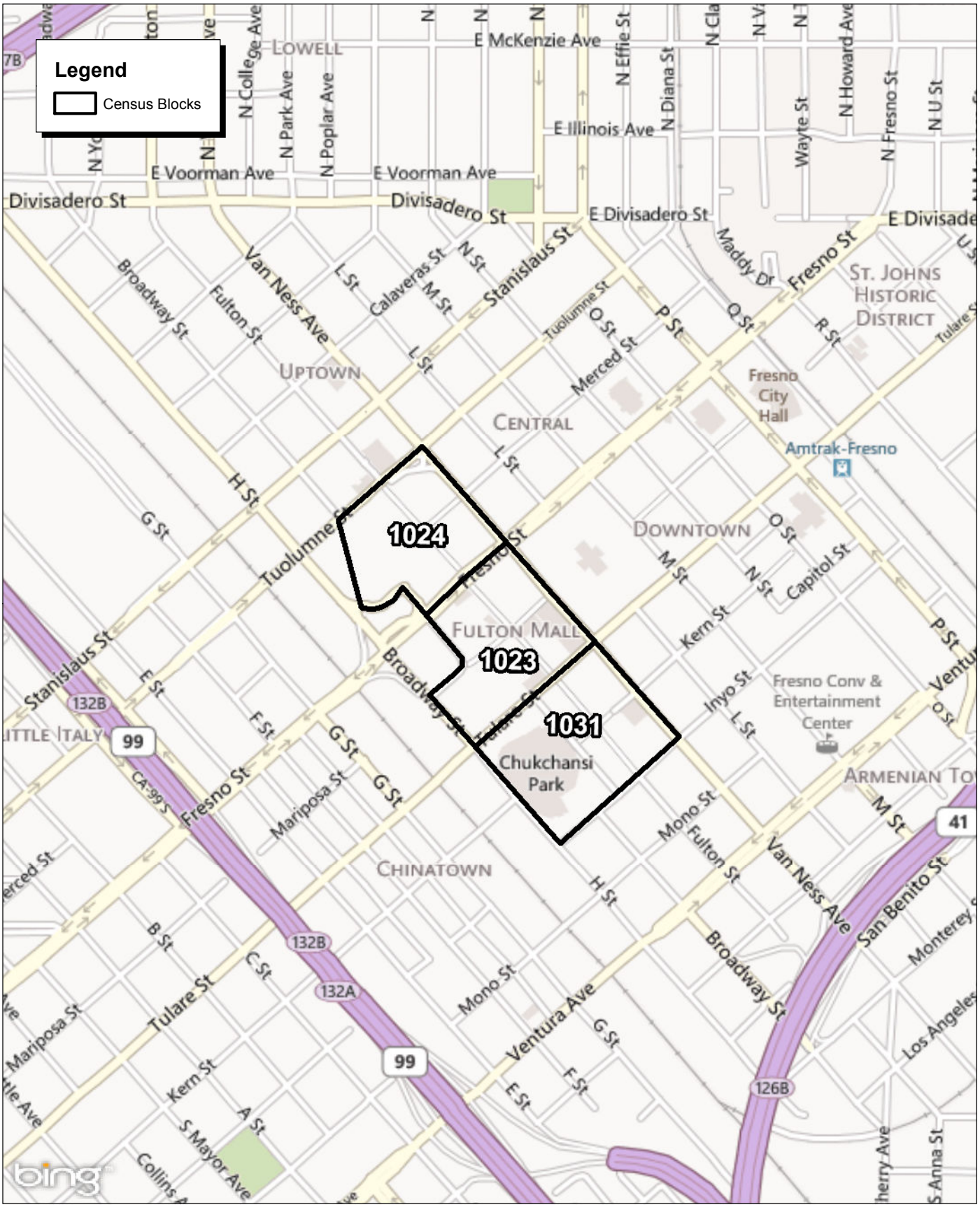
The Project Study Area is made up of three census blocks (1023, 1024, and 1031) within Census Tract 1 (Figures 4-1 and 4-2). Tract 1 contains a total of 22 blocks. These three census blocks are primarily comprised of commercial and office uses, and there are three locations with residential uses within these three blocks. Due to lack of information at the census block level, there may be additional housing within the project area that is unknown at this time.

Population and ethnic census data was only available at the tract level for 2010. Table 3 compares the ethnicity within Tract 1 that encompasses the Project Study Area with five other tracts that surround it as well as with the City of Fresno. Figure 4-2 shows the location of the census tracts. The Hispanic/Non-Hispanic population is also compared. Tract 1 has a much higher percentage of White population at 73.4 percent than for other tracts in the area (26.6 to 44.9 percent) or the City of Fresno at 49.6 percent. This may represent an anomaly because of the smaller population size, or it may reflect the

contributing factors of an "urban pioneer" demographic that is more heavily White, living in the northern part of the tract, combined with a population in the large apartment facilities within the Study Area comprised mostly of seniors which does not reflect the young Hispanic population boom seen in the region as a whole. Tract 1 has a higher percentage of Black population (16.6 percent) than three of the other tracts (Tracts 4, 5.02, and 6 that range from 6.3 to 7.4 percent) and the City of Fresno (8.3 percent). Tracts 2 and 3 have higher percentages of Black population (19.3 and 26.6 percent respectively). While Tract 1 had a similar Asian population to nearby census tracts, it was much lower than for the City of Fresno at 4.5 percent vs. 12.6 percent. For other races, percentages were similar.

Tract 1 has a higher (55.7 percent) percentage of Hispanic residents than the City as a whole (46.9 percent), but this was a lower percent than for the surrounding tracts (62.8 to 78.0 percent).

Table 4 shows the poverty status for the six census tracts and the City of Fresno. Information about non-family households was included because Tract 1 has a very low number of family households and information included can help give a clear picture of the area. Of the 420 households found in Tract 1, 403 are reported as non-family households. As discussed below, most people living in the project area reside in apartments that are for seniors or disabled persons. In this type of housing few, if any, families would be living in these apartments except for some couples. As shown on the table, non-family households have a median income of $11,243. Overall, there is a per capita income of just $8,368, less than half of that for the City. The Department of Health and Human Services poverty guidelines for 2010 was $10,830 for one person and $22,050 for a family of four. Both figures have been included here because the majority of the project area and Tract 1 appear to be made up of mostly single persons living alone as indicated on Table 4 and the information given by the apartment complexes. As indicated on the table, most of the tract, and thus the project area, is considered to be low-income. Tract 2 appears to have a worse rate of poverty than Tract 1.



Source: ESRI Bing base map.

NORTH

1,000 500 0 1,000 Feet

Michael Brandman Associates

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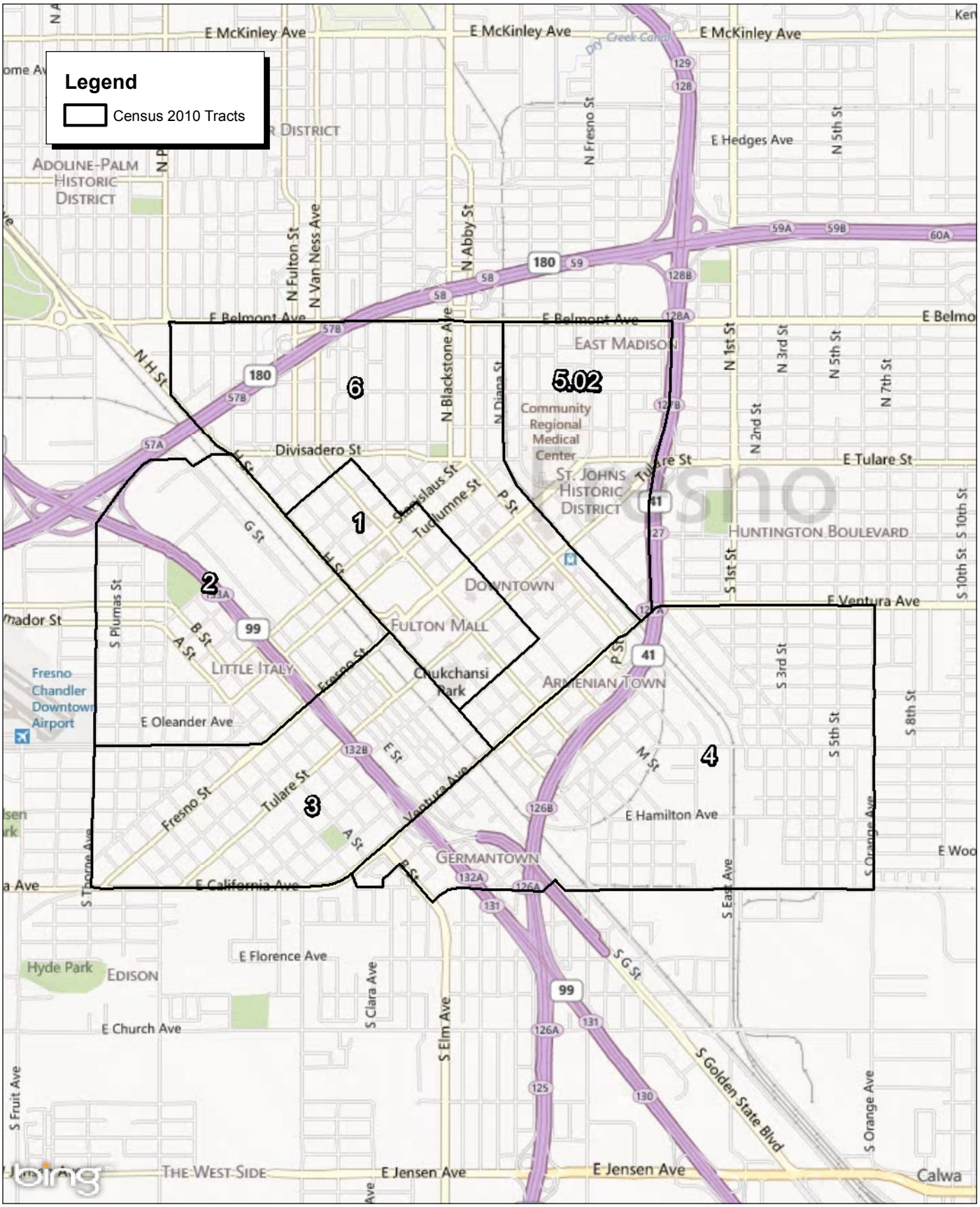
Figure 4-1
Project Study Area - Census Blocks

CITY OF FRESNO • FULTON MALL RESCONSTRUCTION PROJECT
COMMUNITY IMPACT ASSESSMENT



Source: ESRI Bing base map.

NORTH

2,500 1,250 0 2,500 Feet

Michael Brandman Associates

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Figure 4-2
Project Vicinity - Census Tracts

Personal interviews with apartment managers provided an estimated population for the three census blocks where the project is located and some information about income. The apartment complexes are:

Pacific Southwest Building: 8 units with about 12 residents. None are low-income.

Hotel Californian: 217 units with about 250 residents who are very low to low-income senior citizens or disabled.

Masten Towers: 200 units with about 204 residents who are very low to low-income (qualify for Section 8 housing). 85 percent are seniors over age 62 and the rest are under 62 with mobility impairments.

The estimated population within the project area is 466. Of these, it is anticipated that 454 are very low to low-income. At Masten Towers, residents must qualify for Section 8 housing meaning that they must be low-income according to Fresno County. This may be a somewhat different standard than the Department of Health and Human Services poverty guidelines, but would still be similar. Many residents at the Hotel Californian rely on income from Social Security Supplemental Security Income (SSI) or military pensions.

A Fulton Mall Pedestrian Count Project was conducted in 2010. The number of pedestrians in the Mall were surveyed based on the number of pedestrians crossing Mariposa Plaza near the Clock Tower. The total number of pedestrians for each of the three days that were surveyed included 4,673 people on a Tuesday, 5,511 people on a Wednesday, and 5,071 people on a Saturday. The people that were counted each day were categorized as pedestrians, bicyclists, and other. There were various purposes for the trips for each person. These purposes included shopping/doing errands, work commute, recreation, personal business, exercising, and school, and other. It was also found that fewer Caucasians and Asians were present on the Mall as compared to the Fresno County population, and African Americans and Hispanics were present in greater numbers as compared to county population.

A substantial homeless or transient population is currently found on the Fulton Mall, particularly at night, when it can seem to be the only human presence.

Table 3: Population and Race

Tract or area	Total Population	Population and (Percentage of Total Population)							
		White	Black	Amer. Indian/ Alaska Native	Asian	Native Hawaiian/ Other Pac. Islander	Some Other Race	Hispanic [1]	Non-Hispanic
1	2,860	2,099 (73.4)	474 (16.6)	36 (1.3)	130 (4.5)	2 (0.1)	91 (3.2)	1,594 (55.7)	1,266 (44.3)
2	3,167	850 (26.8)	612 (19.3)	72 (2.3)	315 (9.9)	1 (0.0)	1,167 (36.8)	2,013 (63.6)	1,154 (36.4)
3	3,609	960 (26.6)	959 (26.6)	78 (2.2)	213 (5.9)	7 (0.2)	1,257 (34.8)	2,266 (62.8)	1,343 (37.2
4	6,343	2,848 (44.9)	425 (6.7)	175 (2.8)	355 (5.6)	4 (0.1)	2,255 (35.6)	4,948 (78.0)	1,395 (22.0)
5.02	3,606	1,440 (39.9)	227 (6.3)	116 (3.2)	261 (7.2)	3 (0.1)	1,390 (38.5)	2,577 (71.5)	1,029 (28.5)
6	6,161	2,610 (42.4)	455 (7.4)	111 (1.8)	279 (4.5)	12 (0.2)	2,361 (38.3)	4,360 (70.8)	1,801 (29.2)
City of Fresno	494,665	245,306 (49.6)	40,960 (8.3)	8,525 (1.7)	62,528 (12.6)	849 (0.2)	111,984 (22.6)	232,055 (46.9)	262,610 (53.1)

Source: 2010 Census

1. Hispanic may be of any race.

Table 4: Poverty Status (Income)

	Tract 1	Tract 2	Tract 3	Tract 4	Tract 5.02	Tract 6	City of Fresno
Total households	420	812	1,006	1,259	964	1,731	156,724
$14,999 or less	318 (75.7%)	438 (53.9%)	301 (29.9%)	224 (17.8%)	282 (29.2%)	705 (40.8%)	25,772 (16.4%)
$15,000 to $24,000	65 (15.5%)	183 (22.5%)	273 (27.1%)	264 (21.0%)	128 (13.3%)	417 (24.1%)	21,885 (14.0%)
$25,000 to $150,000	37 (8.8%)	191(23.5%)	423 (42.1%)	734 (58.2%)	509 (52.9%)	609 (35.2%)	99,709 (63.6%)
Median household income	$11,303	$13,596	$22,245	$31,494	$33,438	$20,148	$43,440
Family House-holds	17	581	756	1,001	613	840	108,221
$14,999 or less	8 (47.1%)	303 (52.1%)[1]	156 (20.6%)	170 (17.0%)	247 (40.3%)	265 (31.6%)	14,845 (13.7%)
$15,000 to $24,000	9 (52.9%)	151(26.0%)	238 (31.5%)	203 (20.3%)	118 (19.2%)	226 (26.9%)	13,805 (12.8%)
$25,000 to $150,000	0	127 (21.8%)	353 (46.6%)	608 (60.8%)	248 (40.5%)	344 (41.6%)	72,029 (66.6%)
Median Family Income	$22, 639	$14,452	$24,111	$32,470	$21,507	$21,044	$49,053
Non-Family Households2	403	231	250	258	351	891	48,503
Median Non-Family Household Income	$11,243	$8,661	$13,276	$21,848	$47,455	$14,702	$29,619
Per capita income	$8,368	$5,728	$9,790	$9,905	$14,012	$9,299	$19,978

Source: U.S. Census Bureau. May 2013. 2007-2011 American Community Survey 5-Year Estimate. Estimated Income DHHS poverty guidelines 2010: 1 person - $10,830 and Family of four - $22,050. Numbers for incomes over $150,000 were not included.
1-228 (39.5%) of these 303 family households had an income of under $10,000.
2- See Total Households for estimated income breakdown.

In addition to the population and income characteristics, community character is also identified by community cohesion according to the guidance from the Caltrans CIA Handbook (2011). Community cohesion is the degree to which residents have (1) a "sense of belonging" to their neighborhood, (2) a level of commitment of residents to the community, and (3) a strong attachment to neighbors, groups, and institutions, usually as a result of continued association over time. Cohesive communities have been regularly linked to certain social characteristics such as high ratios of owner-occupied single-family residences, frequent interpersonal contact, ethnic homogeneity, and shared goals. Neighborhoods with residential stability are also indicative of areas with high community cohesion. Given that the three residential areas within the Project Study Area contain apartments for non-family households that are senior or disabled persons, the residential units are not owner occupied, and the residential areas are separated by at least one city block, a high community cohesion is not present. Furthermore, the lack of proper lighting, dirty pavement, overgrown plants, and abandoned plantings suggest an uninviting and unsafe place that is not typical of a cohesive community.

4.1.1.1 Housing

Based on the 2008 City of Fresno Housing Element, there were 163,704 housing units within the city limits in 2006. By 2010, the housing units increased by 4.6 percent to 171,288 dwelling units according to the U.S. Census Bureau. In 2006, 63 percent of the housing units were single family and 37 percent were multiple family. Assuming a similar ratio of single-family to multiple-family in 2010 as in 2006, it is estimated that approximately 107,910 single family units and 63,378 multiple family units exist in the City.

The Project Study Area includes three locations with residential uses. These locations include the Masten Towers, Hotel California, and the Pacific Southwest Building.

Masten Towers located at the northeast corner of Fresno Street and Broadway Plaza includes 200 units with one bedroom and studio apartments. Ten percent of the apartments (20 units) accommodate persons with physical disabilities (Masten Towers 2013).

The Hotel California at the southwest corner of Kern Street and Van Ness Avenue has 217 rooms. Currently, the building provides housing for low-income seniors (Balch 2013a).

The Pacific Southwest Building located at the southeast corner of Mariposa Mall and Fulton Mall accommodates approximately 12 people in 8 units. Currently, the housing is provided to above moderate income persons (Balch 2013a).

4.1.2 Environmental Consequences

Regional Population Characteristics/Community Character

The proposed reconstruction of Fulton Mall is located within an area of approximately 7.6 acres, which is the project area. The Project Study Area encompasses approximately 65.5 acres. Construction and operational activities would be confined to the project area and would not affect the regional population characteristics or the character of the City of Fresno under build alternatives 1 and 2 and the no build alternative 3.

Neighborhoods/Communities/ Community Character

The build alternatives 1 and 2 would not result in a change to the population, income, or housing characteristics within the Project Study Area. Although residents live within the Project Study Area, they are located within apartment complexes that are separated by at least one block. Therefore, these apartment complexes do not create a residential neighborhood. The development of the project would not directly affect any of the apartment complexes. Construction and operation activities of the project could result in indirect air quality, noise, and traffic impacts as discussed in Section 4.5.2 below.

These potential construction impacts could also affect the “day” users of Fulton Mall. Areas under construction may be a little more difficult to reach, but access to businesses and offices would be maintained. After the project is completed, access to businesses and offices would be improved and parking would be available closer than the existing parking lots and garages in the area. With better access and parking opportunities, more people may be encouraged to visit the area for shopping, business, and recreational activities

Under the build alternatives, the streetscapes along Fulton Mall would continue to feature wide pedestrian walkways, benches and, particularly in the case of Alternative 2, planters and fountains. Therefore, the Mall project is not expected to substantially alter the presence of this transient population. However, the presence of greater economic and human activity in the Study Area, at more times of the day and night, may have the effect of balancing out the perception of a transient presence.

Housing

The implementation of the build alternatives 1 and 2 as well as the No Build Alternative (Alternative 3) would not result in the direct effect on housing units. The existing

housing units within the Masten Towers and Hotel Californian are not located directly adjacent to the proposed improvement areas and will not be affected. Although the existing residents located at the Pacific Southwest Building are adjacent to the proposed improvements to Fulton Mall and Mariposa Mall, the residents are located above the tenth floor and will not be affected (Balch 2013b).

In addition to the existing residential units, potential residential units as described in Section 2.1.1 above, are planned to be constructed with tenant improvements within the JC Penney Building at 959 Fulton Mall. There are approximately 66 residential units proposed on the second through the fifth floors (Balch 2013b). According to the property owner, an investment into the proposed residential units cannot occur with Fulton Mall in its present configuration and condition (Maghame 2012). As a result, the proposed tenant improvements for residential units at the JC Penney Building are not expected to occur prior to the reconstruction of Fulton Mall. Therefore, these potential units will not be affected by construction activities with the development of Alternatives 1 or 2.

4.1.3 Avoidance, Minimization, and Mitigation Measures

No mitigation measures are required for the build alternatives 1 and 2. In addition, the no build alternative would not require mitigation measures.

4.2 Economic Conditions

4.2.1 Affected Environment

Regional Economy

Similar to the nation, the Fresno Metropolitan Area has been in a recession with high levels of unemployment. The number of people unemployed in the Fresno area peaked in February 2010 at 81,362 that representing an unemployment rate of approximately 18.6 percent. This unemployment rate was substantially higher than the national unemployment rate of 9.7 percent.

Employment and Income

The Project Study Area is currently in a state of urban decay due to economic disinvestment; evidenced by high vacancy rates, low lease rates, low retail sales, high crime rates, and deteriorating physical conditions. These economic conditions result in low levels of employment within the Project Study Area.

Based on the Urban Decay Study, the high vacancy rates result in fewer employment opportunities. Currently, there are 299,380 sf of vacant office space and 430,528 sf of vacant retail/restaurant space. As an example, based on a national average employment

density for office uses of 291 sf per employee, the vacancy of the office space within the Fulton Mall Project Study Area has resulted in approximately 1,028 fewer employment opportunities. Although average employment density for retail/restaurant use is not provided in the Urban Decay Study, the Notice of Preparation and Scoping Meeting for the Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and Downtown Development Code identified a retail employment rate of 400 sf per person. Using this employment rate, the vacancy of the retail space within the Fulton Mall Project Study Area has resulted in approximately 1,076 fewer employment opportunities. Therefore, the current office and retail vacancies have reduced potential employment opportunities within the Project Study Area by approximately 2,104 jobs.

Business Activity

Businesses within the Project Study Area, and specifically within Fulton Mall are limited to pedestrian-oriented access. Surface parking and parking structures are located in the perimeter of the Project Study Area; however, visitors and patrons are required to walk to their destination within Fulton Mall.

The Project Study Area suffers from a significantly high vacancy rate. The Project Study Area had a vacancy rate of 46 percent for office uses and 35 percent for large retail spaces in 2010 based land uses as designated in the County Assessor's parcel database. Some of the buildings could actually have mixed uses. For example, a building designated as an "office" use by the County Assessor could have retail uses on the ground floor.

The Project Study Area's vacancy rate is abnormally high compared to the surrounding Downtown and overall City. The Downtown area has an office vacancy rate of 12.7 percent and a retail vacancy rate of 11.2 percent. The City of Fresno has an office vacancy rate of 15.8 percent and a retail vacancy rate of 11 percent. According to the Urban Decay Study (2012), the Downtown area has the second lowest office vacancy rate in the Fresno region which indicates that the Project Study Area's high vacancy rate is not attributable to its location and is due to other conditions.

According to real estate brokers interviewed as part of the Urban Decay Study, the Project Study Area suffers from high vacancies in part due to the exclusively pedestrian-orientation of the Fulton Mall. The lack of through-traffic is undesirable for office and retail businesses that thrive on visibility, and a lack of on-street parking limits access for both tenants and visitors. Real estate brokers who were interviewed for the Urban Decay Study provided several reasons why many clients currently will not located in the Project

Study Area. These reasons include low visibility, building age, current earthquake and building standards as well as amenities such as customizable spaces, secured covered parking, card-access entry, and high quality infrastructure for high-speed internet. In addition, the property owners of the JC Penney Building and the Pacific Southwest Building have stated that investments in the addition of residential units cannot occur with Fulton Mall in its present configuration and condition.

Several buildings in the Project Study Area are in a state of disrepair, particularly those with long-term vacancies.

Office lease rates are low in the Project Study Area in order to compensate for the issues identified above. The average asking lease rate for Project Study Area office space available in November 2011 was $1.03 per sf per month. This is 27 percent lower than the average asking lease rate for Class B office buildings Downtown, which was $1.41 per sf per month in the third quarter of 2011 (Rosenow Spavacek Group, Inc. 2012).

Although a precise comparison of Fulton Mall retail lease rates with Downtown and citywide averages is not available, the Fulton Mall's retail sales per square foot of $79/year are 61 percent lower than the Downtown average of $203 and 71 percent lower than the citywide average of $274 (Rosenow Spavacek Group, Inc. 2012).

4.2.2 Environmental Consequences

Regional Economy

The build alternatives 1 and 2 would not result in any direct impact on the regional (City) economy; however, these alternatives could influence growth through the reoccupation of existing vacant buildings, which on a regional (City) level could reduce the environmental impacts that would otherwise be created by outward suburban growth. The reoccupation of existing building could result in substantial beneficial effect on the regional (City) economy by providing a catalyst for additional development in the downtown area in accordance with the DNCP and FCSP.

The implementation of Alternative 3 would retain the existing pedestrian mall and would not affect the regional economy.

Employment and Income

The implementation of the build alternatives 1 and 2 would result in an induced effect on employment and income by providing better access and visibility to existing businesses and additional businesses that could reoccupy existing vacant buildings. The reoccupation of existing vacant buildings would result in a beneficial impact on

employment opportunities in the Project Study Area because the greater amount of tenancy within the Fulton Mall Project Study Area would result in a greater amount of employment opportunities. The employment opportunities could increase by providing approximately 2,100 new jobs as discussed in Section 4.2.1.2.

Business Activity

The implementation of the build alternatives will result in temporary effects on business activities as construction occurs in the immediate vicinity of the businesses. As each road segment is constructed, the sidewalks adjacent to the road segment will remain open for pedestrians with a barrier located between the sidewalk and the street. Once the street segment is completed, the segment will be available for pedestrian access. Automobile traffic will not be permitted until the proposed project is constructed. After the street segment is constructed, the sidewalk segments will be constructed. The portion of the sidewalks immediately adjacent to the business entrances/exits will be completed during the evening while the businesses are not operating. This will minimize the effect on the businesses as construction occurs.

In the long-term, the build alternatives would provide the parking and vehicle access to the project area that may influence the reoccupation of the existing vacant buildings, contribute to an increase in people shopping and doing business in the Project Study Area, and thus maximize sustainable development and economic productivity. In addition, with a higher occupancy of the Study Area by businesses, and the presence of more people, crime may be potentially reduced and there may be a greater sense of safety. Following are the anticipated retail sales for each alternative as identified in the Economic Impact Analysis.

Alternative 1 - This alternative would result in annual gross revenues increasing from $32.1 million to $79.1 million. Average retail sales would increase from $92 per sf to $184 per sf.

Alternative 2 - This alternative would result in annual gross revenues increasing from $32.1 million to $55.4 million. Average retail sales would increase from $92 per sf to $103 per sf.

Alternative 3 - The pedestrian mall under this alternative would remain unchanged. This alternative would continue to result in annual gross revenues of $32.1 million and average retail sales would remain at $92 per sf.

The indirect increase in retail sales shown above from the implementation of the build alternatives will result in an induced beneficial effect on the businesses within Fulton Mall.

Under the No Build Alternative, business activity within the Project Study Area is anticipated to remain unchanged and eventually result in a further increase in vacancies due to a decrease in business activity within the Project Study Area.

4.2.3 Avoidance, Minimization, and Mitigation Measures

No mitigation measures are required for the build alternatives 1 and 2. In addition, the no build alternative would not require mitigation measures.

4.3 Community Facilities and Services

4.3.1 Affected Environment

Community Facilities

There are federal and local community facilities that are located within the Project Study Area. These facilities currently provide a variety of services. Following is a listing of these facilities (Balch 2013a).

- U.S. Customs and Immigration Services - 1177 Fulton Mall and moving soon to 1255 Fulton Mall)
- U.S. Army Recruiting - 1171 Fulton Mall
- U.S. Social Security Administration - 865 Fulton Mall
- Internal Revenue Service - 1325 Broadway Plaza
- Fresno Council of Governments - 2035 Tulare Street
- Fresno Housing Authority - 1331 Fulton Mall
- Fresno County Department of Public Health - 1221 Fulton Mall
- Fresno County Office of Education - 1111 Van Ness Avenue
- Court Appointed Special Advocates (CASA) - 1252 Fulton Mall
- Chukchansi Park - 1800 Tulare Street
- Parking Lots and Garages - Lot 3 (Fulton and Mariposa Malls), Garage 4 (1919 Tulare Street), Lot 6 (Inyo Street and Fulton Mall), Garage 7 (801 Van Ness Avenue), Garage 8 (1077 Van Ness Avenue), and Garage 9 (2020 Merced Street).
- Mariposa Plaza - There are approximately 93 event days per year.

The hours of operations for the federal and local offices range between 7:30 am and 8 pm Monday through Friday. Chukchansi Park has baseball and soccer events that are

primarily in the evening; however, there are some events in the afternoon (Fresno Grizzlies 2013 and Fresno Fuego Futbol Club 2013).

The hours of operation of the City parking lots and garages are 6 am to 6 pm and Garages 4, 7, and 8 are open until 10 pm during events (Balch 2013a).

The 93 event days associated with Mariposa Plaza includes 73 days associated with the annual Ice Rink and 20 additional official event days. During the 73 days associated with the Ice Rink, there are approximately 31,000 skaters and 30,000 onlookers and guests at the various events related to the rink such as FLYP happy hour, Christmas Tree event, birthday parties, etc. During the 20 days of other events, there are approximately 143,550 attendees. Some of the larger special events include the Fiestas Patrias, or Mexican Independence Day celebration; Cinco de Mayo; and the Catacomb Party music and art festival, each of which draws thousands of visitors (Balch 2013a).

Emergency Services

The emergency services that are provided in the Fulton Mall vicinity include police, fire, ambulance service, and hospital. Following is a brief discussion of each.

The City of Fresno Police Department operates five police stations within the City. The nearest station to Fulton Mall is located at 2323 Mariposa Mall, which is within the Project Study Area.

The City Fire Department has 19 fire stations throughout the City and serves approximately 336 square miles. The nearest fire station (Station #3) to Fulton Mall is located at the southeast corner of Fresno Street and E Street, which is approximately 0.4 mile from Fulton Mall.

Ambulance service is provided by numerous companies within the City of Fresno. The nearest ambulance company to the Fulton Mall is American Ambulance, which is located approximately 1.2 miles from Fulton Mall.

The hospital that serves the Downtown area as well as the Fresno County region is the Community Regional Medical Center located north of the Fresno Street and Divisadero Street intersection. This hospital is located approximately 0.4 mile from Fulton Mall.

Utilities

The utilities in the Fulton Mall vicinity include water, sewer, drainage, natural gas, electricity, and telecommunication systems (i.e., cable and telephone). The water, sewer, and drainage facilities are owned by the City of Fresno while the natural gas and

electricity is owned by Pacific, Gas & Electric, and telecommunication systems in the Fulton Mall Project Study Area are not known.

Water distribution facilities are currently located within Federal Alley east of Fulton Mall and within Home Run Alley and Congo Alley west of Fulton Mall, respectively, between Inyo Street and Tuolumne Street. These facilities range from 6-inch to 15-inches in diameter. Additional water distribution lines also ranging in diameter from 6-inch to 15-inches are located within Inyo Street, Kern Mall and Street, Tulare Street, Mariposa Mall, Fresno Street, and Tuolumne Street. Each of the existing water distribution facilities identified above are currently adequate to serve the existing uses. No water transmission lines or pump stations are located in the Fulton Mall vicinity (Sherwood Design Engineers 2012).

Public and private sewer distribution facilities are located within the Fulton Mall vicinity. Public sewer facilities include up to 30-inch lines within Merced Mall between Van Ness Avenue and H Street, Kern Mall and Street from Van Ness Avenue to Home Run Alley, and Home Run Alley between Kern Mall and Inyo Street. Private sewer lines are located within Federal Alley, Home Run Alley, and Congo Alley except for the portion of Home Run Alley south of Kern Mall. Each of the existing sewer facilities identified above are currently adequate to serve the existing uses. No sewer pump stations are located in the Fulton Mall vicinity (Sherwood Design Engineers 2012). The sewer facilities, while adequately sized to serve existing uses, are of very advanced age and in poor condition. The City of Fresno Department of Public Utilities has plans to rebuild these facilities with local funds. This project is anticipated to occur simultaneous with the implementation of the Fulton Mall Reconstruction Project.

Storm drain facilities are located within the Fulton Mall vicinity. A storm drain is located under Fulton Mall between Inyo Street and Tuolumne Street. Addition storm drains are located within Merced Mall between Van Ness Boulevard and H Street, Fresno Street between Van Ness Boulevard and H Street, Mariposa Mall between the Federal Alley and H Street, Tulare Street between Home Run Alley and H Street, Kern Mall between Home Run Alley and Federal Alley, and along Home Run Alley between Kern Mall and Tulare Street. Each of the existing drainage distribution facilities identified above are currently adequate to serve the existing uses (Sherwood Design Engineers 2012).

Natural gas, electricity, and telecommunication systems are located in the Fulton Mall vicinity. The specific location of these facilities are not known at this time; however, it is known that some of these facilities are located within Fulton Mall.

4.3.2 Environmental Consequences

Community Facilities

Construction activities associated with the build alternatives could impede access during construction activities to the community facilities that are located along Fulton Mall. However, the Fulton Mall Reconstruction would occur in segments along Fulton Mall. As each road segment is constructed, the sidewalks adjacent to the road segment will remain open for pedestrians with a barrier located between the sidewalk and the street. The public will be able to access the federal and local community facilities that are located on the Mall. Once the street segment is completed, the segment will be available for pedestrian access. Automobile traffic will not be permitted until the proposed project is constructed. After the street segment is constructed, the sidewalk segments will be constructed. The portion of the sidewalks immediately adjacent to the entrances/exits of the community facilities will be completed during the evening while the community facilities are closed. This will minimize the effect on the public accessing the community facilities that are located along the Mall. Access to the community facilities that are not located along the Mall will not be directly affected by construction activities.

Construction activities are not expected to affect the public parking at Garages 4, 7 and 8 for events at Chukchansi Park because each of these garages includes accesses from current public streets that will not be affected with project construction.

Separate from the Fulton Mall Reconstruction Project, the City of Fresno and various community partners have been awarded funds from the National Endowment for the Arts (NEA) and other, nonfederal sources for the Mariposa Plaza Activation Project. The purpose of this Plaza project is to make it easier to create community events at Mariposa Plaza, and more pleasant to attend them, as well as encouraging daily use of the space. The Plaza project will involve redesigning the Mariposa Plaza area, particularly the parcel adjacent to the Fulton Mall right-of-way that is currently the site of the oval stage structure and a stand of several trees. Construction to implement this design is also anticipated, but is beyond the scope of the NEA-funded project and has not yet been funded. The NEA-funded Plaza project scope also includes the commission of a new work of interactive public sculpture, which is envisioned to complement the redesign and use of the Plaza. This is anticipated to occur in the stage parcel described above.

During construction of Alternatives 1 or 2, if special events cannot be accommodated in their normal locations on the Mall or at Mariposa Plaza, alternate locations will be arranged by the City and Downtown Fresno Partnership. These could include the use of Courthouse Park or parking lots in and around the Study Area. Upon completion of

construction, these events will be welcomed back to the Project Area and Mariposa Plaza. The reintroduced streets will deliberately be designed to be closed for such occasions.

Emergency Services

Federal Alley and Home Run Alley/Congo Alley currently parallel Fulton Mall that could provide access to police and fire personnel in case of an emergency. The placement of streets along Fulton Mall would provide long-term improvement to police and fire personnel access to the structures along Fulton Mall. This long-term access for police and fire personnel would result in a beneficial impact on these services.

According to Captain Greg Garner, the police captain in charge of the Southwest Policing District which includes the Project Study Area, most criminal acts are committed around the Fulton Mall are crimes of opportunity. While criminal offences range from severe (such as armed robbery) to minor (such as loitering), the most common offences include petty theft, vandalism, and illegal panhandling. Captain Garner believes that opening the Mall to traffic has the potential to have a beneficial impact on reducing crime (Urban Decay Study 2012).

Similar to police and fire services, the build alternatives could impede emergency service during construction activities; however, the build alternatives would occur in segments and thus limiting the area under construction at one time. In addition, Federal Alley and Home Run Alley/Congo Alley currently parallel Fulton Mall that could provide access to emergency personnel. Once constructed, the streets along Fulton Mall would improve access in the Project Study Area. The long-term for emergency personnel would result in a beneficial impact on these services.

Alternative 3, No Build Alternative, would retain the pedestrian mall and would not alter the current police, fire, and emergency services.

Utilities

Construction activities are anticipated to encounter a number of existing utilities located within the construction area of Fulton Mall. During the development of the design plans, these existing utilities will be identified. During construction, they will be located so that the services provided by the utility are not adversely affected. In the event that utility service is required to be disrupted such as water or electricity due to construction activities, temporary impacts to businesses that rely on the services could occur for a short duration.

4.3.3 Avoidance, Minimization, and Mitigation Measures

Alternatives 1 and 2 will not require mitigation measures. Alternative 3, No Build Alternative, would retain the pedestrian mall and would not affect utility service.

4.4 Relocations

4.4.1 Affected Environment

Currently there are mobile cart vendors that have business license to operate within the Fulton Mall. Based on information provided by Kate Borders, CEO of the Downtown Fresno Partnership, mobile cart vendors operate daily on Fulton Mall at the corners of Merced Mall, Mariposa Mall, Tulare Street, and Kern Mall (Balch 2013a).

4.4.2 Environmental Consequences

Construction activities associated with Alternatives 1 and 2 will not require the relocation of the businesses within the Study Area. Construction activities would occur in increments so that access to the businesses could be retained as discussed in Section 4.2.2.3, Business Activity.

Since construction activities will occur in increments, construction activities will require the mobile cart vendors to relocate to a portion Fulton Mall that has not been constructed or a portion of Fulton Mall that has been reconstructed with a street. The street within Fulton Mall will not be open for vehicular traffic until the reconstruction of Fulton Mall is completed.

In the long-term under Alternatives 1 and 2, the mobile vendor carts may require a new location for their mobile cart because their current location could be in an area that would be converted into a street. However, during the design phase, locations appropriate for cart vendors will be identified. Long-term impacts to the mobile cart operators are anticipated to be potentially beneficial as business vitality in the area increases.

Alternative 3, No Build Alternative, would retain the pedestrian mall and would not affect the existing vendor cart businesses.

4.4.3 Avoidance, Minimization, and Mitigation Measures

Alternatives 1 and 2 will not require mitigation measures. Alternative 3, No Build Alternative, would retain the pedestrian mall and would not affect the existing vendor cart businesses.

4.5 Environmental Justice

Due to the presence of low-income and minority populations in the vicinity of Fulton Mall, there is a potential for environmental justice impacts. Environmental justice deals with the inequitable environmental burden borne by groups such as low-income and minority populations.

All projects involving a federal action such as funding, permit, or land must comply with Executive Order (EO) 12898, "Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations," signed by President Clinton on February 11, 1994. EO 12898 requires that each federal agency, to the greatest extent practical and permitted by law, shall "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high, and adverse human health or environmental effects of its programs, policies, and activities, on minority possessions…" Thus, Order 12898 is designed to focus attention on environmental and human health conditions in areas of high minority and low-income communities and to prevent discrimination in programs and projects substantially affecting human health and the environment (Federal Register, 1994). The Order requires that the U.S. EPA and all other federal agencies (as well as state agencies receiving federal funds) to develop strategies to address this issue. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.

4.5.1 Affected Environment

As discussed in Section 4.1.1.2, Neighborhoods/Communities/Community Character, the Project Study Area is made up of three census blocks (1023, 1024, and 1031) within Census Tract 1. That tract contains a total of 22 blocks. These three census blocks are primarily commercial development, mostly retail stores and offices, but there are three complexes with residential uses within these three blocks. The three complexes contain approximately 425 units with approximately 466 residents. Tract 1 contains approximately 2,860 persons, and therefore, the Project Study Area contains approximately nine percent of the residential population within Tract 1.

As stated previously, due to lack of information at the census block level, the population and ethnic census data presented in Table 3 in Section 4.1.1.2 was only available at the tract level for 2010. Table 3 shows the persons in Tract 1 has the highest percentage of the white race (73.4 percent) compared to each of the five remaining tracts within the downtown area (area between Highway 99, Highway 41, and Highway 180) as well as

compared to the City of Fresno (49.6 percent). Because ethnicity is different then race and Hispanic persons could be of any race, a review of the persons that are of Hispanic origin compared to non-Hispanic was conducted. According to Table 3, the percentage of Hispanic persons within Tract 1 (55.7 percent) is less than the other tracts within the downtown area; however, Tract 1 has a greater percentage compared to the City of Fresno (46.9 percent). Although the Project Study Area is a small fraction of persons within Tract 1, there is a possibility that the Project Study Area could have a disproportionate number of minority populations when compared citywide, although this cannot be determined from the available information.

Also presented in Section 4.1.1.2, Table 4 shows the poverty status for Tract 1, the remaining five census tracts within the downtown area and the City of Fresno. As shown in Table 4, there are 420 households within Tract 1 and the majority of these households are made up of mostly single persons living alone. The per capita income for persons living within Tract 1 is $8,368, which is lower than the poverty levels of $10,830 for one person. Within the five remaining tracts of downtown, there is one tract (Tract 2) that has a lower per capita income and the three remaining tracts have a higher per capita income. Comparing Tract 1 with the City of Fresno, the per capita income for all persons living in the City of Fresno is approximately 239 percent higher than Tract 1.

Within the Project Study Area, the estimated residential population is 466. Of these, it is anticipated that the residents at the Masten Towers and Hotel California (about 450 persons) are characterized as very low to low-income persons. At Masten Towers, residents must qualify for Section 8 housing meaning that they must be low-income according to Fresno County. This may be a somewhat different standard than the Department of Health and Human Services poverty guidelines, but would still be similar. Many residents at the Hotel Californian rely on income from Social Security Supplemental Security Income or military pensions. The remaining 12 persons residing at the Pacific Southwest Building are not characterized as low-income persons. Based on the above information, the Project Study Area very likely has a disproportionate number of low-income populations.

Based on the types of businesses currently located on the Fulton Mall, many may be minority owned. Several retail businesses appear to serve the Hispanic community. Restaurants are mainly Hispanic or other ethnic foods.

4.5.2 Environmental Consequences

Masten Towers is located approximately 225 feet west of the nearest area proposed for reconstruction. The Hotel Californian located at the southwest corner of Kern Street and Van Ness Avenue is located within a few feet of the nearest area of Kern Street proposed for reconstruction. The Pacific Southwest Building located at the southeast corner of Mariposa Mall and Fulton Mall has residents living in the upper floors (above the tenth floor) of the 16-story building.

All businesses, including minority owned businesses, would benefit from increased access and parking provided by Alternative 1 or 2. No businesses would be directly impacted or relocated. Construction activities could result in temporary effects, such as temporary air, noise or visual impacts. During construction, access to the business would be provided.

Construction activities associated with Alternatives 1 and 2 would not result in direct impacts to the residents at the three complexes because the project does not include impacts to the buildings within the Study Area. The construction activities could result in temporary effects on the residents and current Mall "day" users as discussed in Section 4.1.2.2. These temporary impacts could include increases in air emissions, noise levels, and construction traffic. These increases could occur during demolition, grading of the right-of-way, construction of the curbs and gutters, placement of the rock and asphalt for the roadbed, and construction of the sidewalk. Following is a discussion of potential impacts to the residences within the Project Study Area and the Mall "day" users.

The nearest residences to the construction activities include those within the Pacific Southwest Building and the Hotel California. Construction activities will occur within street segments that will encompass less than one acre.

Air Quality - Construction activities will increase emissions of criteria pollutants including reactive organic gases (ROG), oxides of nitrogen (NOx), carbon monoxide (CO), and particulate matter (PM10 and PM2.5). During grading activities, dust and particulates have a potential to be generated; however, the contractor will be required to comply with the San Joaquin Valley Air Pollution Control District's (SJVAPCD) Regulation VIII, which controls fugitive dust. According to the SJVAPCD Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI), the air emissions thresholds within the San Joaquin Air Basin are 10 tons of ROG and NOx per year, and there are no thresholds for CO. The emissions associated with the project will occur over an approximately seven-week period within each construction segment. The segments will

overlap; however, the construction activity such as grading will only occur within one segment at a time. The emissions associated with the project are expected to result in less ROG and NOx emissions than the 10 tons per year thresholds established by the SJVAPCD.

Long-term air emissions associated with traffic volumes under Alternatives 1 and 2 are not expected to directly increase because these alternatives do not result in the addition of land uses. The current traffic volumes would be redistributed onto the proposed new roadways and air emissions would remain the same.

Noise - Construction activities will increase noise levels. These noise levels could range from 95 dB with jackhammers to 82 dB with tractors. Noise levels at the residential complexes will reduce as the construction activity move further away from the complexes. According to the Fresno Municipal Code, construction activities occurring during the daytime hours of 7:00 a.m. to 10:00 p.m., excluding Sundays, are exempt from the City's noise ordinance standards. Although exempt, a review of currently adopted thresholds to determine if noise levels could result in harm to individuals was conducted. The Occupational Safety and Health Administration (OSHA) noise limits were reviewed. OSHA standards were established for noise exposure of workers; however, they could also be applied to residents. OSHA standards allow a noise exposure level of 90 dB over an eight-hour exposure period, 92 dB over a six-hour exposure period, 95 dB for four hours of exposure, 97 dB for a three-hour period, and 105 dB for one hour of exposure. Typical operation of construction equipment includes cycles that may involve 1 to 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings. As a result, the OSHA noise exposure levels would not be exceeded during the construction activities associated with Alternatives 1 and 2.

Long-term noise levels associated with traffic volumes under Alternatives 1 and 2 will increase along Fulton Street, Kern Street, Mariposa Street, and Merced Street due to the redistribution of existing traffic volumes. The increase in traffic volumes will not exceed the volumes along current streets within the Project Study Area such as Tuolumne Street, Fresno Street, Tulare Street, Inyo Street, and Van Ness Avenue. These streets have residences located directly adjacent to these streets such as Fresno Street and Van Ness Avenue. As a result, noise levels along the new streets will not be substantially different from current noise levels.

Traffic - Construction traffic volumes will increase with the hauling of demolition material and export soil as well as delivery of rock, asphalt, concrete, and other materials.

Increases in construction traffic could result in potential safety effects as the construction vehicles enter or exit the construction areas. A traffic safety control plan will be required during construction activities.

Long-term traffic volumes under Alternatives 1 and 2 will increase along Fulton Street, Kern Street, Mariposa Street, and Merced Street due to the redistribution of existing traffic volumes. The increase in traffic volumes will not exceed the volumes along current streets within the Project Study Area such as Tuolumne Street, Fresno Street, Tulare Street, Inyo Street, and Van Ness Avenue. An evaluation of the increases in traffic volumes on the existing street network was conducted. The increase in average daily traffic with Alternatives 1 and 2 would result in an increase of a maximum of 72 trips per day. This increase in daily traffic volumes on the existing street network is considered nominal.

Economic Effects - As discussed in Chapter 3, Growth, Alternatives 1 and 2 are expected to influence growth in the Project Study Area resulting in decreases of vacancies. In addition as discussed in Section 4.2.2.2, Employment and Income, Alternatives 1 and 2 will result in increases in gross revenues and average retail sales. These changes that would result from the implementation of Alternatives 1 and 2 is expected to improve property values as well as investment in the maintenance of the structures within the Project Study Area. This investment would prevent further deterioration of the Project Study Area and therefore, the low income and minority residents that live in the Project Study Area will experience an improvement in visual quality and increase in safety within Fulton Mall.

Implementation of Alternative 3 would retain the pedestrian mall and would not result in environmental justice impacts associated with air quality, noise, traffic, and the economy.

4.5.3 Avoidance, Minimization, and Mitigation Measures

Based on the above discussion and analysis, the build alternative 1 and 2 would not cause disproportionately high and adverse effects on any minority or low-income populations as per Executive Order 12898 regarding environmental justice.

Chapter 5 Traffic and Transportation/ Pedestrian and Bicycle Facilities

5.1 Affected Environment

5.1.1 Access, Circulation, and Parking

The existing superblock that contains the Project Study Area is bound by Tuolumne Street on the north, Van Ness Avenue to the east, Inyo Street to the south, and H Street/Broadway Street on the west. Due to the presence of the Fulton Mall, traffic circulation patterns are disrupted due to access restrictions. No vehicular traffic is permitted on Fulton Mall. West of Van Ness Avenue, Kern Street and Merced Street dead end into Fulton Mall. Vehicles using these two streets require use of Federal Alley that parallels Fulton Mall on the east. Federal Alley is a one-way (southbound) street. Federal Alley can also be accessed along Tuolumne Street, Fresno Street, and Tulare Street. Home Run Alley is parallel and west of Fulton Mall between Tulare Street and Inyo Street. Congo Alley is parallel and west of Fulton Mall between Tulare Street and Tuolumne Street. Home Run Alley and Congo Alley are also primarily one-way (southbound) street with the exception of the portion of Congo Alley immediately north of Fresno Street adjacent to the Masten Towers.

Parking is currently provided on the outer parts of the Project Study Area. This parking includes surface parking and structure parking. There are currently approximately 2,255 surface and structure parking spaces, and there are an additional 14 metered parking spaces located along Kern Street and Merced Street west of Van Ness Avenue.

Bicycles are permitted within Fulton Mall; however, Fulton Mall is not a designated bike route by the City of Fresno. Designated bicycle routes are provided along Tuolumne Street, Fresno Street, Tulare Street, and Inyo Street.

Pedestrians currently have access along sidewalks outside of the mall areas and within the Project Study Area. The Fulton Mall is restricted to pedestrian access.

At the eastern edge of the Project Study Area, the pedestrian crossing of Van Ness Avenue along the Mariposa alignment, to and from Courthouse Park, is currently accommodated only by use of an underground tunnel.

5.1.2 Public Transportation

The public transportation provided in the City of Fresno is the Fresno Area Express (FAX). FAX provides many routes and bus stops throughout the City. The downtown transit center is located on the east side of Van Ness Avenue between Fresno Street and Tulare Street (Fresno Area Express 2013). Bus stops and bus routes are located along Van Ness Avenue, Inyo Street, H Street, Tuolumne Street, Fresno Street, and Tulare Street. There are no bus stops or bus routes within Fulton Mall (Fresno Area Express 2013 and Google Earth 2013).

5.2 Environmental Consequences

5.2.1 Access, Circulation, and Parking

The provision of a street along Fulton Mall will largely restore the circulation grid pattern in the Project Study Area, which will provide vehicle circulation in a currently restricted area under Alternatives 1 and 2. Federal Alley, Home Run Alley, and Congo Alley would remain one-way. The implementation of Alternatives 1 and 2 would provide a beneficial effect on circulation and access within the Project Study Area. Alternative 3 would retain the pedestrian Mall and therefore, circulation patterns within the Project Study Area would continue to be disrupted due to access restrictions.

The implementation of the street network within Fulton Mall under the build alternatives 1 and 2 will not directly increase traffic volumes because no new land uses are proposed. The existing traffic volumes within the Project Study Area would be redistributed as the street network is provided. Since traffic volumes will be redistributed, there will be locations within the Project Study Area that will experience increases in traffic volumes (such as areas that do not currently experience traffic volumes) and locations that will experience decreases in traffic volumes. The locations that will increase traffic volumes as a direct result of implementing the build alternatives 1 or 2 would result in a maximum increase of 210 average daily trips compared to existing volumes (Fehr & Peers 2013).

The existing surface and structure parking will not be affected under Alternatives 1 and 2 because no structures are proposed to be added or removed as part of the project. As stated above, 14 metered parking spaces are currently provided on Kern Street and Merced Street south of Van Ness Avenue. Under Alternative 1, Fulton Street between Tuolumne Street and Inyo Street would include 162 on-street parking spaces and Kern, Mariposa, and Merced streets would include 28 on-street parking spaces. Under Alternative 2, Fulton Street between Tuolumne Street and Inyo Street would include 52 on-street parking spaces and Kern, Mariposa, and Merced streets would include 30 on-street parking spaces. The provision of parking spaces along Fulton, Kern, Mariposa, and

Merced streets under Alternatives 1 and 2 will include parking meters that will provide convenience for shoppers and visitors. The provision of parking along the streets within the Project Study Area would improve access to local businesses on Fulton Street, increase economic productivity of the retail stores, and provide a catalyst for additional sustainable development within the Project Study Area. The provision of parking would result in a beneficial effect. Alternative 3 would continue to prohibit vehicular traffic within the Mall as well as parking.

The implementation of the build alternatives 1 and 2 would add bicycle routes within the Project Study Area. The additional routes would provide beneficial impacts on alternative transportation. Alternative 3 would continue to allow bicycles within Fulton Mall.

With the implementation of Alternatives 1 and 2, pedestrian access throughout Fulton Mall will be restricted to sidewalks adjacent to the proposed streets as well as crosswalk areas that connect one side of the street to the other side. Although pedestrian access is partially affected under Alternatives 1 and 2, this potential effect is not considered adverse because pedestrian access will be retained.

Under Alternative 3, pedestrian access will remain unchanged and therefore, this alternative would result in no affect on pedestrian access.

Separate from the Fulton Mall Reconstruction Project, the City has been awarded funds from the Federal Transit Administration (FTA) Bus Livability Program to improve the Van Ness/Mariposa intersection and surrounding area. These improvements will include an at-grade signalized pedestrian crossing of Van Ness at Mariposa, as well as aesthetic and functional improvements to the underground tunnel.

5.2.2 Public Transportation

Alternatives 1, 2, and 3 would not alter the existing public transportation that is currently provided by the Fresno Area Express because the bus stops and bus routes would not be altered. Therefore, the implementation of these alternatives would result in no effect on public transportation.

Separate from the Fulton Mall Reconstruction Project, the City has been awarded funds from the Federal Transit Administration (FTA) Very Small Starts Program to construct a 13.8-mile Bus Rapid Transit (BRT) system along major corridors in the city. The central stop for the BRT system will be at the corner of Van Ness and Mariposa. The FTA has also awarded Bus Livability Program funding, described above, to improve pedestrian

use and access to and around this station in the vicinity of the Van Ness/Mariposa intersection. This includes integrating the BRT station platforms in the middle of the Van Ness Avenue alignment with the signal-controlled pedestrian crossing of Van Ness Avenue at Mariposa.

5.3 Avoidance, Minimization, and Mitigation Measures

No mitigation measures are required for the build alternatives 1 and 2. In addition, the no build alternative would not require mitigation measures.

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Appendix B List of Preparers

This document was prepared by the following:

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Appendix 10: Noise Study

Noise Study

Fulton Mall Reconstruction Project
City of Fresno, California

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Report Date: November 20, 2013

Technical Report - CEQA

Noise Study

Prepared For: Elliott Balch
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Date: November 20, 2013

The purpose of this memorandum is to review and evaluate the potential short- and long-term noise and vibration impacts that may result from construction and implementation of the proposed Fulton Mall Project.

Project Location

The proposed Fulton Mall Reconstruction project is located in Downtown Fresno (Exhibit 1). Fulton Mall consists of six blocks bounded by Van Ness Avenue to the east, Inyo Street to the south, Broadway/H Street to the west, and Tuolumne Street to the north (Exhibit 2). Tulare Street and Fresno Street divide the Mall into three equal portions. The project site includes the existing 80-foot rights-of-way within Fulton Mall including Fulton between Inyo Street to Tulare Street, Tulare Street and Fresno Street, and Fresno Street and Tuolumne Street. The project also includes the existing 80-foot rights-of-way along (1) Kern between Van Ness Avenue and Home Run Alley, (2) Mariposa between Van Ness Avenue and Broadway, and (3) Merced between Van Ness Avenue and Congo Alley. In addition to the Mall, there are areas adjacent to the new streets within the Mall that would allow transitional streetscape to accommodate the project (Exhibit 2). Furthermore, the project includes a parcel at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley for the proposed tot lot.

Proposed Project

The purpose of the proposed project is to increase mobility and access in the Fulton Mall study area by providing more convenient multi-modal access options on the Mall and its cross streets; to improve visibility of businesses, offices and other amenities in the Fulton Mall study area by improving traffic circulation, thereby encouraging additional economic development in the area; and to increase the Fulton Mall study area's consistency with the requirements and goals of proposed land use plans by making the area more accessible to the public, thereby encouraging greater public use of the area an bolstering future economic development opportunities.

The City of Fresno (City) proposes to reconstruct Fulton Mall as a complete street by reintroducing vehicle traffic lanes to the existing pedestrian mall. The Mall consists of six linear blocks that were open to traffic prior to 1964 but now do not allow public vehicle access. The Mall is bounded by Tuolumne Street to the north and Inyo Street to the south, and includes portions of three cross streets. The total length of the new roadways would be approximately 0.67 mile; a total of 0.74 mile of existing Fulton Mall right-of-way would be affected.

The "Mall" refers specifically to the pedestrian areas between adjoining buildings located on the former City streets of Fulton, Mariposa, Merced, and Kern, which function as an integrated pedestrian mall. Fresno Street and Tulare Street, which do allow vehicle traffic, run through the Mall and divide it into three roughly equal sections. Mall landscaping elements include fountains, planters, benches, sculptures, electrical systems, irrigation systems, and two "tot lots." The Mall does not include the adjoining buildings or their facades.

The City of Fresno is proposing two build options for the Fulton Mall Reconstruction Project. These two build options propose to reconstruct the Mall using "complete streets" design concepts. Complete streets are those designed to function as shared public space, or as "living streets" - for pedestrians, cyclists, outdoor businesses, and slow-moving, cautiously driven vehicles. Complete streets may include narrow roadways, corner bulb-outs, winding streets, and other traffic calming measures to lower driving speeds; street trees and other landscape elements; wide pedestrian sidewalks and crosswalks; and bicycle accommodations such as dedicated bicycle lanes or wide shoulders. The purpose of incorporating these design concepts into the proposed project is to retain portions of the historic fabric and character of the Mall, maintaining the key elements, feeling and unique experience of a pedestrian mall in downtown Fresno.

This Draft EIR addresses two build options, which are described below.

Project Option 1

Option 1 consists of reopening the Fulton Mall with two-way streets, with one lane of vehicular traffic in each direction alongside bicycle, pedestrian, and potentially other travel modes, along the length of the Fulton Mall and three cross streets: Merced between Congo Alley and Federal Alley, Mariposa between Broadway Plaza and Federal Alley, and Kern between Fulton and Federal Alley. On-street vehicle parking spaces would be reintroduced along the length of the Fulton Mall (including cross streets), mid-block pedestrian crossings would be provided, and construction of streetscape improvements would optimize the streets for the new blend of travel modes. One 11-foot-wide vehicle travel lane would run in each direction, with a parallel parking lane of 8 feet included on both sides of the streets. Sidewalks would include a typical 14-foot sidewalk on one side of the street and a 28-foot-wide promenade on the other. This promenade is intended to approximate the mall-like pedestrian experience of the original Gecko Fulton Mall. Like the existing mall, the Option 1 promenade would feature artworks, water features, seating, and trees and would allow for walking and pedestrian-only seating, landscaping, and lighting. Pedestrians would be separated from vehicles. There are existing street rights-of-way adjacent to the new streets within the Mall that would include minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane striping. These improvements would provide transitional streetscape to accommodate the project. Under Option 1, the two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be consolidated into one larger tot lot at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley.

Project Option 2

Option 2 consists of reconnecting the street grid similar to Option 1, but would include rebuilding distinctive elements of the Fulton Mall in five to six specific locations, known as "vignettes," in their exact current size and configuration. The vignettes are intended to preserve existing shade trees and features of the historic Eckbo design, and would include many of the existing elements (sculptures, fountains, pavement pattern, trees, and so on). To accomplish this, the street would have gentle curves that would allow for greater preservation of historic features including fountains, art and existing shade trees. One

11-foot-wide vehicle travel lane would run in each direction and would curve through the vignettes. Outside the vignette areas, the street would straighten, and the landscape would include, where possible, an 8-foot-wide parallel parking lane, as well as a pedestrian-only walking, seating, vegetation, and public art area that varies between 14 and 44 feet wide on each sides of the street. Within the vignettes, there would be no parking lane, and the existing Fulton Mall landscape elements would be kept intact as much as possible. The remaining space on each side of the street would be dedicated to pedestrian travel, seating, vegetation, and artwork. There are existing street rights-of-way adjacent to the new streets within the Mall that would include minor public infrastructure improvements such as new curb locations, traffic signal improvements, and lane striping. These improvements would provide transitional streetscape to accommodate the project. Under Option 2, the two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be consolidated into one larger tot lot at the Fresno County Economic Opportunities Commission campus near the intersection of Mariposa and Congo Alley.

Environmental Setting

Noise is defined as unwanted sound. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Sound is produced by the vibration of sound pressure waves in the air. Sound pressure levels are used to measure the intensity of sound and are described in terms of decibels. The decibel (dB) is a logarithmic unit, which expresses the ratio of the sound pressure level being measured to a standard reference level. A-weighted decibels (dBA) approximate the subjective response of the human ear to a broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies that are audible to the human ear.

Noise equivalent sound levels are not measured directly, but are calculated from sound pressure levels typically measured in dBA. The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The peak traffic hour L_{eq} is the noise metric used by California Department of Transportation (Caltrans) for all traffic noise impact analyses.

The Day-Night Average Sound Level (L_{dn}) is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of ten decibels to sound levels at night between 10 p.m. and 7 a.m. While the Community Noise Equivalent Level (CNEL) is similar to the L_{dn}, except that it has another addition of 4.77 dB to sound levels during the evening hours between 7 p.m. and 10 p.m. These additions are made to the sound levels at these times because during the evening and nighttime hours, when compared to daytime hours, there is a decrease in the ambient noise levels, which creates an increased sensitivity to sounds. For this reason the sound is perceived to be louder in the evening and nighttime hours and is weighted accordingly. Many cities rely on the CNEL noise standard to assess transportation-related impacts on noise sensitive land uses.

Noise measurements were taken to represent existing ambient noise levels at land uses that may be affected by the conversion of the existing pedestrian only streets into complete streets, thereby allowing vehicle access.

As shown in Figure 5-1 (see appendix), Noise Measurement 1 (NM1) was taken at the intersection of two streets that currently allow vehicle access (Broadway Street and Fresno Street). Further, the intersection of Highway 99 and Fresno Street is approximately 2,375 feet to the west of this location. There is also bus service along Fresno Street. Noise Measurements 2 and 5 were taken internal to the project site where

vehicle access is currently not allowed. Noise Measurement 3 was taken near Van Ness Avenue near Kern Street that currently does not allow vehicle access. Measurement 4 was taken at the western corner of the intersection of Tuolumne Street and Fulton Street, where Fulton Street dead ends into the mall and becomes "Fulton Mall." Table 1 summarizes the results of the short-term noise monitoring conducted in the study area.

Table 1, Summary of Short-Term Measurements

Position	Land Uses	Start Time	Duration (minutes)	Measured L_{eq}
NM-1	Residential (Masten Towers)	6:24 p.m.	15	70.7
NM-2	Residential (Pacific Southwest Building) and Retail	4:30 p.m.	30	59.9
NM-3	Residential (Californian Hotel)	5:58 p.m.	15	65.7
NM-4	Office/Commercial	6:51 p.m.	15	62.5
NM-5	Office Commercial	5:09 p.m.	30	59.9

Regulatory Setting

Federal Regulations

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves the three purposes listed below:

- Promulgating noise emission standards for interstate commerce.
- Assisting state and local abatement efforts.
- Promoting noise education and research.

The Federal Office of Noise Abatement and Control was initially tasked with implementing the Noise Control Act. However, the ONAC has since been eliminated, leaving the development of federal noise policies and programs to other federal agencies and interagency committees. For example, the Occupational Safety and Health Administration (OSHA) agency limits noise exposure of workers to 90 dB L_{eq} or less for 8 continuous hours or 105 dB L_{eq} or less for 1 continuous hour.

The Department of Transportation (DOT) assumed a significant role in noise control through its various operating agencies. The Federal Aviation Administration (FAA) regulates noise of aircraft and airports. Surface transportation system noise is regulated by a host of agencies, including the Federal Transit Administration (FTA). Transit noise is regulated by the federal Urban Mass Transit Administration, while freeways that are part of the interstate highway system are regulated FHWA. Finally, the federal government actively advocates that local jurisdictions use their land use regulatory authority to arrange new development in such a way that "noise sensitive" uses are either prohibited from being sited adjacent to a highway or, alternately that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by the transportation sources, the City of Fresno is restricted to regulating the noise generated by the transportation system through nuisance abatement ordinances and land use planning.

State Regulations

Established in 1973, the California Department of Health Services Office of Noise Control was instrumental in developing regularity tools to control and abate noise for use by local agencies. One significant model is the "Land Use Compatibility for Community Noise Environments Matrix," which allows the local jurisdiction to delineate compatibility of sensitive uses with various incremental levels of noise (California Department of Health, Office of Noise Control 1976).

Title 24, Chapter 1, Article 4 of the California Administrative Code (California Noise Insulation Standards) requires noise insulation in new hotels, motels, apartment houses, and dwellings (other than single-family detached housing) that provides an annual average noise level of no more than 45 dBA CNEL. When such structures are located within a 60-dBA CNEL (or greater) exterior noise contour, an acoustical analysis is required to ensure that interior levels do not exceed the 45-dBA CNEL annual threshold. In addition, Title 21, Chapter 6, Article 1 of the California Administrative Code requires that all habitable rooms, hospitals, convalescent homes, and places of worship shall have an interior CNEL of 45 dB or less due to aircraft noise.

Government Code Section 65302 mandates that the legislative body of each county and city in California adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines published by the State Department of Health Services. The guidelines rank noise/land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable. The City of Fresno utilizes a version of these guidelines to evaluate potential noise/land use impacts.

Local Regulations

The City of Fresno is currently in the process of updating their General Plan. Draft versions of the Noise and Safety Element are available for viewing; however, they have not been adopted yet. Therefore, the 2002 General Plan standards still apply. However, the City proposes to raise the maximum noise level standards, and states the following within the General Plan Update draft-version of the Noise and Safety Element:

> Major cities in California commonly consider maximum noise levels of 65 dB to be considered "normally acceptable" for unshielded residential development including outdoor space in an urban environment; suburban communities, by contrast, prefer a 60 dB threshold. Noise levels from 65 dB to 70 dB fall within the "conditionally unacceptable" range, and those in the 70 to 75 dB range are considered "normally unacceptable."
>
> The General Plan is consistent with noise control practice in urban areas, employing 65 dB as the beginning of the "normally acceptable" range. This policy supports the development of infill residential projects, as well as nonresidential infill projects by setting a realistic, achievable threshold of impact for new development.
>
> Section 10-101 of City's Municipal Code contains the City's noise ordinance, which establishes exterior and interior noise level standards. Standards are set for ambient noise based on district type (residential, commercial, and industrial) and time of day.

The ambient noise levels in the Noise Ordinance will be updated to be consistent with the General Plan after adoption. This update will need to increase the threshold in residential districts to 65 decibels and also provide standards for mixed-use districts, civic and institutional uses, and parks and open space. It should also specify maximum hourly noise levels of outdoor activity areas and indoor spaces for specified land use types; measurement standards; required noise mitigation standards for new residential development in noise-impacted environments; uniform guidelines for acoustical studies based on current professional standards; and enforcement procedures.

The City of Fresno General Plan Noise Element (2002) contains goals and policies that address noise. The following General Plan goals and policies are applicable to the proposed project:

Goal 1. Enhance the quality of life for the citizens of Fresno and plan for the projected population within the moderately expanded Fresno urban boundary in a manner, which will respect physical, environmental, fiscal, economic, and social issues.

Goal 14. Protect and improve public health and safety.

H-1-a. Policy. Noise-sensitive land uses impacted by existing or projected future transportation noise sources shall include mitigation measures so that resulting noise levels do not exceed the standards shown in Table 8 (Table 4.8-6 of this section) below:

Table 2, Maximum Allowable Noise Exposure for Noise Sensitive Land Uses (Table 8 of the City of Fresno General Plan Noise Element)

Land Use[4]	Outdoor Activity Areas[1] L_{dn} dB	Interior Spaces	
		L_{dn} dB	L_{eq} dB[2]
Residential	60[3]	45	---
Transient Lodging	60[3]	45	---
Hospitals, Nursing Homes	60[3]	45	---
Theaters, Auditoriums, Music Halls	---	---	35
Churches, Meeting Halls	60[3]	---	45
Office Buildings	---	---	45
Schools, Libraries, Museums	---	---	45

Notes:
[1] Where the location of the outdoor activity area is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.
[2] As determined for a typical worst-case hour during periods of use.
[3] Noise levels up to 65 dB L_{dn} adjacent to the Burlington Northern Santa Fe and Union Pacific mainline tracks may be allowed by the project approving authority when it is determined that it is not possible to achieve 60 dB L_{dn} in outdoor activity areas using a practical application of the best-available noise reduction technology, and when all feasible exterior noise reduction measures have been proposed.
[4] The Planning and Development Director, on a case-by-case basis, may designate land uses other than those shown in this table to be noise-sensitive, and may require appropriate noise mitigation measures.
Source: City of Fresno General Plan Noise Element, February 2002: 163.

H-1-b. Policy. For purposes of city analyses of noise impacts, and for determining appropriate noise mitigation, a significant increase in ambient noise levels is assumed if the project causes ambient noise levels to exceed the following:

- The ambient noise level is less than 60 dB L_{dn} and the project increase noise levels by 5 dB or more.

- The ambient noise level is 60-65 dB L_{dn} and the project increases noise levels by 3 dB or more
- The ambient noise level is greater than 65 dB L_{dn} and the project increases noise levels by 1.5 dB or more.

H-1-c. Policy. The city shall review new public and private development proposals to determine conformance with the policies of this Noise Element.

H-1-d. Policy. The city shall require an acoustical analysis in those cases where a project potentially threatens to expose existing or proposed noise-sensitive land uses to excessive noise levels. The presumption of potentially excessive noise levels shall be based on the location of new noise-sensitive uses to known noise sources of staff's professional judgment that a potential for adverse noise impacts exists. Acoustical analyses shall be required early in the review process so that noise mitigation may be included in the project design. For development not subject to environmental review, the requirements for an acoustical analysis shall be implemented prior to the issuance of building permits. The requirements for the content of an acoustical analysis are established by the Planning and Development Department in conjunction with environmental health agencies.

H-1-e. Policy. The city shall develop and employ procedures to ensure that noise mitigation measures required pursuant to an acoustical analysis are implemented in the development review and building permit processes.

H-1-f. Policy. The city shall develop and employ procedures to monitor compliance with the policies of the Noise Element after completion of projects where noise mitigation measures have been required.

H-1-g. Policy. The city shall enforce the State Noise Insulation Standards (California Code of Regulations, Title 24) and Chapter 35 of the Unicom Building Code (UBC) concerning interior noise exposure for multi-family housing, hotels and motels.

H-1-h. Policy. The city shall request the California Highway Patrol, the Sheriffs, and Police Department to actively enforce the California Vehicle Code sections relating to adequate vehicle mufflers and modified exhaust systems, and sound systems in vehicles.

H-1-i. Policy. The city shall review and update the Noise Element and the Noise Ordinance to ensure that noise exposure information and specific policies and ordinances are consistent with changing conditions with the city and with noise control regulations or policies enacted after the adoption of this element.

H-1-j Policy. Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so that resulting noise levels do not exceed the adopted standards at noise-sensitive land uses.

H-1-k. Policy. Noise-sensitive land uses impacted by stationary noise sources shall include mitigation measures so that resulting noise levels do not exceed the standards shown in Table 9 (Table 4.8-7 of this section) as follows:

Table 3: Maximum Allowable Noise Exposure-Stationary Noise Sources[1]
(Table 9 of the City of Fresno General Plan Noise Element)

Noise Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Equivalent Sound Level (L_{eq}), dB	50	45
Maximum Sound Level (L_{max}), dB	70	65

Notes:
[1] As determined at the outdoor activity areas. Where the location of outdoor activity areas is unknown or not applicable, the noise exposure standard shall be applied at the property line of the receiving land use. When ambient noise levels exceed or equal the levels in this table, mitigation shall only be required to limit noise to the ambient plus five (5) dB.
Source: City of Fresno General Plan Noise Element, February 2002

H-1-l. Policy. Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated so as not to exceed the noise level standards of Table 9 (Table 4.8-7 of this section) at noise-sensitive land uses.

H-1-m Policy. As a guideline, noise barrier (wall, earth berms, or berm/wall combinations) shall not exceed 15 feet in height as measured from the elevation of the nearest building pad. The Planning Department Director, on a case-by-case basis, may allow noise barrier heights differing from this guideline. However, resulting noise levels must satisfy the maximum allowable noise exposure standards.

City of Fresno Municipal Code

Chapter 10, Regulations Regarding Public Nuisances and Real Property Conduct and Use, Article 1, Noise Regulations, of the Fresno Municipal Code establishes excessive noise guidelines and exemptions. The following portions of the Municipal Code are applicable to the proposed project:

SEC. 10-102. - Definitions.

(b) Ambient Noise. "Ambient noise" is the all-encompassing noise associated with a given environment, being usually a composite of sounds from many sources near and far. For the purpose of this ordinance, ambient noise level is the level obtained when the noise level is averaged over a period of fifteen minutes, without inclusion of the offending noise, at the location and time of day at which a comparison with the offending noise is to be made. Where the ambient noise level is less than that designated in this section, however, the noise level specified herein shall be deemed to be the ambient noise level for that location.

Table 4, SEC. 10-102 of the Noise Ordinance of the City of Fresno

DISTRICT	TIME	SOUND LEVEL DECIBELS
Residential	10 pm to 7 am	50
Residential	7 pm to 10 pm	55
Residential	7 am to 7 pm	60
Commercial	10 pm to 7 am	60
Commercial	7 am to 10 pm	65
Industrial	anytime	70

SEC. 10-105. Excessive Noise Prohibited. No person shall make, cause, or suffer or permit to be made or caused upon any premises or upon any public street, alley, or place within the city, any sound or noise which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing or working in the area, unless such noise or sound is specifically authorized by or in accordance with this article. The provisions of this section shall apply to, but shall be limited to, the control, use, and operation of the following noise sources:

(a) Radios, musical instruments, phonographs, television sets, or other machines or devices used for the amplification, production, or reproduction of sound or the human voice.

(b) Animals or fowl creating, generating, or emitting any cry or behavioral sound.

(c) Machinery or equipment, such as fans, pumps, air conditioning units, engines, turbines, compressors, generators, motors or similar devices, equipment, or apparatus.

(d) Construction equipment or work, including the operation, use or employment of pile drivers, hammers, saws, drills, derricks, hoists, or similar construction equipment or tools. This subsection shall not apply to construction equipment or work within the area bounded by the Union Pacific tracks, from Ventura to Tulare; Tulare Street, from Union Pacific tracks to Fulton Mall; Fulton Mall/Street, from Tulare to Ventura; and Ventura Street, from Fulton Street to Union Pacific tracks. This exception shall become null and void on June 1, 2003. (Orig. Ord. 1076; Rep. and Added Ord. 72-163, 1972; Am. Ord. 2001-41, § 1, 5-20-01).

SEC. 10-107 School, Hospitals, and Churches. No person shall create any noise on any street, sidewalk, or public place adjacent to any school, institution of learning, or church while the same is in use, or adjacent to any hospital, which noise unreasonably interferes with the workings of such institution or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed in such street, sidewalk, or public place indicating the presence of a school, church, or hospital. (Orig. Ord. 3667; Rep. and Added Ord. 72-163, 1972).

SEC. 10-109 Exceptions. The provisions of this article shall not apply to:

(a) Construction, repair or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the city or other governmental agency, or to site preparation and grading, provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday.

(b) Emergency work.

(c) Any act or acts which are prohibited by any law of the State of California or the United States. (Added Ord. 72-163, 1972; Am. Ord. 80-171, § 74, eff. 12-26-80).

Thresholds of Significance

According to the City of Fresno, to determine whether impacts to noise are significant environmental effects, the following questions are analyzed and evaluated. Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

c) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

d) Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?

Potential Project Impacts

Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction

Construction noise varies depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work.

Table 5 summarizes noise levels produced by construction equipment that is commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 70 to 90 dB at a distance of 50 feet, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance.

Table 5, Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82
Source: Federal Transit Administration 1995.	

Construction equipment used on the site may be mobile or stationary. Mobile equipment (e.g., loaders, graders, dozers) moves around a construction site performing tasks in a recurring manner. Stationary equipment (e.g., air compressor, generator, concrete saw) operates in a given location for an extended period of time to perform continuous or periodic operations. Operational characteristics of heavy

construction equipment are additionally typified by short periods of full power operation followed by extended periods of operation at lower power, idling, or powered-off conditions.

Site preparation involves demolition, grading, compacting, and excavating. Equipment and vehicles that may be used during site preparation would include backhoes, bulldozers, loaders, excavation equipment (e.g., graders and scrapers), pile drivers and compaction equipment. Finishing activities may include the use of pneumatic hand tools, scrapers, concrete trucks, vibrators, and haul trucks.

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. As the project will be subject to Caltrans requirements and review, construction noise will also regulated by Caltrans 2010 Standard Specification Section (14-8.02 Noise Control) which states that noise levels generated during construction shall comply with applicable local, state, and federal regulations, and that all equipment shall be fitted with adequate mufflers according to the manufacturers' specifications.

No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans 2010 Standard Specification Section (14-8.02 Noise Control) and applicable local noise standards. Construction noise would be short-term and intermittent. Further, construction activities would only occur between the hours of 7:00 a.m. and 10:00 p.m. Monday through Saturdays and therefore, be exempt from the City of Fresno Noise Ordinance standards. However, to ensure construction noise impacts are minimized, mitigation measures MM NOI-1 through 4 (given below under the heading Mitigation Measures) will be incorporated.

Operation

Potential noise impacts associated with the operations of the proposed project are a result of project-generated vehicular traffic on the project vicinity roadways and from stationary noise sources associated with the proposed project.

According to the traffic study prepared for the proposed project (Fehr & Peers 2013), neither build alternative would result in an increase greater than 0.03 percent over baseline on any road segment with the exception of Fulton Street. Considering that a doubling of the existing traffic volumes would be required to achieve a 3 dB increase in ambient noise levels, implementation of the proposed project would not result in substantial increases in ambient noise levels along study area road segments, therefore, impacts to these road segments are not discussed further in this analysis. Impact analysis will be focused on the pedestrian only road segments that are proposed to be converted to "complete streets"

The proposed project would result in 210 ADT on Fulton Street between Tuolumne Street and Inyo Street at project completion and up to 2,310 ADT under cumulative plus project conditions. None of the other road segments that will be converted from pedestrian use are through streets and would only service the immediate area. Therefore, traffic volumes along these segments would be less than those projected for Fulton Street. Considering this, traffic noise modeling was only conducted for Fulton Street, as it represents the worst-case scenario.

At buildout, vehicle traffic noise along Fulton Street under Build Alternative 1 would reach up to 52.9 dBA L_{eq} (h) and 53.1 dBA CNEL respectively. Buildout noise levels under Alternative 2 would be 50.1 dBA L_{eq} (h) and 51.1 dBA CNEL respectively. Existing ambient noise levels are substantially louder than the projected existing plus project ambient noise levels (59.9-70.7 dBA L_{eq}). The greatest increase in ambient noise levels under cumulative plus project conditions would be 1 dB at the quietest location.

Modeling results (as shown in the Appendix [Table B-1 and Table C-1]) indicate that project generated traffic under both Build Alternatives would result in negligible increases in ambient noise levels and would not cause ambient noise to exceed 60 dBA at sensitive receptor locations.

Parking Lot Areas

Sources of noise from parking lots are primarily from engine and tire noise, slamming of doors, and pedestrians. A parking lot is not considered to be a serene environment and the traffic noise from the adjacent streets will provide a masking effect over the short-term, single event noise occurrences common to parking lots.

Rooftop Mechanical Equipment

As details were not available pertaining to rooftop forced air units, a reference noise level for a rooftop unit was used. Noise impacts from rooftop mechanical equipment are anticipated to be at a level of 59.5 dBA L_{eq} at a distance of 10 feet. As there are no sensitive receptors within 20 feet of the proposed buildings, impacts from noise generated by rooftop forced air units are considered to be less than significant.

Tot Lot Area

The Fulton Mall includes two tot lots — one near the corner of Fulton and Merced, the other near Fulton and Kern — that were part of the Mall's original design. In 2008, the City of Fresno used funding from State Proposition 40 and the Federal Land and Water Conservation Fund (LWCF) to improve these tot lots. The City removed the original play structures, which were in extreme disrepair, and installed new, brightly colored play equipment and a soft-fall surface in a portion of each tot lot area.

The proposed Fulton Mall Reconstruction Project involves the reintroduction of a roadway in the right-of-way on Fulton and its cross-malls, and it will not be possible to retain the Mall's tot lots in their present locations. The tot lot would be relocated to an area adjacent to Congo Alley and approximately 72 feet from the right-of-way (ROW) of Mariposa Mall (Street). The traffic noise impact to the relocated tot lot is expected to be less than 60 dBA. Mariposa Street would have less traffic volume than Fulton Street, and Fulton Street was shown to have a maximum noise level of 53.1 dBA CNEL at the building facade adjacent to the roadway. The relocated tot lot will be an additional 72 feet back from the road ROW, which would reduce noise levels further. Traffic noise impacts to the relocated tot lot would be less than significant.

A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

As previously described in above, increases in noise levels related to the proposed project would not substantially increase the existing noise environment. Similarly, noise from project-related traffic along local roadways would not significantly increase noise levels in the project area and would likewise not result in a significant impact. Therefore, impacts associated with a substantial permanent increase in ambient noise levels in the project vicinity would be less than significant.

A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

As stated above, the City's Municipal Code Section 10-109 exempts construction noise from noise standards provided that " Construction, repair or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the city or other governmental agency, or to site preparation and grading, provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday. (Added Ord. 72-163, 1972; Am. Ord. 80-171, § 74, eff. 12-26-80)." However to reduce construction-related noise impacts, mitigation measures MM NOI-1 through shall be implemented. Impacts are considered to be less than significant.

Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?

Construction

The Federal Transit Administration Report[1] outlines guidelines for assessing the impact of vibration from construction activities on nearby buildings. The guidelines determine impact threshold levels that should be considered based on the age and/or condition of the structures and the level of vibration that could potentially cause damage to the structural integrity of those structures. Based on the age and/or condition of the buildings, the recommended damage thresholds range from 0.2 inches/second peak particle velocity at non-engineered timber and masonry structures to 0.5 inches/second peak particle velocity for reinforced-concrete, steel, or timber structures containing no plaster. Thus, for the purposes of this analysis, the following significance thresholds are applied to analyze the potential vibration impacts from Project construction:

- Project construction activities would cause a ground-borne vibration level to exceed 0.2 inches/second peak particle velocity at non-engineered timber and masonry structures;
- Project construction activities would cause a ground-borne vibration level to exceed 0.3 inches/second peak particle velocity at engineered concrete and masonry (no plaster) buildings;
- Project construction activities would cause a ground-borne vibration level to exceed 0.12 inches/second peak particle velocity at buildings extremely susceptible to vibration damage, such as historic buildings; or
- Project construction activities would cause a ground-borne vibration level to exceed 0.5 inches/second peak particle velocity at reinforced-concrete, steel, or timber (no plaster) structures.

While long-term project operation would not include uses or activities that typically generate excessive groundborne vibration or groundborne noise levels, short-term project construction could introduce groundborne vibration to the project site and the surrounding area.

Offsite sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible groundborne noise or vibration (Table 7).

[1] U.S. Department of Transportation, Federal Transit Administration, “Transit Noise and Vibration Impact Assessment,” May 2006.

Table 6: Vibration Levels Generated by Construction Equipment

Equipment	Peak Particle Velocity (inches/second) at 25 feet	Approximate Vibration Level (L_V) at 25 feet
Pile driver (impact)	1.518 (upper range) 0.644 (typical)	112 104
Pile driver (sonic)	0.734 upper range 0.170 typical	105 93
Clam shovel drop (slurry wall)	0.202	94
Hydromill (slurry wall)	0.008 in soil 0.017 in rock	66 75
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drill	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58
Source: Transit Noise and Vibration Impact Assessment, Federal Transit Administration, May 2006.		

Construction activities would include pavement breaking and would necessitate associated construction equipment to function in close proximity to the buildings. Peak particle velocity associated with construction activities is not expected to attain a sufficient level to structurally affect any of the properties adjacent to the proposed construction activities because construction techniques that would minimize vibration, (for example, limiting concrete breaking to hand tools, utilizing jack hammers or like equipment) would be required adjacent to the adjoining properties. In addition, concrete would most likely be cut with a saw approximately 6 inches from the edge of each building and then removed. Due to the close proximity of construction work to the adjoining properties, fencing would be established. Prior to any construction activities adjacent to properties, a preconstruction survey would take place and meetings with the property owners will be held. For areas immediately adjacent to historic properties, the construction work will be monitored by a qualified Principal Architectural Historian.

An additional source of vibration during project construction would likely be from a bulldozer (tractor), which would generate 0.089 inch per second PPV at 25 feet with an approximate vibration level of 87 VdB. Vibration from the bulldozer would be intermittent and not a source of continual vibration. At less than 0.1 inch/second, the bulldozer would not create vibration that would affect even the most fragile of structures. As discussed above, construction activities would result in less than significant vibration impacts

Operation

The proposed project consists of the reconstruction of Fulton Mall as a complete street by reintroducing vehicle traffic lanes to the existing pedestrian mall. The project does not include any sources of operational vibration; no impacts are anticipated.

Mitigation Measures

The following measures would further minimize noise associated with project construction.

MM NOI 1. The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all project construction.

MM NOI 2. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site, to the degree possible.

MM NOI 3. The project proponent shall mandate that the construction contractor prohibit the use of personal or commercial music or sound amplification on the project site during construction.

MM NOI 4. The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.

References

City of Fresno General Plan 2002.

City of Fresno Municipal Code

Appendices

Appendix A Noise Measurement Data

Appendix B Tables, Tables B-1 and C-1 from NSR for Fulton Mall

Appendix C New Parcel Map

Appendix A Noise Measurement Data

Noise Measurement 1	Noise Measurement 4
Date Time=07/10/13 18:24:00	Date Time=07/10/13 18:51:00
Duration: 15 minutes	Duration: 15 minutes
Sampling Time=1	Sampling Time=1
Record Num= 900	Record Num= 900
Leq Value=70.7	Leq Value=62.5
SEL Value=100.3	SEL Value=92.0
MAX Value=78.5	MAX Value=82.7
MIN Value=69.0	MIN Value=50.8
Freq Weighting=A Time Weighting=Slow	Freq Weighting=A Time Weighting=Slow
	Noise Measurement 5
Noise Measurement 2	Date Time=07/10/13 16:30:00
Date Time=07/10/13 16:30:00	Duration: 30 minutes
Duration: 30 minutes	Sampling Time=1
Sampling Time=1	Record Num= 1800
Record Num= 1800	Leq Value=59.9
Leq Value=59.9	SEL Value=92.5
SEL Value=92.5	MAX Value=74.4
MAX Value=74.4	MIN Value=54.8
MIN Value=54.8	Freq Weighting=A Time Weighting=Slow
Freq Weighting=A Time Weighting=Slow	
Noise Measurement 3	
Date Time=07/10/13 17:58:00	
Sampling Time=1	
Duration: 15 minutes	
Record Num= 900	
Leq Value=65.7	
SEL Value=95.2	
MAX Value=81.0	
MIN Value=60.1	
Freq Weighting=A Time Weighting=Slow	

Fulton Mall noise measuring location 2; L_{eq} 59.9.

Fulton Mall noise metering location 5; L_{eq} 61.3. Meter ran for 31.5 minutes; major noise source from adjacent baseball field which was active and had amplified music playing.

Appendix B Tables

Daily Roadway Segment Traffic Volumes - Baseline Plus Project Conditions

Roadway Segment	Average Daily Traffic Volumes (ADT)			Percent Increase Over Baseline	Cumulate Project Plus Project Mall Open to Traffic (ADT)
	Baseline Conditions[1]	Baseline + Project: Mall Open to Traffic	Net Change		
1. Broadway: North of Stanislaus St.	2,588	2,580	-8	0.00	13,810
2. Fulton Street: North of Stanislaus St.	2,731	2,800	69	0.03	6,360
3. Van Ness Avenue: North of Stanislaus St.	6,339	6,270	-69	-0.01	11,710
4. Fulton Street: Tuolumne St. to Inyo St.[2]	N/A	210	210	N/A	2,310
5. Van Ness Avenue: Fresno St. to Tulare St.	9,991	10,020	29	0.00	13,950
6. Van Ness Avenue: Tulare St. to Inyo St.	9,728	9,740	12	0.00	13,950
7. Van Ness Avenue: Inyo St. to Ventura Ave.	7,586	7,580	-6	0.00	13,640
8. Stanislaus Street: M Street to Van Ness Ave.	4,360	4,340	-20	0.00	14,030
9. Stanislaus Street: Broadway to E Street	6,996	7,010	14	0.00	22,010
10. Tuolumne Street: E Street to Broadway	5,586	5,600	14	0.00	5,990
11. Tuolumne Street: Van Ness Ave. to M Street	4,299	4,290	-9	0.00	5,210
12. Fresno Street: Broadway to Van Ness Ave.	14,444	14,380	-64	0.00	18,480
13. Fresno Street: Van Ness Ave. to M Street	12,150	12,080	-70	-0.01	20,050
14. Tulare Street: H Street to Van Ness Ave.	9,304	9,280	-24	0.00	18,980
15. Inyo Street: H Street to Van Ness Ave.	3,301	3,300	-1	0.00	6,120
16. Ventura Avenue: Van Ness Ave. to M Street	11,838	11,910	72	0.01	24,570

Source: Fehr & Peers, 2013.

Notes: [1]Baseline Plus Project: Pedestrian Mall alternative would have the same traffic volumes as Baseline Conditions.
[2]Fulton Street is a pedestrian mall between Tuolumne St. and Inyo St. under Baseline Conditions and Baseline Plus Project: Pedestrian Mall alternative.

Predicted Future Noise and Barrier Analysis

Land Use Category (See Figure 5-1)	Representative Ambient Noise Measurement Location (see Figure 5-1)	Location of Sensitive Receptors (See Figure 5-1)	Baseline Noise Level (L_{eq}(h), dBA) (Measured) See Table 6-1	Baseline Plus Project Noise Level L_{eq}(h), dBA (Modeled)	Cumulative Plus Project L_{eq}(h), dBA (Modeled)	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)[3]																	
								6 Feet			8 Feet			10 Feet			12 Feet			14 Feet			16 Feet		
								L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR
Build Alternative 1																									
B	NM1	High Density Residential at the N. corner of the intersection of Fresno Street and Broadway Pl.	70.7	n/m[4]	n/m	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B	NM2	High Density Residential E. Corner of Fulton Mall and Mariposa Mall	59.9	42.5	52.9	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B	NM3	S. corner of Tulare St and Fresno Mall	65.7	n/m	n/m	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	NM1	Church Approx. 300 North of NM1	70.7	42.5	52.9	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B	NM3	S. corner of the intersection of Kern Street and Van Ness Avenue	65.7	n/m	n/m	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	NM2	Barber School Approx. 350' of NM1	59.9	42.5	52.9	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	NM1	Stadium	70.7	n/m	n/m	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	NM2	Outdoor Eating Area	59.9	42.5	52.9	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	NM1	Church Approx. 300 North of NM1	70.1	n/m	n/m	52 Interior[1]	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	NM2	Barber School Approx. 350' of NM1	59.9	42.5	52.9	52 Interior[1]	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Land Use Category (See Figure 5-1)	Representative Ambient Noise Measurement Location (see Figure 5-1)	Location of Sensitive Receptors (See Figure 5-1)	Baseline Noise Level (L_{eq}(h), dBA) (Measured) See Table 6-1	Baseline Plus Project Noise Level L_{eq}(h), dBA (Modeled)	Cumulative Plus Project L_{eq}(h), dBA (Modeled)	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)[3]																	
								6 Feet			8 Feet			10 Feet			12 Feet			14 Feet			16 Feet		
								L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR
E	NM1	Varies	70.7	n/m	n/m	72 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	NM2	Varies	59.9	42.5	52.9	72 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	NM3	Varies	65.7	n/m	n/m	72 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	NM4	Varies	62.5	42.5	52.9	72 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	NM5	Varies	59.9	42.5	52.9	72 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Build Alternative 2																									
B	NM1	High Density Residential at the N. corner of the intersection of Fresno Street and Broadway Pl.	70.7	n/m[4]	n/m	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B	NM2	High Density Residential E. Corner of Fulton Mall and Mariposa Mall	59.9	40.5	50.9	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B	NM3	S. corner of Tulare St and Fresno Mall	65.7	n/m	n/m	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	NM1	Church Approx. 300 North of NM1	70.7	40.5	50.9	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B	NM3	S. corner of the intersection of Kern Street and Van Ness Avenue	65.7	n/m	n/m	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	NM2	Barber School Approx. 350' of NM1	59.9	40.5	50.9	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Land Use Category (See Figure 5-1)	Representative Ambient Noise Measurement Location (see Figure 5-1)	Location of Sensitive Receptors (See Figure 5-1)	Baseline Noise Level (L_{eq}(h), dBA) (Measured) See Table 6-1	Baseline Plus Project Noise Level L_{eq}(h), dBA (Modeled)	Cumulative Plus Project L_{eq}(h), dBA (Modeled)	Activity Category (NAC)	Impact Type	Noise Prediction with Barrier, Barrier Insertion Loss (I.L.), and Number of Benefited Receivers (NBR)[3]																	
								6 Feet			8 Feet			10 Feet			12 Feet			14 Feet			16 Feet		
								L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR	L_{eq} (h)	I.L.	NBR
C	NM1	Stadium	70.7	n/m	n/m	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	NM2	Outdoor Eating Area	59.9	40.5	50.9	67 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	NM1	Church Approx. 300 North of NM1	70.1	n/m	n/m	52 Interior[1]	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	NM2	Barber School Approx. 350' of NM1	59.9	40.5	50.9	52 Interior[1]	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	NM1	Varies	70.7	n/m	n/m	72 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	NM2	Varies	59.9	40.5	50.9	72 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	NM3	Varies	65.7	n/m	n/m	72 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	NM4	Varies	62.5	40.5	50.9	72 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	NM5	Varies	59.9	40.5	50.9	72 Exterior	None	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1 Typical construction provides at least 15 dB of exterior to interior noise reduction with window open.
2 Please note that baseline plus project and Cumulative Plus Project Scenarios will not exceed the NAC therefore, no barriers are required.
3 n/m = Not Modeled. The project would not add an acoustically significant number of vehicle trips on Van Ness Avenue, Fresno Street or Broadway Place.

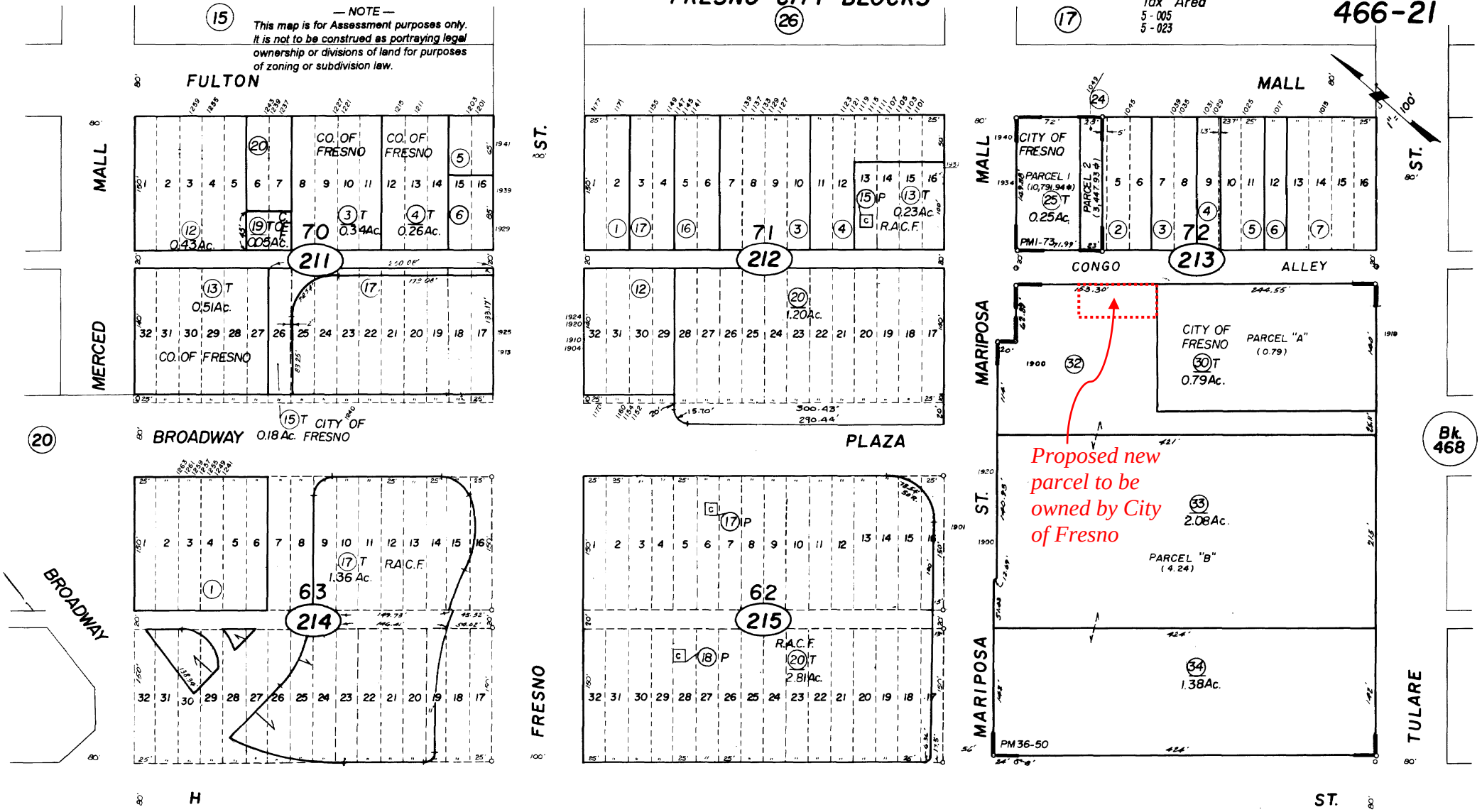
Appendix C Parcel Map

FRESNO CITY BLOCKS

466-21

Tax Area
5 - 005
5 - 023

— NOTE —
This map is for Assessment purposes only. It is not to be construed as portraying legal ownership or divisions of land for purposes of zoning or subdivision law.



SOUTHERN PACIFIC R. R.

Parcel Map No. 69 - 21 - Bk. 1, Pg. 73
Parcel Map No. 79 - 90 - Bk. 36, Pg. 50 & 51

NOTE - R.A.C.F. = Redevelopment Agency of the City of Fresno

NOTE - Assessor's Block Numbers Shown in Ellipses.
Assessor's Parcel Numbers Shown in Circles.

Assessor's Map Bk. 466 - Pg. 21

County of Fresno, Calif.

Appendix 11: Traffic Study

Final Transportation Impact Report

FULTON MALL RECONSTRUCTION PROJECT

Prepared for:

Prepared by:

FEHR PEERS

2990 Lava Ridge Court
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July 12, 2013

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EXECUTIVE SUMMARY

This study analyzes the transportation impacts related to the proposed Fulton Mall Reconstruction project.

PROJECT DESCRIPTION

The proposed project consists of reconstructing the existing Fulton Mall according to one of three design alternatives:

- Alternative 1: Reconnect the Grid on Traditional Streets – completely remove the existing pedestrian mall and introduce a narrow, two-lane, two-way enhanced street with oversized sidewalks, stately trees, and on-street parking throughout the Fulton Mall and its cross streets.
- Alternative 2: Reconnect the Grid with Vignettes – introduce a two-way street throughout the Fulton Mall, keeping selected features in their original Mall contexts ("vignettes"), in a manner that provides improved retail visibility and some on-street parking. Transform Kern, Mariposa, and Merced Malls into enhanced streets with narrow traffic ways, ample sidewalks, stately trees, and on-street parking.
- Alternative 3: Restoration and Completion – Keep Fulton Street, Merced Street, Mariposa Street, and Kern Street Malls pedestrian-only. Renovate and repair the pedestrian malls in their entirety, including their landscape and hardscape, and restore the artwork.

From a vehicle transportation perspective, Alternatives 1 and 2 generate similar traffic conditions by opening Fulton Mall to vehicular traffic with a narrow two-lane, two-way local serving roadway. Alternative 3 would differ from Alternatives 1 and 2 by maintaining the pedestrian-only mall. For the purposes of this study, Alternatives 1 and 2 are referred to as the "Open to Traffic" alternatives and Alternative 3 is referred to as the "Pedestrian Mall" alternative.

BASELINE CONDITIONS

AM and PM peak hour traffic counts were collected at the study intersections on weekdays between November 2009 and January 2012. While these counts were taken over the course of a little more than a two-year period, the traffic counts demonstrate that traffic volumes have roughly remained the same or slightly decreased during this time period. A review of traffic counts collected in 2009 and 2011 on the Fresno Street and Tulare Street corridors in Downtown Fresno show that traffic volumes have either stayed roughly the same or decreased by up to 20 percent, with an average decrease of about 10 percent. Therefore, using the slightly older counts from November 2009 represents similar or slightly more congested traffic conditions as those observed in 2011 and 2012.

Daily roadway traffic count data was obtained from the City of Fresno and the High Speed Rail EIR. These traffic counts were collected between March and November 2009. The baseline conditions roadway operations analysis uses roadway geometrics and traffic control as observed in Fall 2011.

Under baseline conditions, all study intersections operate at LOS D or better.

BASELINE PLUS PROJECT CONDITIONS

The proposed project would result in the following transportation impacts:

Impact B-1: The proposed project could cause potentially significant impacts to traffic operations at study intersections.

Significance: Less Than Significant

The proposed project would not significantly change traffic volumes. For the Baseline Plus Project Conditions – Pedestrian Mall alternative, traffic volumes and intersection operations would remain the same as Baseline Conditions.

For the Baseline Plus Project Conditions – Mall Open to Traffic alternatives, minor shifts in traffic patterns are expected to occur as the result of opening Fulton Mall and its cross steers to vehicular traffic. However, the proposed streets under these alternatives would primarily carry local trips to access adjacent businesses and would not greatly affect traffic volumes or traffic operations.

Table 5 shows that all study intersections would operate at LOS D or better with the proposed project.

Therefore, this impact is **less than significant**.

Impact B-2: The proposed project could cause potentially significant impacts to traffic operations and bicycle and pedestrian circulation during construction.

Significance: Potentially Significant

Construction may include disruptions to the transportation network near the site, including the possibility of temporary closures. Heavy vehicles would access the site and may need to be staged for construction. These activities could result in degraded roadway operating conditions as well as cause impacts to bicycle and pedestrian facilities along the existing Fulton Mall.

Therefore, this impact is considered **potentially significant**.

Mitigation B-2:

Prior to the beginning of construction, a construction traffic management plan shall be prepared to address potential impacts to transportation facilities. The plan shall ensure that acceptable operating conditions are maintained on local roadways as well as detours or facilities for bicyclists, pedestrians, and transit users. Implementation of this mitigation measure would reduce the above impact to **less than significant**.

Residual Significance: Less Than Significant

Impact B-3: The proposed project could cause potentially significant impacts to transit service.

Significance: Less Than Significant

The proposed project would not adversely affect existing or planned transit facilities. The proposed project would not conflict with adopted plans, policies, or programs regarding transit facilities. Therefore, this impact is considered **less than significant**.

Impact B-4: The proposed project could cause potentially significant impacts to bicycle and pedestrian facilities.

Significance: Less Than Significant

The Fulton Mall Reconstruction Project proposes either restoring the existing pedestrian mall or replacing the pedestrian mall with a new roadway. For the Pedestrian Mall alternative, the mall's existing use as a pedestrian and bicycle facility would remain. Therefore, there would be no impact to bicycle and pedestrian facilities except during construction activity (see Impact B-2).

For the Mall Open to Traffic alternatives, the Fulton Mall Reconstruction Project proposes wide pedestrian areas and a local-serving roadway carrying vehicle traffic at relatively low speeds. This would maintain the Mall as a bicycle and pedestrian friendly facility.

Since the proposed project would not adversely affect existing or planned bicycle or pedestrian networks this impact is considered **less than significant**.

Impact B-5: The proposed project could result in increased hazards due to design features.

Significance: Potentially Significant

For the Pedestrian Mall alternative, the mall would be improved to enhance accessibility and reduce hazards to pedestrians. Therefore, this impact would be less than significant under this alternative.

For the Mall Open to Traffic alternatives, vehicle traffic would be reintroduced into the corridor. Depending on the design of the roadway and the alternative selected, there is the potential for increased hazards from the interaction between travel modes (i.e., vehicles and pedestrians, vehicles and bicyclists, etc.) and the visibility (or lack thereof) of each at interaction points.

Therefore, this impact is considered **potentially significant**.

Mitigation B-5:

If one of the Mall Open to Traffic alternatives is selected, the project design shall consider issues such as design speed, sight distance, and bicycle and pedestrian treatments to enhance traveler safety. Specifically, if Alternative B (Reconnect the Grid with Vignettes) is selected, the placement of art pieces in the project design shall consider drivers' ability to see pedestrians and cyclists at likely interaction points, such as intersections and mid-block crossings.

Implementation of this mitigation measure would reduce the above impact to **less than significant**.

Residual Significance: Less Than Significant

CUMULATIVE CONDITIONS

The Cumulative Conditions analysis identifies the proposed project's incremental contribution to traffic congestion when viewed in connection with the effects of reasonably foreseeable future projects. For purposes of this study, the proposed project's incremental contribution to cumulative traffic congestion is measured by comparing the traffic analysis results of Cumulative No Project Conditions to Cumulative Plus Project Conditions.

This study uses local and regional planning and funding documents to identify the reasonably foreseeable changes to the transportation system and development patterns in the Fresno region for the cumulative conditions analysis. This study uses the Fresno Council of Governments (Fresno COG) 2035 population and employment forecasts as land use inputs for future development in the region.

This study uses the financially constrained list of transportation projects from the Fresno COG *2011 Regional Transportation Plan* (RTP) to identify future transportation improvements in the area. This study also incorporates the proposed circulation changes associated with the proposed High Speed Rail trackway project expected to begin construction in 2013.

Under Cumulative No Project Conditions, the following five intersections would operate at LOS E or F during the AM and/or PM peak hour:

- Stanislaus Street / Broadway
- Tuolumne Street / Broadway
- Fresno Street / H Street
- Fresno Street / Van Ness Avenue
- Ventura Avenue / H Street

All of these intersections are located within the Core Area, defined as the area bounded by State Routes 99, 41, and 180 in Fulton Corridor Specific Plan policy 9-3-1. Per the City of Fresno's General Plan policy MT-1-m, LOS E and F operations are acceptable at City of Fresno intersections within the Downtown Neighborhoods Community Plan area and the Fulton Corridor Specific Plan area. Therefore, all intersections are considered to operate at an acceptable level of service.

CUMULATIVE IMPACTS

Under Cumulative Plus Project Conditions, the proposed project would have the following cumulatively considerable transportation impacts:

Impact C-1: The proposed project could contribute to traffic conditions that result in significant impacts to traffic operations at study intersections.

Significance: Less Than Significant

The proposed project is anticipated to potentially stimulate and support future development in the Project Area. However, the proposed project is not expected to greatly change traffic patterns in the Study Area.

For the Pedestrian Mall alternative, traffic volumes and intersection operations would remain the same as Cumulative No Project Conditions.

For the Mall Open to Traffic alternatives, minor shifts in traffic patterns are expected to occur as the result of opening Fulton Mall to vehicular traffic. However, the proposed streets under these alternatives would primarily carry local trips to access adjacent businesses and would not greatly affect traffic volumes or traffic operations.

Table 9 shows that the following four study intersections would operate at LOS E or F during the AM and/or PM peak hour under Cumulative Plus Project Conditions with the Mall Open to Traffic alternatives:

- Stanislaus Street / Broadway
- Tuolumne Street / Broadway
- Fresno Street / H Street
- Ventura Avenue / H Street

All of these intersections are located within the Core Area, defined as the area bounded by State Routes 99, 41, and 180 in Fulton Corridor Specific Plan policy 9-3-1. Per the City of Fresno's General Plan policy MT-1-m, LOS E and F operations are acceptable at City of Fresno intersections within the Downtown Neighborhoods Community Plan area and the Fulton Corridor Specific Plan area. Therefore, all intersections are considered to operate at an acceptable level of service.

Since these intersections all operate acceptably, this impact is **less than significant**.

CHAPTER 1. INTRODUCTION

This study analyzes the transportation impacts related to the proposed Fulton Mall Reconstruction project ("proposed project"). This includes the proposed project's anticipated effects on vehicular, transit, bicycle, and pedestrian travel. The study identifies mitigation measures to address project impacts where appropriate.

PURPOSE

The analysis contained in this report provides information for the transportation section of the environmental documents being prepared for the proposed project. For the California Environmental Quality Act (CEQA), the information from this study is incorporated into the project's environmental impact report (EIR). For the National Environmental Policy Act (NEPA), the information from this study is incorporated into the project's environmental assessment (EA). The methodologies used in this study comply with applicable CEQA and NEPA guidelines and requirements.

This study analyzes the following scenarios to determine the effect of the proposed project:

- Baseline Conditions Analysis – The baseline and baseline plus project analyses are used to identify the effects directly related to the proposed project. Baseline roadway operations were analyzed using roadway geometrics as observed in Fall 2011 and traffic volumes obtained from November 2009 through January 2012.

- Cumulative Conditions Analysis – The Cumulative Conditions scenario analyzes the proposed project's incremental effects to traffic congestion when viewed in connection with the effects of reasonably foreseeable future projects. This analysis uses local land use plans and regional population and employment forecasts as land use inputs for future development in the region. The analysis also includes reasonably foreseeable roadway network changes including funded roadway improvement projects identified in the Fresno COG *2011 Regional Transportation Plan* and applicable local and regional impact fee programs.

STUDY AREA

Figure 1 shows the selected Study Area, including the proposed project location and existing transportation network.

The selected Study Area was determined through consultation with City of Fresno and Caltrans District 6 staff, the *City of Fresno Traffic Impact Study Report Guidelines* (City of Fresno, 2009), and the transportation impact analysis conducted for the Downtown Neighborhoods Community Plan (DNCP) and Fulton Corridor Specific Plan (FCSP).

Fulton Mall is located at the center of Fresno's Central Business District, and consists of six blocks bounded by Van Ness Avenue to the east, Inyo Street to the south, Broadway to the west, and Tuolumne Street to the north. The Fulton Mall project area includes a 2,670-foot long north-south pedestrian-only

mall along Fulton Street, with three shorter east-west pedestrian malls on Merced Street, Mariposa Street, and Kern Street where they cross the Fulton Mall. Together, the total linear length of the pedestrian mall complex is 4,620 feet. Fresno Street and Tulare Street carry east-west traffic through the project area with traffic signals where they cross Fulton Mall.

The following 18 study intersections and 16 roadway segments are evaluated for this analysis:

Intersections

1. Stanislaus Street / Van Ness Avenue
2. Stanislaus Street / Fulton Street
3. Stanislaus Street / Broadway
4. Tuolumne Street / Broadway
5. Tuolumne Street / Fulton Street
6. Tuolumne Street / Van Ness Avenue
7. Fresno Street / H Street
8. Fresno Street / Fulton Street
9. Fresno Street / Van Ness Avenue
10. Tulare Street / H Street
11. Tulare Street / Fulton Street
12. Tulare Street / Van Ness Avenue
13. Inyo Street / H Street
14. Inyo Street / Fulton Street
15. Inyo Street / Van Ness Avenue
16. Ventura Avenue / H Street
17. Ventura Avenue / Broadway
18. Ventura Avenue / Van Ness Avenue

Fresno Street currently travels under H Street via a grade-separated underpass. The City of Fresno intends to make this an at-grade intersection in the future. The Fresno Street / Fulton Street and Tulare Street / Fulton Street intersections are currently locations where Fulton Mall crosses these east-west streets with traffic signals to allow pedestrians to cross.

Roadway Segments

1. Broadway: North of Stanislaus St.
2. Fulton Street: North of Stanislaus St.
3. Van Ness Avenue: North of Stanislaus St.
4. Fulton Street: Tuolumne St. to Inyo St.
5. Van Ness Avenue: Fresno St. to Tulare St.
6. Van Ness Avenue: Tulare St. to Inyo St.
7. Van Ness Avenue: Inyo St. to Ventura St.
8. Stanislaus Street: M St. to Van Ness Ave.
9. Stanislaus Street: Broadway to E St.
10. Tuolumne Street: E St. to Broadway
11. Tuolumne Street: Van Ness Ave. to M St.
12. Fresno Street: Van Ness Ave. to Broadway
13. Fresno Street: H St. to Van Ness Ave.
14. Tulare Street: H St. to Van Ness Ave.
15. Inyo Street: H St. to Van Ness Ave.
16. Ventura Avenue: Van Ness Ave. to M St.

FEHR PEERS

\\Fpse03\fpse2\Data2\2010Projects\RS_Projects\RS10_2774.02\Graphics\GIS\MXD\fig01_StudyArea_mod.mxd

STUDY AREA

FIGURE 1

PROJECT PURPOSE

The purpose of the proposed project is to increase mobility and access in the Fulton Mall study area by providing more convenient multi-modal access options on the Mall and its cross streets; to improve visibility of businesses, offices and other amenities in the Fulton Mall study area by improving traffic circulation, thereby encouraging additional economic development in the area; and to increase the Fulton Mall study area's consistency with the requirements and goals of proposed land use plans by making the area more accessible to the public, thereby encouraging greater public use of the area an bolstering future economic development opportunities.

REGULATORY SETTING

This section summarizes the transportation policies, laws, and regulations that apply to the proposed project. This information provides context for the impact discussion related to the project's consistency with applicable regulatory conditions. Further, this study identifies impacts to traffic operations by comparing roadway LOS analysis results against LOS policies set forth by the City of Fresno.

California Department of Transportation (Caltrans)

The California Department of Transportation (Caltrans) is responsible for operating and maintaining the state highway system. The proposed project is located approximately ½-mile from State Routes 41 and 99, and less than one-mile from State Route 180. These state highways along with their on- and off-ramps and the intersections at ramp terminals are under Caltrans jurisdiction.

The proposed project's transportation and traffic effects would be localized to the project area and are not expected to affect Caltrans facilities.

Caltrans is the lead agency for the NEPA EA.

<u>Guide for the Preparation of Traffic Impact Studies</u>

Caltrans' *Guide for the Preparation of Traffic Impact Studies* (Caltrans, 2002) provides general guidance regarding the preparation of traffic impacts studies for projects that may have an impact on the State Highway System. The guidance includes when a traffic study should be prepared and the methodology to use when evaluating operating conditions on the State highway system.

Fresno Council of Governments (Fresno COG)

The Fresno Council of Governments (Fresno COG) is an association of local governments in Fresno County. Fresno COG provides transportation planning and funding for the region, and serves as a forum for the study and resolution of regional issues. In addition to preparing the region's long-range

transportation plan, Fresno COG assists in planning for transit, bicycle networks, clean air, and airport land uses.

2011 Fresno COG Regional Transportation Plan (RTP)

The 2011 Fresno COG *Regional Transportation Plan* (RTP) (Fresno COG, 2010) is a federally mandated long-range fiscally constrained transportation plan for Fresno County. The area is designated a federal non-attainment area for ozone, indicating that the transportation system is required to meet stringent air quality emissions targets to reduce pollutant levels that contribute to ozone formation. To receive federal funding, transportation projects nominated by cities, counties, and agencies must be consistent with the RTP.

The 2011 Fresno COG RTP also includes the following relevant goals and policies:

- Develop a regional streets and highways system that has a balanced mix of high-speed and local corridors which are functional and flexible for intermodal use.
- Integrate transportation modes through a coordinated transportation systems management process.
- Decisions on improvements to the transportation system shall take into account the effective use of all modes and facilities.
- Encourage jurisdictions to ensure that the needs of pedestrians, bicyclists, and individuals with disabilities are given special attention in the project review process.
- Encourage local jurisdictions to provide incentives to encourage transit, ridesharing, walking and bicycling.
- Manage the transportation system in a manner designed to increase operational efficiency, conserve energy and space, reduce air pollution and noise, and provide for effective goods movement, safety, personal mobility, and accessibility.
- Work closely with local land use agencies to ensure that land use planning is coordinated with transportation planning to fully mitigate the traffic impacts of new development to the greatest degree possible.
- Existing and future land use plans of the communities within the region shall be recognized in the formulation of transportation decisions.
- Encourage and support mixed land use developments that encourage a jobs/housing balance and that make alternative modes more effective.
- Monitor levels of service on the streets and highways network within Fresno County to ensure safe and efficient movement of people and goods.

- Consider development of a multimodal transportation terminal facility in, or in close proximity to, the Central Business District.
- Support the planning and construction of a High Speed Rail System in the San Joaquin Valley which directly connects the major population centers within the Valley.
- Encourage projects proposing pedestrian or transit oriented designs at suitable locations.

Fresno Bus Rapid Transit (BRT) Master Plan

The Fresno COG Bus Rapid Transit (BRT) Master Plan studies the possibility of BRT service in the Fresno-Clovis Metropolitan Area. The study recommends BRT service in the Ventura Avenue/Kings Canyon Road corridor and the Blackstone Avenue/Abby Street corridor with service routed through Downtown to connect the two corridors. In addition, the Master Plan cites previous transit studies, including the Transit Master Plan (1994), the Transit Long Range Master Plan (2001), and the Downtown Transportation and Infrastructure Study (2007).

City of Fresno Downtown Transportation and Infrastructure Study

The City of Fresno Downtown Transportation and Infrastructure Study builds upon prior planning efforts to integrate and coordinate these plans and outline a strategy to implement transportation improvements. The recommendations from this study include:

- Increasing the importance of public transit as an access mode to Downtown
- Transitioning away from pulse operations at the current Courthouse Transit Center to a more urban street corridor service with bus stops on both curb faces of Van Ness Avenue
- Implement a Downtown Circulator linking parking, outlying employment and destination sites, and the Downtown Core
- Supporting transit priority treatments, improved pedestrian facilities, and improved wayfinding in Downtown Fresno

Fresno Area Express (FAX)

The Fresno Area Express (FAX) provides public transit service within the project area. FAX operates 16 bus routes covering City of Fresno.

FAX's *Short-Range Transit Plan* (2011) is the short-term plan for transit service and transit capital improvements over the next five years. The *Short-Range Transit Plan* (SRTP) places significant emphasis on improved transit service throughout the region through a combination of infrastructure investments and service modifications. This includes the implementation of BRT service in the Blackstone Avenue/Abby Street and Ventura Avenue/Kings Canyon Road corridors, purchase of new articulated buses, transit signal prioritization, a Downtown Circulator (electric bus), and enhanced passenger amenities in Downtown.

The *Long-Range Transit Plan* (2002) identifies transit system improvements over a 20 year period. The *Long-Range Transit Plan* (LRTP) recommends increases in transit service (decreased headways) on highly utilized routes, BRT service on Blackstone Avenue, Ventura Avenue/Kings Canyon Road, and Shaw Avenue, and relocating the existing Downtown Transfer Center at Courthouse Park.

City of Fresno

The City of Fresno provides for the mobility of people and goods within the City. All of the study intersections and roadway segments for this study are within the City of Fresno's jurisdiction.

City of Fresno General Plan

The City of Fresno intends to consider the adoption of an update of the *2025 Fresno General Plan* in 2014. The Fresno General Plan Update would serve as the community's guide for the continued development, enhancement, and revitalization of the City of Fresno.

The General Plan Update includes the following policies related to transportation and circulation that are relevant to this analysis:

- **Policy MT-1-l**: Utilize to the extent feasible, a tiered system of flexible, multi-modal Level of Service standards for streets designated by the General Plan Circulation Diagram (Figure MT-1). Generally the City will strive to accommodate a peak hour vehicle LOS of "D" or better on street segments and at intersections except as further elaborated by following polices.

- **Policy MT-1-m**:Within the Downtown Neighborhoods Community Plan area and the Fulton Corridor Specific Plan area, accept motor vehicle LOS "F" conditions during peak hours on street segments and intersections in the vicinity of these areas as specified by the applicable policies of these plans.

- **Policy MT-2-a**: Provide incentives for more intense development along streets and roadways where through-traffic has been diverted to freeways and there is additional capacity.

- **Policy MT-2-c**: Provide incentives for infill development that would provide jobs and services closer to housing, and vice versa, in order to reduce citywide vehicle miles travelled (VMT).

- **Policy MT-2-d**: Along streets with excess roadway capacity where adjacent land use is not expected to change in the foreseeable future, evaluate opportunities to reduce right of way and/or re-design streets to support non-automobile travel modes.

- **Policy MT-2-f**: Optimize roadway operations by continuing to expand the use of techniques such as the City's intelligent transportation system (ITS) to manage traffic signal timing coordination in order to improve traffic operations and increase traffic carrying capacity while reducing unnecessary congestion and decreasing air pollution emissions.

- **Policy MT-4-a**: Continue to implement and periodically update a Bicycle, Pedestrian, and Trails Master Plan, which was adopted on October 28, 2010, and may be subsequently amended to meet

requirements of the California Streets and Highways Code Section 891.4, including standards and recommended improvements and funding proposals as determined appropriate and feasible.

- **Policy MT-5-d**: Minimize vehicular and pedestrian conflicts on both major and non-major streets through implementation of traffic access design and control standards addressing street intersections, median island openings and access driveways to facilitate accessibility while reducing congestion and increasing safety.
- **Policy MT-5-f**: Continue to evaluate and consider modifications to street standards to achieve overall objectives of providing good access and travel opportunities while calming traffic, promoting pedestrian and other transportation options and reducing the amount of land devoted to streets.
- **Policy MT-8-f**: Support the development of a multimodal transportation terminal facility as identified by the Downtown Neighborhoods Community Plan.

City of Fresno Traffic Impact Study Report Guidelines

The City of Fresno's *Traffic Impact Study Report Guidelines* establish general procedures and requirements for the preparation of traffic impact studies associated with development within the City of Fresno. The guidelines are intended to be a checklist to ensure regular study items are not missed, but are not intended to be prescriptive to the point of eliminating professional judgment.

The guidelines include the preferred traffic analysis methodologies, significance criteria, and documentation requirements. This study is conducted using the preferred analysis methodologies and significance criteria as outlined in the City's guidelines.

City of Fresno Bicycle, Pedestrian, & Trails Master Plan

The *City of Fresno Bicycle, Pedestrian, & Trails Master Plan* (2010) guides and influences bikeway policies, programs, and development standards to encourage bicycling in the City of Fresno. As an infrastructure plan, the contents of the *Bicycle, Pedestrian, & Trails Master Plan* are intended to be incorporated into the City's regulatory plans.

The Plan includes a variety of resources for bicycle transportation including:

- Identification of existing and planned bicycle facilities
- Goals, objectives, and policies that expand upon objectives and policies in the *2025 Fresno General Plan* and inform objectives and policies for the Fresno General Plan Update
- Encouragement, education, and enforcement programs designed to increase bicycling in Fresno
- Implementation steps for the planned bicycle network

The *Bicycle, Pedestrian, & Trails Master Plan* also includes a chapter focused on bicycle travel to and around Downtown Fresno. This chapter identifies the existing and proposed bicycle network in Downtown

Fresno, potential incentives, support facilities, and multi-modal connections to encourage cycling, and phasing for implementing bicycle facilities in Downtown.

SIGNIFICANCE CRITERIA

Based on the local and state policies and regulations listed above, the purpose and need statements in chapter 1 of the Fulton Mall Reconstruction Draft EA, and the regulatory requirements in CEQA, this study uses the following criteria to determine if the project causes a significant impact.

The proposed project may have a significant impact related to transportation and traffic if the project causes one of the following:

a. Conflict with an applicable plan, ordinance, or policy that establishes a performance standard for the circulation system, including but not limited to vehicular traffic operations at intersections, streets, highways, and freeways, pedestrian and bicycle facilities, and mass transit service.

b. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

c. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections)

Additional detail on significance criteria used to identify impacts caused by the proposed project related to items (a) and (b) listed above are discussed below. These criteria are based on the policies and regulations of the City of Fresno identified in the regulatory setting section.

<u>Traffic Operations</u>

Based on the policies in the City of Fresno General Plan, the City of Fresno *Traffic Impact Study Report Guidelines*, and consultation with City of Fresno Public Works staff, the proposed project would cause a significant impact to the roadway system if it would:

- Cause a City of Fresno intersection operating at an acceptable LOS to operate at an unacceptable LOS

- Increase the average delay for a City of Fresno study intersection that is already operating at an unacceptable LOS by more than five seconds

Per Policy MT-1-m in the Fresno General Plan, LOS F motor vehicle operations are acceptable for City of Fresno intersections located within the Downtown Neighborhoods Community Plan area and the Fulton Corridor Specific Plan area as specified by applicable policies of these plans. Fulton Corridor Specific Plan Policy 9-3-1 states that LOS F is allowed in the Core Area, defined as the area bounded by SR 99, 41, and 180.

The proposed project study area is within this Core Area. Therefore, LOS F vehicle traffic operations are considered acceptable for this study.

Transit, Bicycle, and Pedestrian Facilities

The City of Fresno General Plan and *Traffic Impact Study Report Guidelines* do not establish specific thresholds for impacts on transit, bicycle, and pedestrian facilities.

Based on item (b) in the significance criteria listed above, the project would cause a significant impact to the transit system, bicycle network, and/or pedestrian facilities if it would:

- Disrupt or interfere with existing or planned public transit services or facilities
- Create an inconsistency with policies concerning transit systems set forth in the *2025 Fresno General Plan* and the proposed General Plan Update or other applicable adopted policy document
- Disrupt or interfere with existing or planned bicycle/pedestrian facilities
- Result in unsafe conditions for pedestrians, including unsafe pedestrian/bicycle or pedestrian/vehicle conflicts
- Result in unsafe conditions for bicycles, including unsafe bicycle/pedestrian or bicycle/vehicle conflicts
- Create an inconsistency with policies related to bicycle or pedestrian systems set forth in the Fresno General Plan or other applicable regulatory plans

ANALYSIS METHODOLOGY

Travel Demand Forecasting

This study uses the most recently adopted Fresno COG regional travel demand forecasting (TDF) model released in 2010 to forecast plus project and cumulative traffic volumes. The base year version of the model was modified and calibrated within the study area to more accurately reflect baseline conditions. Static validation tests consistent with Caltrans' *Travel Forecasting Guidelines* (Caltrans, 1992) and FHWA's *Model Validation and Reasonableness Checking Manual* (FHWA, 1997) were completed to validate the TDF model for the study area.

Traffic Operations

This study analyzes traffic operations using level of service (LOS) as the primary measure of performance. Roadway LOS is a qualitative description of traffic flow from the perspective of motorists. The *Highway Capacity Manual* (HCM) (Transportation Research Board, 2000) defines six levels of service from LOS A representing the least congested traffic conditions to LOS F representing the most congested traffic conditions. The City of Fresno *Traffic Impact Study Report Guidelines* (2009) and Caltrans' *Guide for the Preparation of Traffic Impact Studies* (2002) recommend using the HCM methodology. Given the recent release of the 2010 HCM and current limitations in the software and application of the 2010 HCM, City of Fresno and Caltrans District 6 staff agreed on the use of the 2000 HCM methodology for this study.

Intersections

Intersection LOS is based on the control delay experienced by motorists traveling through the intersection. At signalized intersections, the LOS is determined by the average control delay per vehicle, as described in Chapter 16 of the 2000 HCM. Unsignalized intersections are evaluated using the methodology contained in Chapter 17 of the 2000 HCM. The 2000 HCM does not define an overall intersection LOS for side-street stop-controlled intersections; therefore, at side-street stop-controlled intersections, this study reports the control delay and LOS for the movement with the greatest control delay.

Tables 1 and 2 present the control delay thresholds for each LOS level for signalized and unsignalized intersections, respectively. The analysis calculates control delay and LOS at each intersection using the Synchro 7 analysis software, which is based on the 2000 HCM procedures.

TABLE 1:
LEVEL OF SERVICE CRITERIA – SIGNALIZED INTERSECTIONS

Level of Service	Average Vehicle Delay (seconds/vehicle)	Description
A	≤ 10.0	Uncongested operations; all queues clear in single cycle.
B	10.1 – 20.0	Very light congestion; an occasional phase is fully utilized.
C	20.1 – 35.0	Light congestion; occasional queues on approaches.
D	35.1 – 55.0	Significant congestion on critical approaches, but intersection is functional. Cars required to wait through more than one cycle during short peaks. No long-standing queues formed.
E	55.1 – 80.0	Severe congestion with some long-standing queues on critical approaches.
F	> 80	Total breakdown, stop-and-go conditions.

Source: *Highway Capacity Manual*, Transportation Research Board (2000).

TABLE 2:
LEVEL OF SERVICE CRITERIA – UNSIGNALIZED INTERSECTIONS

Level of Service	Average Vehicle Delay (seconds/vehicle)	Description
A	≤ 10.0	Minimal control delay.
B	10.1 – 15.0	Insignificant traffic delays.
C	15.1 – 25.0	Increased traffic delays; queues may build.
D	25.1 – 35.0	Longer traffic delays; increased queuing.
E	35.1 – 50.0	Very long traffic delays.
F	> 50	Total breakdown, stop-and-go conditions.

Source: *Highway Capacity Manual*, Transportation Research Board (2000).

Analysis Assumptions and Methodology Limitations

Key assumptions made in the process of this study include:

- Baseline traffic counts collected in the field between March 2009 and January 2012 are representative of baseline conditions.

Travel Demand Forecasting Limitations

As noted earlier, this study uses the most recently adopted Fresno COG TDF model released in 2010, and calibrated and validated the model for the project study subarea. While this makes the TDF model the most valid and capable tool for forecasting future traffic volumes, the TDF model has some limitations in its application for this study. For example, the model was designed to model traffic for regional air quality conformity, and typically only includes the regional roadway network. Additional local roadways were added to the model within the project study area to be able to generate future travel forecasts.

While the model was calibrated and is able to closely replicate baseline roadway segment volumes, the model is more limited in its ability to forecast specific turning movement volumes, particularly in a more compact grid network, such as Downtown Fresno. Drivers may choose from multiple routes in a grid system based on signal progression, congestion, and individual preferences, and may use different routes for the same trip. While the model accounts for segment level congestion, it is more limited in its ability to directly account for changes in routes due to signal operations or driver preferences. To account for some of these limitations, this study uses a process known as the "difference method" to develop turning movement forecasts. This approach adjusts raw model volume forecasts by adding the forecasted incremental growth from the TDF model to the baseline traffic counts.

Traffic Operations Limitations

This study uses analysis methodologies that are consistent with the City of Fresno's *Traffic Impact Study Report Guidelines* (2009) and Caltrans' *Guide for the Preparation of Traffic Impact Studies* (2002). However, these methodologies and the software tools consistent with these methodologies have certain limitations. For example, the 2000 HCM results from the Synchro 7 software package do not take into account additional delay or queuing that may occur due to a queue spilling out of or blocking a turn pocket at an intersection. Also, the 2000 HCM methodology does not account for any additional delay incurred by queues spilling back from adjacent intersections.

CHAPTER 2. BASELINE CONDITIONS

This chapter describes the baseline condition of the roadway, transit, bicycle, and pedestrian systems in the study area. This study uses the baseline conditions as the baseline to measure the potential impacts of proposed project.

ROADWAY NETWORK

The following describes key roadway facilities within the study area:

Fulton Street is the focal point of the proposed project. The corridor is a pedestrian mall that is closed to vehicle traffic between Tuolumne Street and Inyo Street. North of Tuolumne Street and south of Inyo Street, it is a two-lane, two-way north-south roadway. North of Divisadero Street, Fulton Street is a two-lane, one-way southbound roadway with a partial interchange with SR 180 that carries traffic into Downtown Fresno.

Van Ness Avenue is a north-south roadway that originates on the south at Railroad Avenue and travels north through the Tower District. In the project area, it is generally a two- to four-lane, two-way street. North of Divisadero Street, it transitions to a one-lane, one-way northbound roadway, connecting the project area with SR 180, the Tower District, and Fresno City College. South of the project area, it has a partial interchange with SR 41.

Stanislaus Street is a two- to three-lane one-way westbound roadway from Divisadero Street on the east to B Street on the west. It has a two-lane, westbound grade separation over the UPRR tracks and a partial interchange with SR 99.

Tuolumne Street is a two- to three-lane one-way eastbound roadway beginning at A Street on the west and terminating at Divisadero Street on the east. It has a two-lane, eastbound grade separation over the UPRR tracks.

Fresno Street is a four-lane roadway that travels along a northeast-southwest orientation in the study area. Near Fulton Mall, it is generally a four-lane divided roadway, narrowing to two lanes as it travels under a grade separated undercrossing of the UPRR tracks west of the Mall. It also has a diamond interchange with SR 99 west of the study area.

Tulare Street is an east-west roadway. In the study area, it is a four-lane, divided roadway. West of the study area, it narrows to a two-lane facility as it crosses the UPRR tracks. Tulare Street also has an interchange with SR 41 (with Divisadero Street) east of the project area.

Ventura Avenue is a four-lane, east-west arterial south of the existing Fulton Mall. It becomes West California Avenue on the southwest of the project area and Kings Canyon Road east of the project area. It also has an interchange with SR 99.

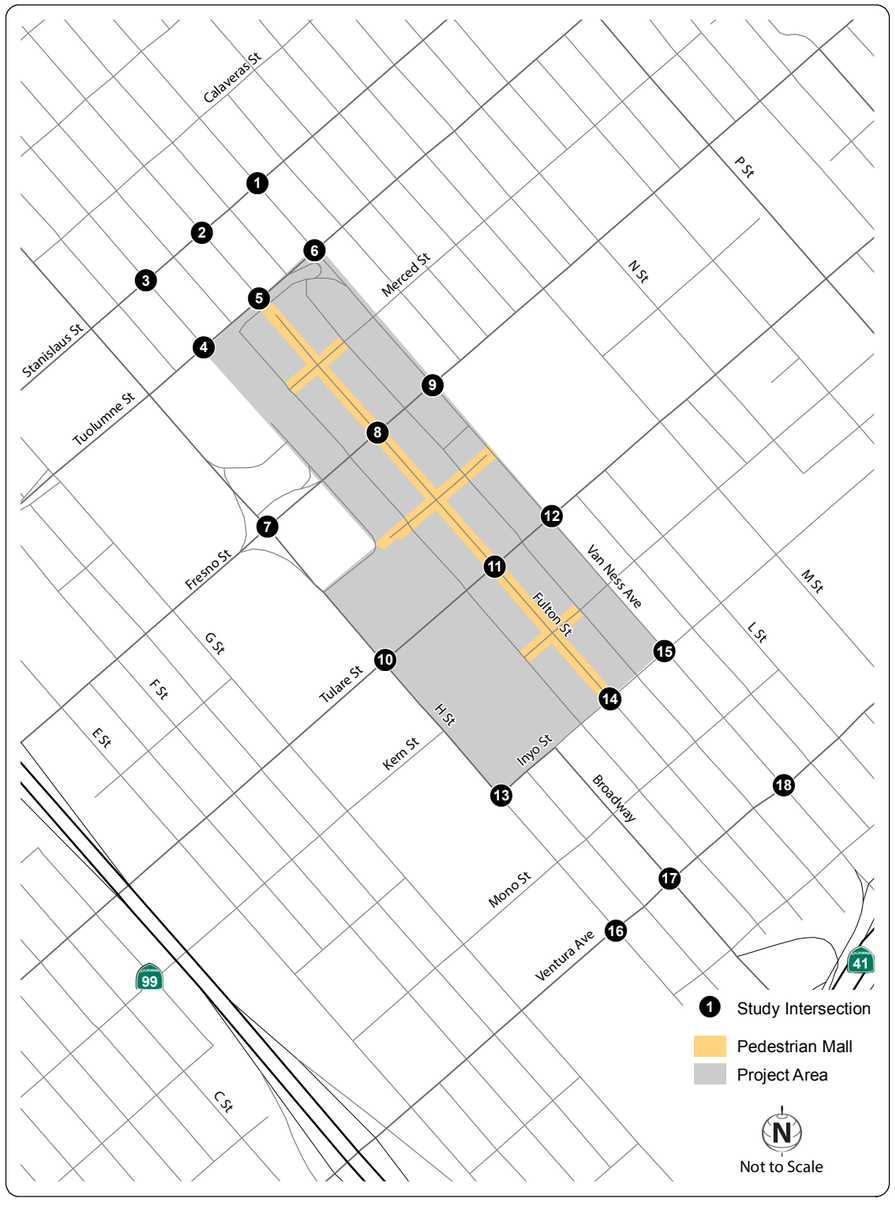
TRAFFIC VOLUMES AND ROADWAY OPERATIONS

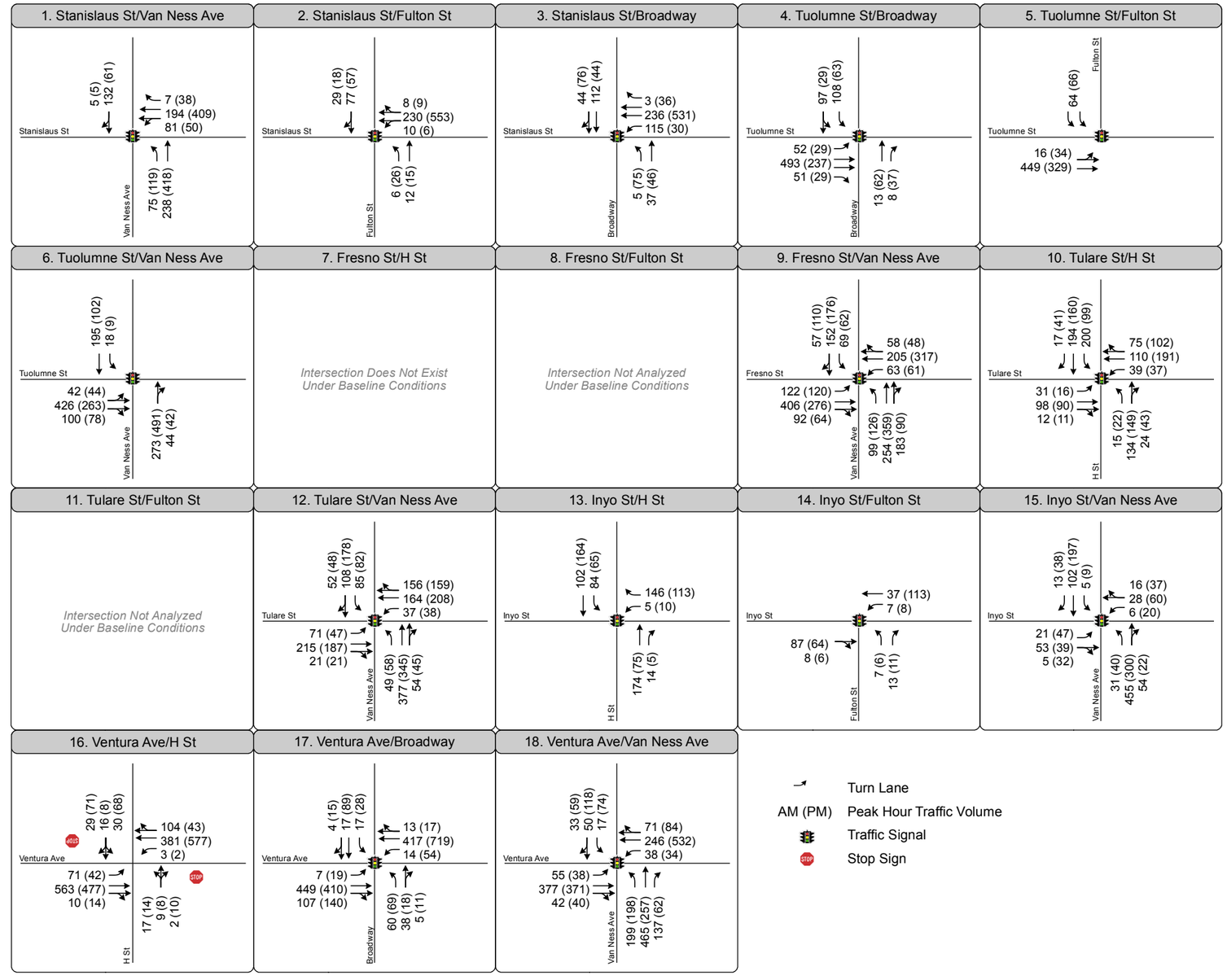
Traffic counts were collected at the study intersections on weekdays between November 2009 and January 2012 (refer to Appendix B for traffic count data). These turning movement counts at study intersections were taken during both the morning (7:00 – 9:00 am) and evening (4:00 – 6:00 pm) peak periods. While these counts were taken over the course of a little more than a two-year period, the traffic counts demonstrate that traffic volumes have roughly remained the same or slightly decreased during this time period. A review of traffic counts collected in 2009 and 2011 on the Fresno Street and Tulare Street corridors in Downtown Fresno show that traffic volumes have either stayed roughly the same or decreased by up to 20 percent, with an average decrease of about 10 percent. Therefore, using the slightly older counts from November 2009 along with the more recent traffic counts in 2011 and 2012 represent similar traffic conditions.

Daily roadway traffic count data was obtained from the City of Fresno and the High Speed Rail EIR. These traffic counts were collected between March and November 2009 (refer to Appendix B for traffic count data).

The baseline conditions roadway operations analysis uses roadway geometrics and traffic control as observed in Fall 2011.

Figure 2 provides the peak hour traffic volumes, lane configurations, and traffic control used in the baseline conditions analysis.





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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - BASELINE CONDITIONS

FIGURE 2

Intersection Operations

Table 3 summarizes the AM and PM peak hour level of service (LOS) at each study intersection under baseline conditions (refer to Appendix C for calculations). **Figure 3** also shows the peak hour intersection LOS. Based on the results in Table 3, all study intersections operate at LOS D or better under baseline conditions.

TABLE 3:
PEAK HOUR INTERSECTION OPERATIONS – BASELINE CONDITIONS

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Delay[1]	LOS[2]	Delay[1]	LOS[2]
1. Stanislaus Street / Van Ness Avenue	Signal	11	B	13	B
2. Stanislaus Street / Fulton Street	Signal	11	B	11	B
3. Stanislaus Street / Broadway	Signal	10	A	10	B
4. Tuolumne Street / Broadway	Signal	18	B	17	B
5. Tuolumne Street / Fulton Street	Signal	12	B	11	B
6. Tuolumne Street / Van Ness Avenue	Signal	12	B	13	B
7. Fresno Street / H Street[3]	N/A				
8. Fresno Street / Fulton Street[4]	Pedestrian Signal				
9. Fresno Street / Van Ness Avenue	Signal	35	C	35	C
10. Tulare Street / H Street	Signal	12	B	11	B
11. Tulare Street / Fulton Street[4]	Pedestrian Signal				
12. Tulare Street / Van Ness Avenue	Signal	23	C	21	C
13. Inyo Street / H Street	Signal	13	B	12	B
14. Inyo Street / Fulton Street	Signal	10	A	10	B
15. Inyo Street / Van Ness Avenue	Signal	13	B	11	B
16. Ventura Avenue / H Street	Side Street Stop-Controlled	34	D	18	C
17. Ventura Avenue / Broadway	Signal	20	C	25	C
18. Ventura Avenue / Van Ness Avenue	Signal	25	C	21	C

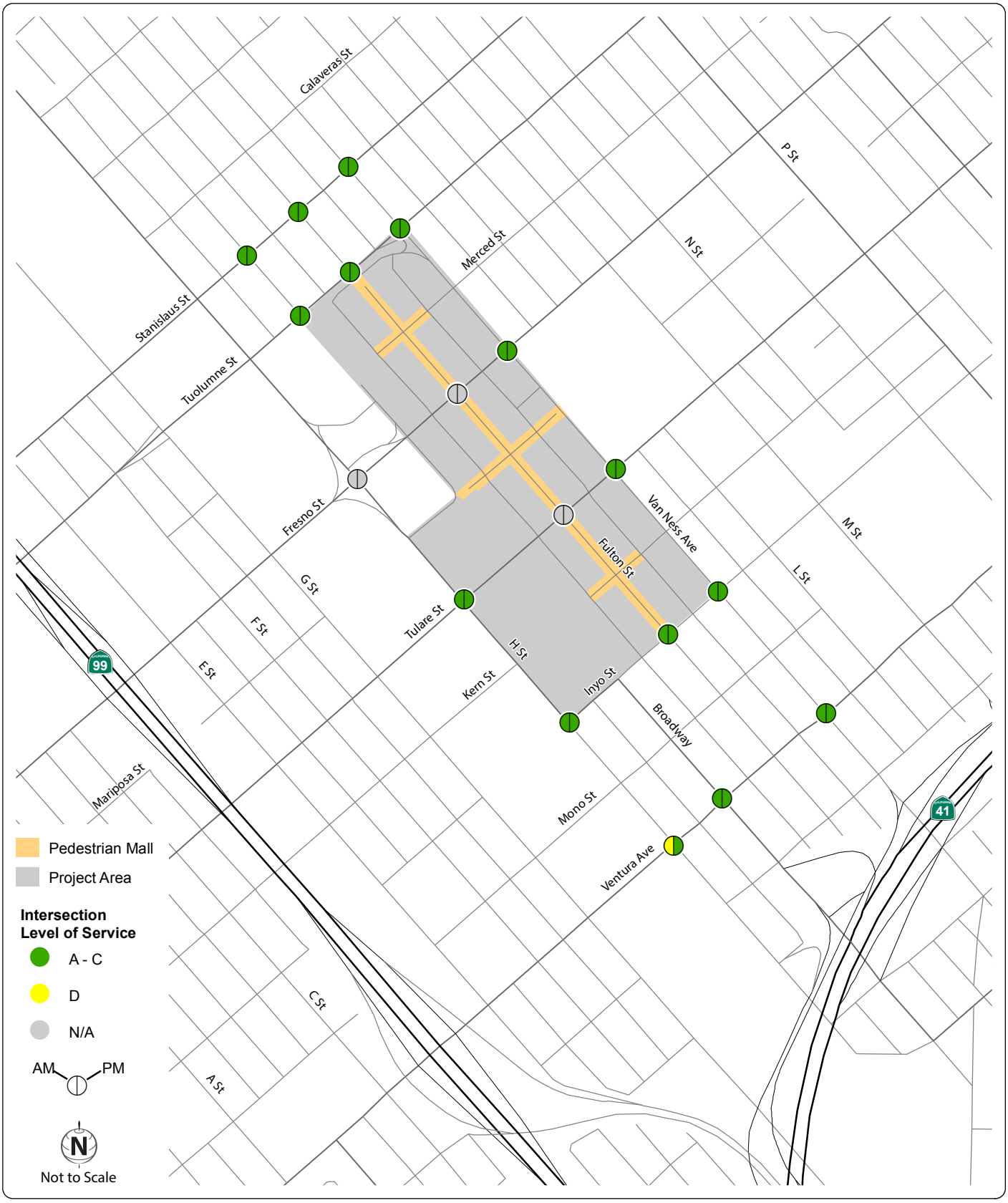
Notes: [1]For signalized intersections, the overall average intersection control delay is reported in seconds per vehicle. For side-street stop controlled intersections, the average control delay for the movement with the greatest delay is reported in seconds per vehicle.

[2]Level of Service based on *Highway Capacity Manual* (Transportation Research Board, 2000).

[3]Intersection does not exist under Baseline Conditions.

[4]Intersection currently exists as a pedestrian signal; not analyzed under Baseline Conditions.

Source: Fehr & Peers, 2013.



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INTERSECTION LEVEL OF SERVICE - BASELINE CONDITIONS

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FIGURE 3

Roadway Volumes

Table 4 presents the average daily traffic volumes for each study roadway segment. This study conducts a daily traffic evaluation that looks at the change in daily traffic volumes and does not conduct a detailed roadway segment LOS analysis.

TABLE 4:
DAILY ROADWAY SEGMENT TRAFFIC VOLUMES – BASELINE CONDITIONS

Roadway Segment	Facility Description	Baseline Conditions ADT[1]
1. Broadway: North of Stanislaus St.	3-lane Collector with TWLTL	2,588
2. Fulton Street: North of Stanislaus St.	2-lane Local with TWLTL	2,731
3. Van Ness Avenue: North of Stanislaus St.	2-lane Divided Collector	6,339
4. Fulton Mall: Tuolumne St. to Inyo St.[2]	Pedestrian Mall	N/A
5. Van Ness Avenue: Fresno St. to Tulare St.	3-lane Collector with TWLTL	9,991
6. Van Ness Avenue: Tulare St. to Inyo St.	3-lane Collector with TWLTL	9,728
7. Van Ness Avenue: Inyo St. to Ventura Ave.	2-lane Collector with TWLTL	7,586
8. Stanislaus Street: M Street to Van Ness Ave.	2-lane One-Way Collector	4,360
9. Stanislaus Street: Broadway to E Street	2-lane One-Way Collector	6,996
10. Tuolumne Street: E Street to Broadway	2-lane One-Way Collector	5,586
11. Tuolumne Street: Van Ness Ave. to M Street	2-lane One-Way Collector	4,299
12. Fresno Street: Broadway to Van Ness Ave.	4-lane Divided Collector	14,444
13. Fresno Street: Van Ness Ave. to M Street	4-lane Divided Collector	12,150
14. Tulare Street: H Street to Van Ness Ave.	4-lane Divided Collector	9,304
15. Inyo Street: H Street to Van Ness Ave.	2-lane Collector with TWLTL	3,301
16. Ventura Avenue: Van Ness Ave. to M Street	4-lane Divided Collector	11,838

Notes: [1]ADT = average daily traffic volumes
[2]Fulton Mall exists as a pedestrian mall that is closed to vehicular traffic.
TWLTL = two-way left-turn lane

Source: City of Fresno and High Speed Rail Authority, 2009.

BICYCLE FACILITIES

Bicycle facilities are relatively limited within the project area. Bicycle facilities can be classified into one of the following three categories:

- Class I Bike Path – Off-street bike paths within exclusive right-of-way
- Class II Bike Lane – Striped on-road bike lanes adjacent to the outside travel lane on preferred corridors for biking
- Class III Bike Route – Shared on-road facility, usually delineated by signage

According to the *City of Fresno Bicycle, Pedestrian, and Trails Master Plan* (2010) and field observations, the following Class II bike lanes are present within the study area:

- Stanislaus Street: Divisadero Street to Broadway
- Tuolumne Street: Broadway to Divisadero Street

In addition, the Fulton Mall and Mariposa Mall allow bicyclists to use the pedestrian mall as a bicycle facility.

In the vicinity of the study area, there are also Class II bike lanes located on:

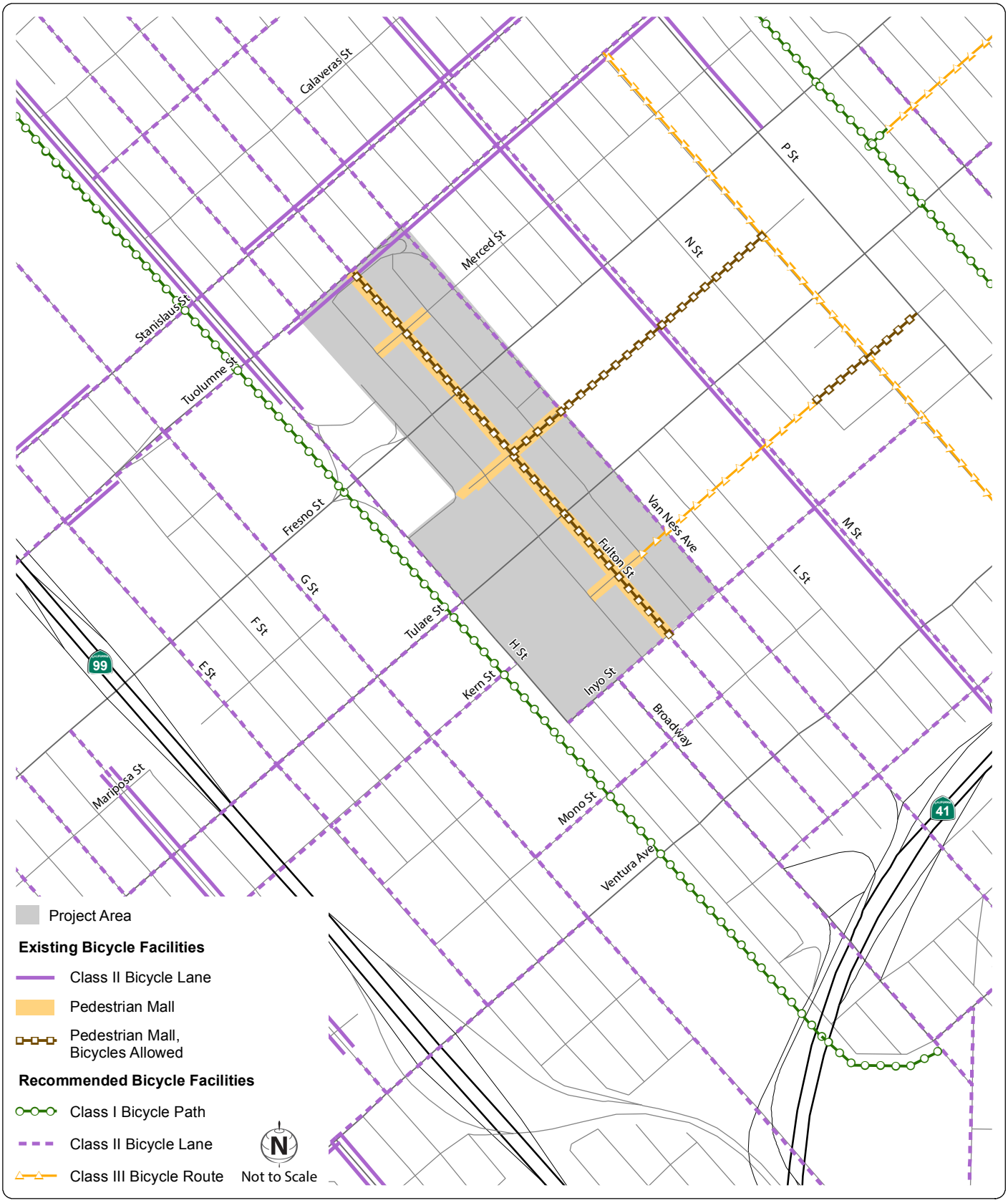
- H Street: Tuolumne Street to Divisadero Street
- M Street: Divisadero Street to San Benito Street
- P Street: Fresno Street to Divisadero Street

In addition to the existing bicycle facilities listed above, the *City of Fresno Bicycle, Pedestrian, & Trails Master Plan* (2010) identifies a recommended network of bike paths, bike lanes, and bike routes that may be implemented in the future. As noted in the regulatory setting section, the *Bicycle, Pedestrian, & Trails Master Plan* was adopted by the Fresno City Council as an infrastructure plan whose contents are intended to be incorporated into the City's regulatory plans. **Figure 4** shows the location of existing and recommended bicycle facilities in the study area as identified in the *Bicycle, Pedestrian, & Trails Master Plan*.

PEDESTRIAN FACILITIES

Within the Study Area, sidewalks are located on most streets. Southwest of the study area across the UPRR tracks, sidewalks are more intermittent.

The existing Fulton Mall along with Kern Mall, Mariposa Mall, and Merced Mall are also current pedestrian facilities within the project study area.



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EXISTING AND RECOMMENDED BICYCLE FACILITIES

FIGURE 4

TRANSIT SERVICE

Fresno Area Express (FAX) operates most of the bus service within the City of Fresno and Fresno-Clovis Metropolitan Area. In addition, the Fresno County Rural Transit Agency (FCRTA) provides intercity bus service connecting Downtown Fresno with outlying cities, towns, and rural areas within Fresno County.

The Downtown Transit Mall located at Courthouse Park is directly adjacent to the project area, and is a major transfer location between FAX Routes 20, 22, 26, 28, 30, 32, 34, and 38 as well as FCRTA intercity bus routes.

The following 13 fixed-route bus lines currently stop at the Downtown Transit Mall:

FAX Routes

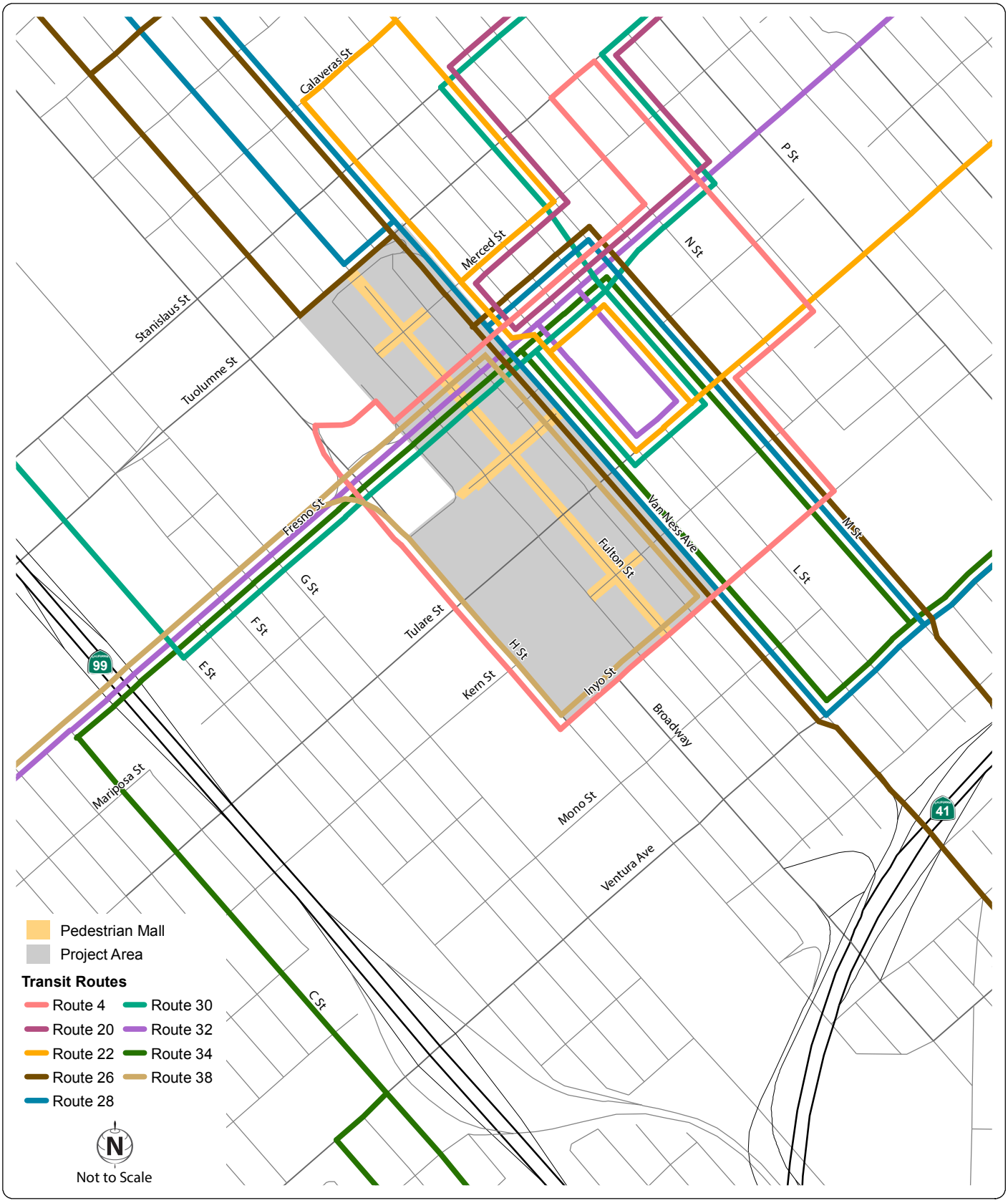
- Route 20 – Hughes Ave / Marks Ave
- Route 22 – West Ave / Tulare St
- Route 26 – Palm Ave / Butler Ave / Peach Ave
- Route 28 – CSUF / Manchester / W. Fresno
- Route 30 – Pinedale / Blackstone / W. Fresno
- Route 32 – Fresno St / Manchester / SW Fresno
- Route 33 – Belmont Ave Crosstown
- Route 34 – NE Fresno / First / SW Fresno
- Route 38 – Chukchansi Park / River Park / SW Fresno

FCRTA Routes

- Coalinga Transit – intercity fixed route service with stops in Coalinga, Huron, Five Points, Lanare, Riverdale, Caruthers, Raisin City, and Easton
- Westside Transit – intercity fixed route service with stops in Firebaugh, Mendota, and Kerman
- Southeast Transit – intercity fixed route service with stops in Fowler, Selma, and Kingsburg
- Orange Cove Transit – intercity fixed route service with stops in Sanger, Parlier, Reedley, and Orange Cove

The current configuration of the Downtown Transit Mall features three primary bus shelters: two that front Van Ness Avenue and one on Fresno Street. The bus shelters are spaced relatively far apart compared to typical transit centers that offer transfers between multiple routes.

Figure 5 presents the existing transit service in the study area.



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EXISTING TRANSIT SERVICE

FIGURE 5

CHAPTER 3. BASELINE PLUS PROJECT

This chapter presents the transportation analysis for baseline plus project conditions. This scenario analyzes the impacts of the proposed project on baseline conditions.

PROJECT DESCRIPTION

The proposed project consists of reconstructing the existing Fulton Mall according to one of three design alternatives:

- Alternative 1: Reconnect the Grid on Traditional Streets – completely remove the existing pedestrian mall and introduce a narrow, two-lane, two-way enhanced street with oversized sidewalks, stately trees, and on-street parking throughout the Fulton Mall and its cross streets.
- Alternative 2: Reconnect the Grid with Vignettes – introduce a two-way street throughout the Fulton Mall, keeping selected features in their original Mall contexts ("vignettes"), in a manner that provides improved retail visibility and some on-street parking. Transform Kern, Mariposa, and Merced Malls into enhanced streets with narrow traffic ways, ample sidewalks, stately trees, and on-street parking.
- Alternative 3: Restoration and Completion – Keep Fulton Street, Merced Street, Mariposa Street, and Kern Street Malls pedestrian-only. Renovate and repair the pedestrian malls in their entirety, including their landscape and hardscape, and restore the artwork.

This study analyzes the potential transportation impacts of these three alternatives. From a vehicle transportation perspective, Alternatives 1 and 2 generate similar traffic conditions by opening Fulton Mall to vehicular traffic with a narrow two-lane, two-way local serving roadway. Alternative 3 would differ from Alternatives 1 and 2 by maintaining the pedestrian-only mall. For the purposes of this study, Alternatives 1 and 2 are referred to as the "Open to Traffic" alternatives and Alternative 3 is referred to as the "Pedestrian Mall" alternative.

PROJECT TRAFFIC FORECASTS

Trip Generation

The proposed project does not propose any additional traffic generating land uses. The Pedestrian Mall alternative is not expected to affect traffic volumes.

Since the Open to Traffic alternatives propose narrow, two-way vehicular streets, it is anticipated that the reintroduced roadways associated with these alternatives would serve existing traffic by providing access to existing businesses along the pedestrian malls, but would not induce additional travel upon opening.

Traffic Distribution

Open to Traffic Alternatives

The Open to Traffic alternatives may cause some shifts in local traffic patterns by opening the existing Fulton Mall and its cross streets to vehicle traffic. However, since these alternatives would create narrow, two-way vehicular streets, these new roadways would primarily carry local trips to access adjacent businesses. Therefore, these changes in traffic patterns would be localized to roadways in the project study area.

To evaluate this shift in traffic patterns, a locally validated version of the 2010 Fresno COG TDF model was used to estimate the re-distribution of traffic in the study area. The Fresno COG TDF model confirmed that opening Fulton Mall to vehicular traffic would not affect traffic volumes outside the study area. The model also confirmed that opening the mall to vehicular traffic resulted in minor changes to traffic patterns, primarily on Fulton Street and parallel facilities, such as Van Ness Avenue.

Pedestrian Mall Alternative

The Pedestrian Mall alternative is not expected to change traffic patterns in the project area as the transportation infrastructure in the study area would remain the same. Therefore, the traffic volumes for the Pedestrian Mall alternative would be the same as Baseline Conditions.

Project Effects on Caltrans Facilities

As identified above, the proposed project does not propose any additional traffic generating land uses, and would only result in minor shifts in traffic patterns adjacent to the existing Fulton Mall with the Open to Traffic alternatives. The Fresno COG TDF model confirmed that changes in travel patterns associated with the Open to Traffic alternatives would be localized to the Fulton Mall area, and would not result in significant changes to traffic on Caltrans facilities.

The Pedestrian Mall alternative would not change traffic patterns, and therefore would also not result in significant changes to traffic on Caltrans facilities.

Trip Assignment – Open to Traffic Alternatives

The 2010 Fresno COG TDF model was used to assign project traffic to the study intersections and roadway segments based on the forecasted change in traffic distribution. To account for model error, this study adjusts project traffic forecasts using a process known as the "difference method," which adjusts raw model volume forecasts based on expected incremental growth from Baseline Conditions using the following formula:

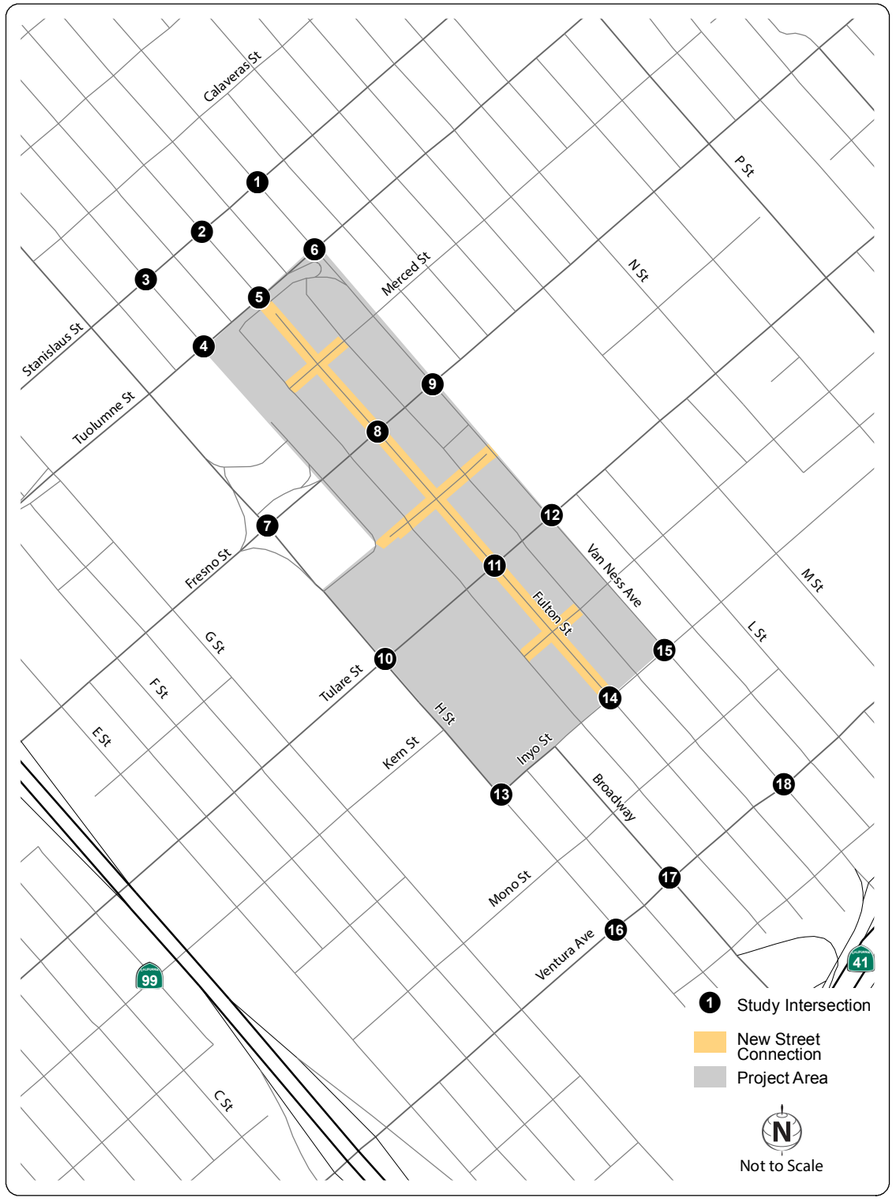
Plus Project Forecasts = Baseline Traffic Count +
(Plus Project Raw Model Volume – Base Year Raw Model Volume)

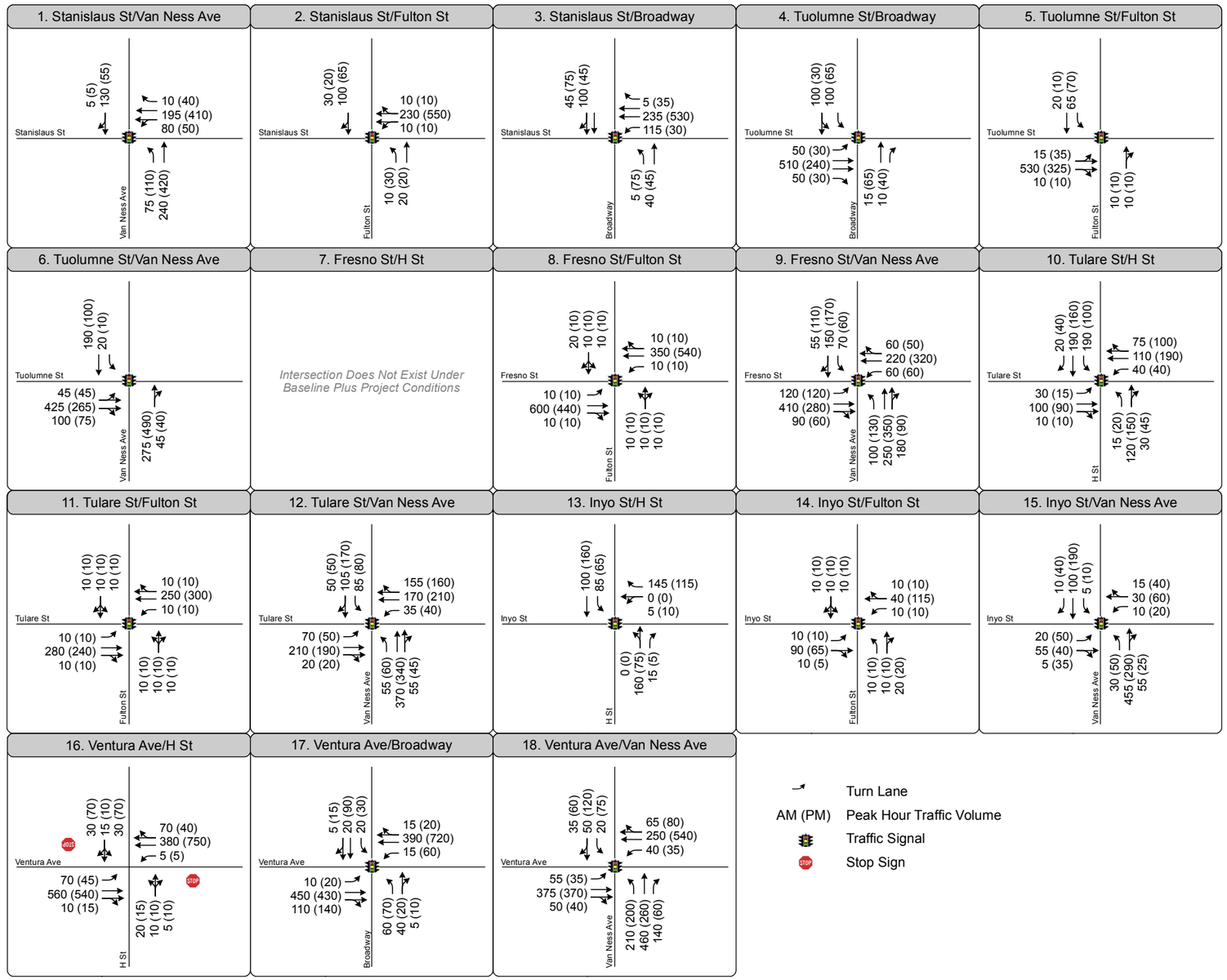
TRAFFIC FORECASTS AND ROADWAY OPERATIONS

For the Pedestrian Mall alternative, traffic volumes would remain the same as Baseline Conditions.

For the Mall Open to Traffic alternatives, minor shifts in traffic patterns are expected to occur based on the traffic distribution and assignment from the Fresno COG TDF model described above.

Figure 6 shows the peak hour Baseline Plus Project – Mall Open to Traffic forecasts at the study intersections.





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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - BASELINE PLUS PROJECT CONDITIONS - MALL OPEN TO TRAFFIC

FIGURE 6

Intersection Operations

For the Pedestrian Mall alternative, intersection operations would remain the same as the Baseline Conditions.

For the Mall Open to Traffic alternatives, **Table 5** summarizes the AM and PM peak hour LOS at the study intersections (refer to Appendix D for calculations). **Figure 7** also shows the peak hour intersection LOS for the Mall Open to Traffic alternatives. Based on the results in Table 5, all study intersections would continue to operate at LOS D or better during the AM and PM peak hour under baseline plus project conditions with the mall open to traffic alternatives.

TABLE 5:
PEAK HOUR INTERSECTION OPERATIONS – BASELINE PLUS PROJECT CONDITIONS

Intersection	Traffic Control	Baseline Conditions[1]				Baseline + Project: Mall Open to Traffic			
		AM Peak Hr		PM Peak Hr		AM Peak Hr		PM Peak Hr	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Stanislaus Street / Van Ness Avenue	Signal	11	B	13	B	11	B	13	B
2. Stanislaus Street / Fulton Street	Signal	11	B	11	B	12	B	11	B
3. Stanislaus Street / Broadway	Signal	10	A	10	B	10	A	10	B
4. Tuolumne Street / Broadway	Signal	18	B	17	B	18	B	17	B
5. Tuolumne Street / Fulton Street	Signal	12	B	11	B	12	B	11	B
6. Tuolumne Street / Van Ness Avenue	Signal	12	B	13	B	12	B	13	B
7. Fresno Street / H Street[4]	N/A								
8. Fresno Street / Fulton Street[5]	Pedestrian Signal					4	A	3	A
9. Fresno Street / Van Ness Avenue	Signal	35	C	35	C	35	C	37	D
10. Tulare Street / H Street	Signal	12	B	11	B	12	B	11	B
11. Tulare Street / Fulton Street[5]	Pedestrian Signal					4	A	4	A
12. Tulare Street / Van Ness Avenue	Signal	23	C	21	C	23	C	26	C
13. Inyo Street / H Street	Signal	13	B	12	B	12	B	11	B
14. Inyo Street / Fulton Street	Signal	10	A	10	B	9	A	9	A
15. Inyo Street / Van Ness Avenue	Signal	13	B	11	B	13	B	11	B
16. Ventura Avenue / H Street	Side Street Stop-Controlled	34	D	18	C	33	D	19	C
17. Ventura Avenue / Broadway	Signal	20	C	25	C	20	C	25	C
18. Ventura Avenue / Van Ness Avenue	Signal	25	C	21	C	25	C	21	C

Notes: [1]Baseline Plus Project: Pedestrian Mall alternative would have the same traffic operations as Baseline Conditions.

[2]For signalized intersections, the overall average intersection control delay is reported in seconds per vehicle. For side-street stop controlled intersections, the average control delay for the movement with the greatest delay is reported in seconds per vehicle.

[3]Level of Service based on *Highway Capacity Manual* (Transportation Research Board, 2000).

[4]Intersection does not exist under Baseline Conditions & Baseline Plus Project Conditions.

[5]Intersection exists as a pedestrian signal and is not analyzed under Baseline Conditions. Intersection would become fully signalized under Baseline Plus Project – Mall Open to Traffic conditions.

Source: Fehr & Peers, 2013.

FEHR PEERS

INTERSECTION LEVEL OF SERVICE - BASELINE PLUS PROJECT CONDITIONS - MALL OPEN TO TRAFFIC

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FIGURE 7

Roadway Volumes

For the Pedestrian Mall alternative, roadway volumes would remain the same as the Baseline Conditions.

For the Mall Open to Traffic alternatives, **Table 6** presents the forecasted average daily traffic volumes for each study roadway segment. The daily traffic volumes are presented to provide a general evaluation on the expected change in daily traffic patterns.

TABLE 6:
DAILY ROADWAY SEGMENT TRAFFIC VOLUMES –
BASELINE PLUS PROJECT CONDITIONS

	Average Daily Traffic Volumes	
Roadway Segment	**Baseline Conditions[1]**	**Baseline + Project: Mall Open to Traffic**
1. Broadway: North of Stanislaus St.	2,588	2,580
2. Fulton Street: North of Stanislaus St.	2,731	2,800
3. Van Ness Avenue: North of Stanislaus St.	6,339	6,270
4. Fulton Street: Tuolumne St. to Inyo St.[2]	N/A	210
5. Van Ness Avenue: Fresno St. to Tulare St.	9,991	10,020
6. Van Ness Avenue: Tulare St. to Inyo St.	9,728	9,740
7. Van Ness Avenue: Inyo St. to Ventura Ave.	7,586	7,580
8. Stanislaus Street: M Street to Van Ness Ave.	4,360	4,340
9. Stanislaus Street: Broadway to E Street	6,996	7,010
10. Tuolumne Street: E Street to Broadway	5,586	5,600
11. Tuolumne Street: Van Ness Ave. to M Street	4,299	4,290
12. Fresno Street: Broadway to Van Ness Ave.	14,444	14,380
13. Fresno Street: Van Ness Ave. to M Street	12,150	12,080
14. Tulare Street: H Street to Van Ness Ave.	9,304	9,280
15. Inyo Street: H Street to Van Ness Ave.	3,301	3,300
16. Ventura Avenue: Van Ness Ave. to M Street	11,838	11,910

Notes: [1]Baseline Plus Project: Pedestrian Mall alternative would have the same traffic volumes as Baseline Conditions.
[2]Fulton Street is a pedestrian mall between Tuolumne St. and Inyo St. under Baseline Conditions and Baseline Plus Project: Pedestrian Mall alternative.

Source: Fehr & Peers, 2013.

CHAPTER 4. CUMULATIVE CONDITIONS

This chapter presents the results of the traffic operations analysis for Cumulative Conditions. This scenario analyzes the proposed project's incremental effects to traffic and transportation when viewed in connection with the effects of reasonably foreseeable future projects.

BACKGROUND

As stated in the project purpose section of the NEPA EA and this study, the stated purposes of the proposed project include maximizing the economic productivity of the Project Area and encourage development in Downtown Fresno.

Therefore, while the proposed project may not in itself generate new traffic, the project is anticipated to potentially stimulate and support future development in the Project Area. The Cumulative Conditions analysis evaluates these potential long-term effects of the proposed project on traffic patterns in the study area.

PROJECT'S CUMULATIVE EFFECTS

For purposes of this study, the proposed project's cumulative effects are measured by comparing the traffic analysis results of Cumulative No Project Conditions to Cumulative Plus Project Conditions. This analysis evaluates the future traffic conditions with and without the proposed project in order to understand the cumulative effects of the proposed Fulton Mall Reconstruction Project.

CUMULATIVE YEAR INPUTS

Under Cumulative Conditions, this study uses local and regional planning and funding documents to identify the reasonably foreseeable changes to the transportation system and development patterns in the Fresno region. This section describes the land use and transportation inputs used for the Cumulative (Year 2035) Conditions analysis.

Cumulative Transportation Network Changes

Several changes to the transportation network are anticipated to occur throughout the Fresno region, as identified in the Fresno COG *Regional Transportation Plan*, City of Fresno traffic impact fee program nexus studies, and documents associated with the proposed California High Speed Train project.

<u>Fresno COG 2011 Regional Transportation Plan</u>

The Fresno COG 2011 *Regional Transportation Plan* (RTP) includes a financially constrained list of transportation projects for which funding has been identified or is reasonably expected to be available within the RTP planning horizon of 2035. All of these projects are included in the 2035 Fresno COG TDF model used in this cumulative conditions analysis.

Most of the projects in the Fresno COG RTP are outside the project area. Of the projects on the financially constrained project list, the following are in the project vicinity:

- Ventura Avenue: improve to 4-lane divided arterial from SR 41 to SR 99
- BRT starter line on Blackstone Avenue, Ventura Avenue/Kings Canyon Road, and through Downtown

Traffic Impact Fee Programs

The City of Fresno assesses traffic impact fees to new development projects to mitigate traffic impacts through the funding of improvements that help the City maintain adequate levels of service on its roadway network. Each new development is expected to add to the incremental need for roadway capacity and each new development would benefit from the new roadway capacity. The City has two impact fee programs related to traffic: the Fresno Major Streets Impact (FSMI) fee and the Traffic Signal Mitigation Impact (TSMI) fee.

City of Fresno Major Streets Impact (FMSI) Fee

The FSMI fee funds improvements identified in the Major Street Capital Improvement Program (Major Street CIP). In the project area, no roadways are listed in the Major Streets CIP.

Traffic Signal Mitigation Impact (TSMI) Fee

The TSMI fee funds traffic signal improvements, including new traffic signals, adding protected left-turn phasing, and modifications to existing traffic signals. The TSMI Nexus Analysis identifies the following improvements at the following study intersections:

Downtown Signal Improvements

- Stanislaus Street / Fulton Street
- Fresno Street / Fulton Mall
- Tulare Street / Fulton Mall
- Ventura Avenue / Van Ness Avenue

Fresno COG Regional Transportation Mitigation Fee (RTMF)

In addition to the City of Fresno's traffic impact fees, Fresno COG administers the Regional Transportation Mitigation Fee (RTMF), which was developed to mitigate new development's indirect regional impacts on State highway facilities in Fresno County. The fee helps fund improvements needed to maintain the target LOS in light of higher traffic volumes generated by new developments.

High Speed Rail

The California High Speed Rail Authority is proposing to construct, operate, and maintain an electric-powered high speed train system in California. In August 2011, the Authority released the Draft Environmental Impact Report (DEIR) for the Merced to Fresno and Fresno to Bakersfield project sections. The DEIR identified several roadway network changes in the City of Fresno, including road closures, new

grade separations, and road realignments. In April 2012, the Authority released the Final EIR for the Merced to Fresno section, which revised some of the DEIR roadway changes. In Fall 2012, the Authority circulated a Revised DEIR for the Fresno to Bakersfield segment for public comment.

As of May 2013, the Authority had secured Federal and State funding for an initial construction section in the Fresno area, and had selected a design-build contractor. This initial construction segment includes the high speed rail (HSR) trackway through the City of Fresno, from Madera County through Downtown Fresno. The current schedule indicates that construction would begin in 2014.

As identified in the Merced to Fresno Final EIR and Fresno to Bakersfield DEIR, this construction would result in several modifications to the local roadway network adjacent to the project area as identified in **Table 7**.

TABLE 7:
HIGH SPEED RAIL LOCAL ROADWAY CIRCULATION CHANGES

Roadway	Location	Circulation Changes
Road Closures		
Tuolumne Street	UPRR overcrossing – F Street to Broadway	- Tuolumne Street overcrossing closed; eastbound traffic moves to Stanislaus Street - New at-grade intersections at G Street and H Street - Tuolumne Street converted to a two-lane two-way street from H Street to Van Ness Avenue
Kern Street	Rail crossing – G Street to H Street	- Roadway closed; traffic shifts to adjacent crossings
Mono Street	Rail crossing – G Street to H Street	- Roadway closed; traffic shifts to adjacent crossings
Proposed Grade Separated Crossings		
Tulare Street	Rail crossing – G Street to H Street	- Proposed two-lane undercrossing of UPRR and HSR - Eliminates existing at-grade intersection at G Street
Ventura Avenue	Rail crossing – G Street to H Street	- Proposed four-lane undercrossing of UPRR and HSR - Eliminates existing at-grade intersection at G Street
Modification of Existing Grade Separations		
Stanislaus Street	Rail overcrossing – Broadway to F Street	- Proposed four-lane, two-way overcrossing; converted to a two-lane two-way street from B Street to P Street
Fresno Street	Rail undercrossing – Broadway Plaza to G Street	- Proposed four-lane undercrossing - Eliminates existing at-grade intersection at G Street - Creates new at-grade intersection at H Street

Notes: UPRR = Union Pacific Railroad
HSR = High Speed Rail

Source: California High Speed Rail Authority, 2012.

Since the initial construction section of HSR trackway in the Fresno area is funded and expected to begin construction in 2014, these changes to the local circulation system are included in the Cumulative Conditions analysis as a reasonably foreseeable probable future project.

While the initial construction section in the Fresno area is funded, it is our understanding that the Authority has only secured funding to construct the trackway from Bakersfield to Merced. The remainder of the HSR project, including the segments that connect Bakersfield to Los Angeles and from San Francisco to Merced to create the operational system proposed by the Authority, are not funded. Furthermore, plans to operate the first phase of the proposed High Speed Train between San Francisco and Los Angeles/Anaheim are not currently funded.

In addition to the funding limitations, changes to the High Speed Train business plan, projected cost, and construction schedule generate uncertainty regarding the project description, timing for completing construction, and beginning operation of the proposed high speed train system. For example, the original 2008 business plan envisioned high speed train service connecting San Francisco and Anaheim by 2020. However, the November 2011 draft business plan anticipated completion by 2033, which was then revised in the April 2012 business plan to 2028. While the original plan included high speed trains operating on dedicated right-of-way between San Francisco and Anaheim, the April 2012 business plan focuses on a blended system utilizing existing commuter rail right-of-way to lower cost and reduce construction time. The expected cost to construct the system has also changed, from the estimated $42.5 billion in the original 2008 business plan to $98.5 billion in the November 2011 draft business plan to $68.4 billion in the April 2012 business plan.

In light of these changes and lack of funding for the full proposed High Speed Train project, there is significant uncertainty regarding its ultimate implementation. Therefore, it is currently too speculative to include the operations of the California High Speed Train system as a reasonably foreseeable future project for a CEQA or NEPA analysis. As a result, this Cumulative Conditions analysis does not include the potential increase in traffic associated with passenger demand at a proposed High Speed Train station in Downtown Fresno as part of a fully functioning statewide High Speed Train system.

Cumulative Land Use Growth

The 2010 release of the Cumulative Fresno COG TDF model uses Fresno COG's 2035 population and employment forecasts as land use inputs for future development within the project area and the region. These land use inputs include projected growth in the Downtown Core, including the proposed project study area.

The City is also in the process of developing and adopting the Downtown Neighborhoods Community Plan (DNCP) and Fulton Corridor Specific Plan (FCSP). These plans would shape development and transportation in Downtown Fresno and its surrounding neighborhoods.

It is expected the development changes and transportation improvements associated with the DNCP and FCSP would ultimately occur with or without the proposed Fulton Mall Reconstruction Project. Therefore, the Cumulative Conditions analysis includes the development potential and transportation improvements associated with these plans for both the No Project and Plus Project analysis.

CUMULATIVE NO PROJECT CONDITIONS

The Cumulative No Project conditions analysis reflects anticipated conditions without the proposed Fulton Mall Reconstruction Project. This includes the cumulative transportation and land use development changes identified above, including projected development within the project area consistent with the DNCP and FCSP.

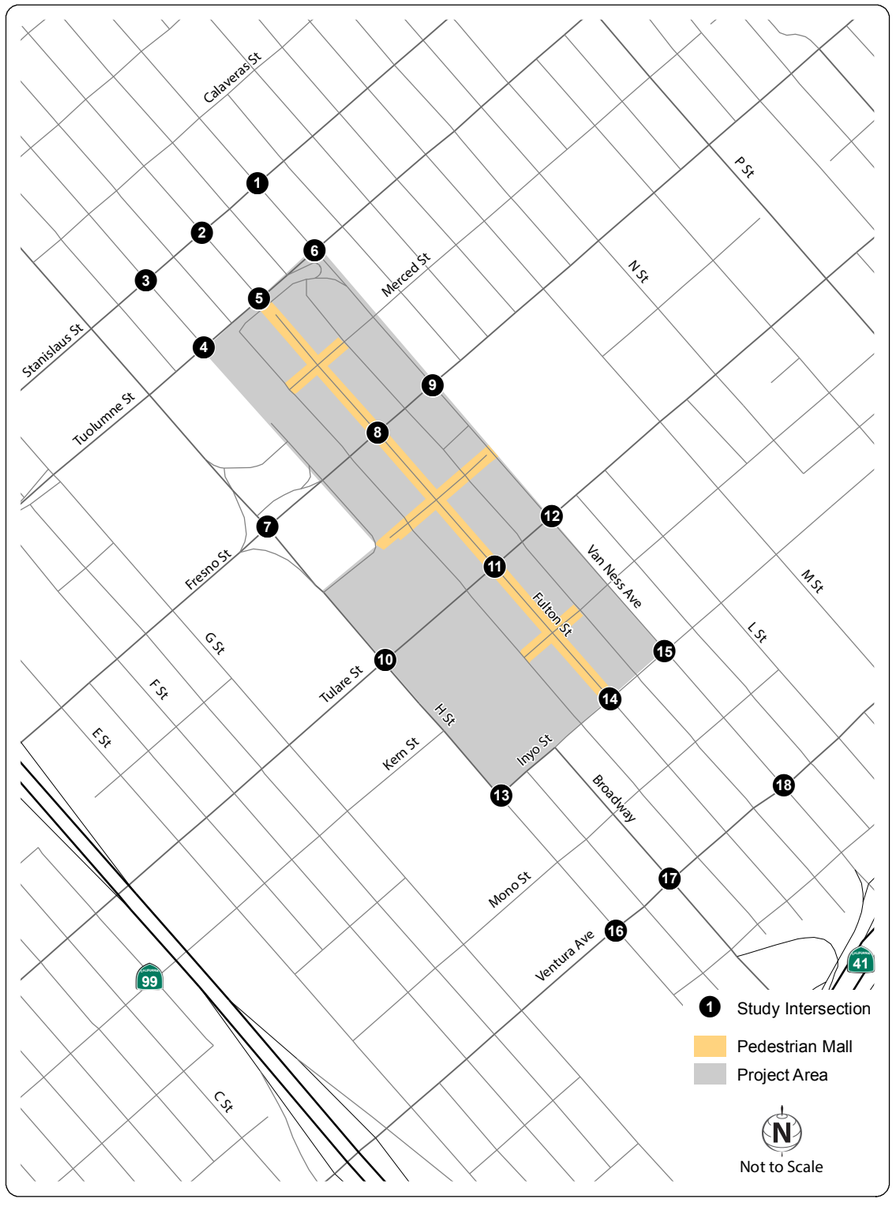
Cumulative No Project Forecasting

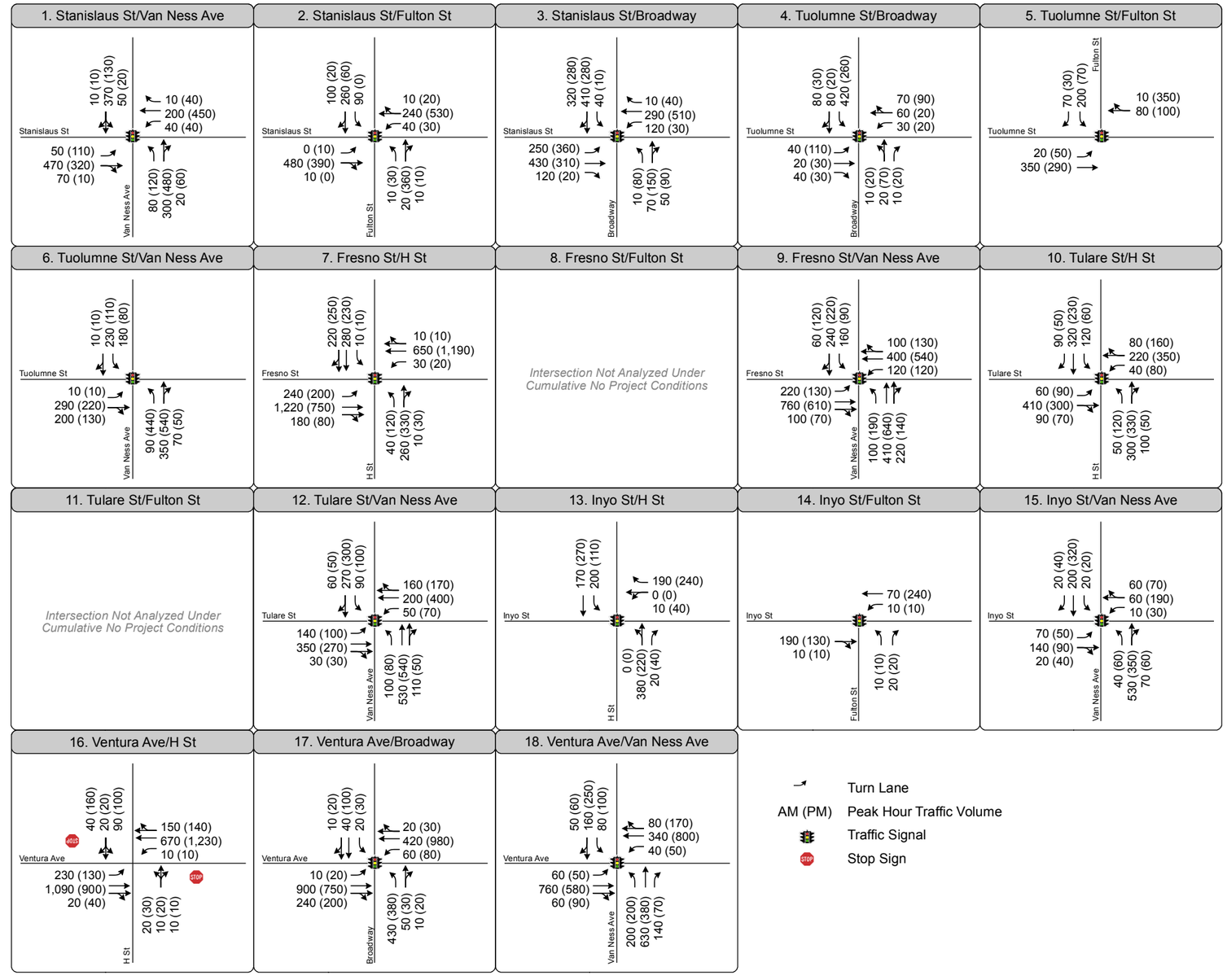
Cumulative (Year 2035) No Project weekday peak hour traffic volume forecasts were developed using a locally validated version of the Fresno COG travel demand forecasting (TDF) model. The model uses the land use and transportation inputs described above to provide travel demand forecasts for the AM and PM peak hours.

Similar to the Baseline Plus Project travel demand modeling, the Cumulative No Project turning movement forecasts were developed using the "difference method." This approach adjusts raw model volume forecasts based on expected incremental growth from Baseline Conditions using the following formula:

Cumulative No Project Forecasts = Baseline Traffic Count +
(Cumulative No Project Model Volume – Base Year Raw Model Volume)

Figure 8 shows the peak hour Cumulative No Project turning movement forecasts at the study intersections.





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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - CUMULATIVE NO PROJECT CONDITIONS

FIGURE 8

Intersection Operations

Table 8 summarizes the AM and PM peak hour level of service (LOS) at each study intersection under Cumulative No Project conditions (refer to Appendix F for calculations). **Figure 9** also shows the peak hour intersection LOS. Based on the results in Table 8, the following five intersections would operate at LOS E or F during the AM and/or PM peak hour under Cumulative No Project conditions:

- Stanislaus Street / Broadway
- Tuolumne Street / Broadway
- Fresno Street / H Street
- Fresno Street / Van Ness Avenue
- Ventura Avenue / H Street

All of these intersections are located within the Core Area, defined as the area bounded by State Routes 99, 41, and 180 in Fulton Corridor Specific Plan policy 9-3-1. Per the City of Fresno's General Plan policy MT-1-m, LOS E and F operations are acceptable at City of Fresno intersections within the Downtown Neighborhoods Community Plan area and the Fulton Corridor Specific Plan area. Therefore, all intersections are considered to operate at an acceptable level of service.

TABLE 8:
PEAK HOUR INTERSECTION OPERATIONS – CUMULATIVE NO PROJECT CONDITIONS

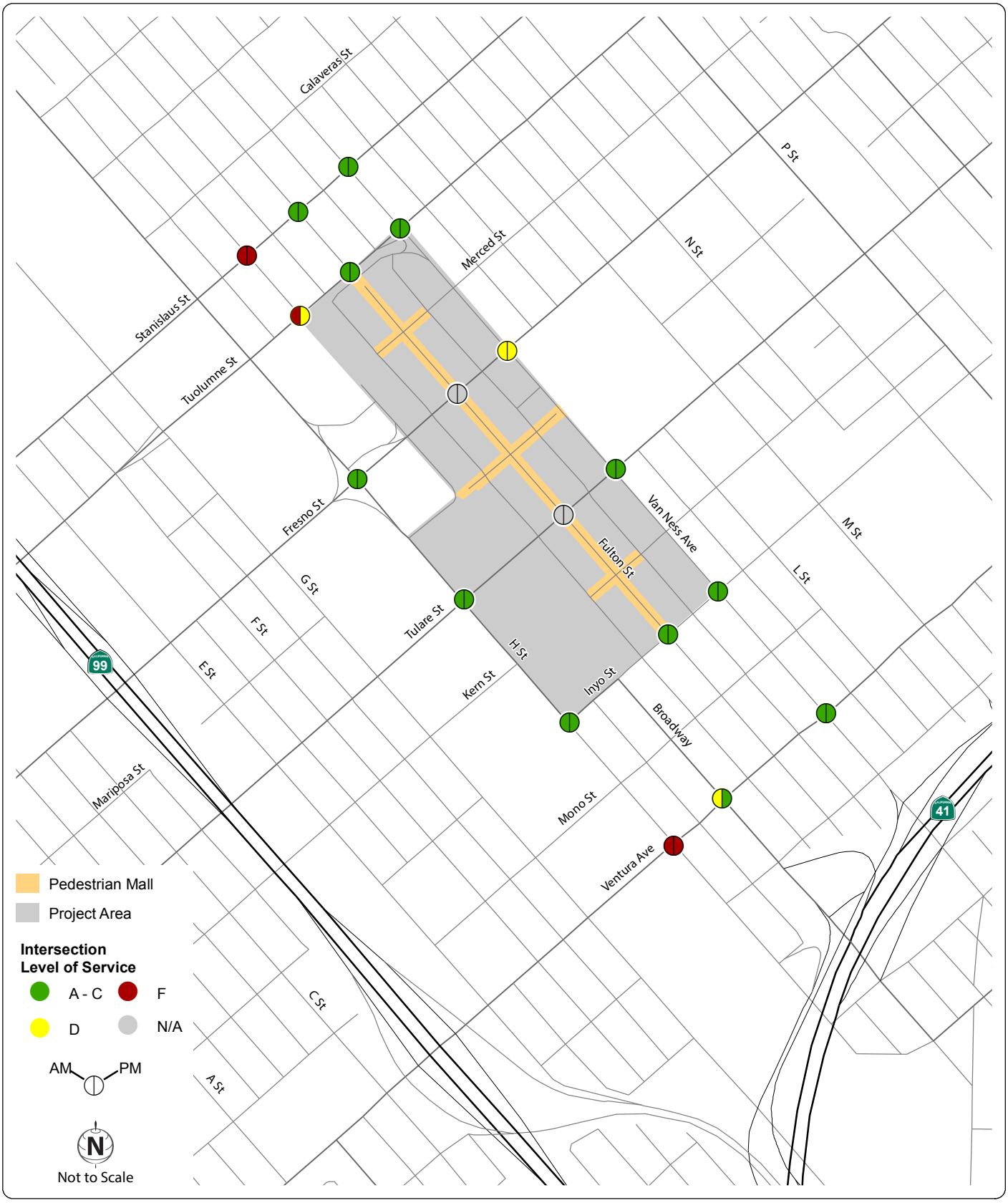
Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Delay[1]	LOS[2]	Delay[1]	LOS[2]
1. Stanislaus Street / Van Ness Avenue	Signal	28	C	53	D
2. Stanislaus Street / Fulton Street	Signal	18	B	16	B
3. Stanislaus Street / Broadway	Signal	50	D	>150	F
4. Tuolumne Street / Broadway	Signal	46	D	>150	F
5. Tuolumne Street / Fulton Street	Signal	22	C	19	B
6. Tuolumne Street / Van Ness Avenue	Signal	38	D	40	D
7. Fresno Street / H Street	Signal	84	F	102	F
8. Fresno Street / Fulton Street[3]	Pedestrian Signal				
9. Fresno Street / Van Ness Avenue	Signal	49	D	62	E
10. Tulare Street / H Street	Signal	14	B	27	C
11. Tulare Street / Fulton Street[3]	Pedestrian Signal				
12. Tulare Street / Van Ness Avenue	Signal	38	D	35	C
13. Inyo Street / H Street	Signal	12	B	23	C
14. Inyo Street / Fulton Street	Signal	11	B	9	A
15. Inyo Street / Van Ness Avenue	Signal	13	B	13	B
16. Ventura Avenue / H Street	Side Street Stop-Controlled	>150	F	>150	F
17. Ventura Avenue / Broadway	Signal	15	B	18	B
18. Ventura Avenue / Van Ness Avenue	Signal	29	C	32	C

Notes: [1]For signalized intersections, the overall average intersection control delay is reported in seconds per vehicle. For side-street stop controlled intersections, the average control delay for the movement with the greatest delay is reported in seconds per vehicle.

[2]Level of Service based on *Highway Capacity Manual* (Transportation Research Board, 2000).

[3]Intersection would exist as a pedestrian signal as it does under Baseline Conditions; not analyzed under Cumulative No Project Conditions.

Source: Fehr & Peers, 2013.



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INTERSECTION LEVEL OF SERVICE - CUMULATIVE NO PROJECT CONDITIONS

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FIGURE 9

Roadway Volumes

Table 9 presents the forecasted average daily traffic volumes for each study roadway segment under Cumulative No Project conditions. The daily traffic volumes are presented to provide a general evaluation on the expected change in daily traffic patterns with cumulative growth.

TABLE 9:
DAILY ROADWAY SEGMENT TRAFFIC VOLUMES –
CUMULATIVE NO PROJECT CONDITIONS

	Average Daily Traffic Volumes	
Roadway Segment	**Baseline Conditions**	**Cumulative No Project**
1. Broadway: North of Stanislaus St.	2,588	13,930
2. Fulton Street: North of Stanislaus St.	2,731	6,310
3. Van Ness Avenue: North of Stanislaus St.	6,339	11,300
4. Fulton Mall: Tuolumne St. to Inyo St.[1]	N/A	N/A
5. Van Ness Avenue: Fresno St. to Tulare St.	9,991	14,280
6. Van Ness Avenue: Tulare St. to Inyo St.	9,728	13,750
7. Van Ness Avenue: Inyo St. to Ventura Ave.	7,586	13,530
8. Stanislaus Street: M Street to Van Ness Ave.	4,360	14,190
9. Stanislaus Street: Broadway to E Street	6,996	22,110
10. Tuolumne Street: E Street to Broadway	5,586	5,570
11. Tuolumne Street: Van Ness Ave. to M Street	4,299	5,290
12. Fresno Street: Broadway to Van Ness Ave.	14,444	18,420
13. Fresno Street: Van Ness Ave. to M Street	12,150	20,200
14. Tulare Street: H Street to Van Ness Ave.	9,304	18,780
15. Inyo Street: H Street to Van Ness Ave.	3,301	6,150
16. Ventura Avenue: Van Ness Ave. to M Street	11,838	24,880

Notes: [1]Fulton Mall exists as a pedestrian mall that is closed to vehicular traffic, and would remain as a pedestrian mall under Cumulative No Project conditions.

Source: Fehr & Peers, 2013.

CUMULATIVE PLUS PROJECT CONDITIONS

The Cumulative Plus Project analysis reflects future conditions with the proposed Fulton Mall Reconstruction Project. As noted in the introduction of this chapter, it is anticipated that the City will adopt the DNCP and FCSP, which will shape future development and transportation in Downtown Fresno. Therefore, the development potential and future transportation improvements are included in both the Cumulative No Project and Cumulative Plus Project analysis.

Cumulative Project Traffic Forecasts

Pedestrian Mall Alternative

As with the Baseline Plus Project analysis, the Pedestrian Mall alternative is not expected to result in different traffic conditions than the Cumulative No Project condition, since the transportation infrastructure in the study area would remain the same. Therefore, the traffic volumes for the Pedestrian Mall alternative would be the same as Cumulative No Project Conditions.

Open to Traffic Alternatives

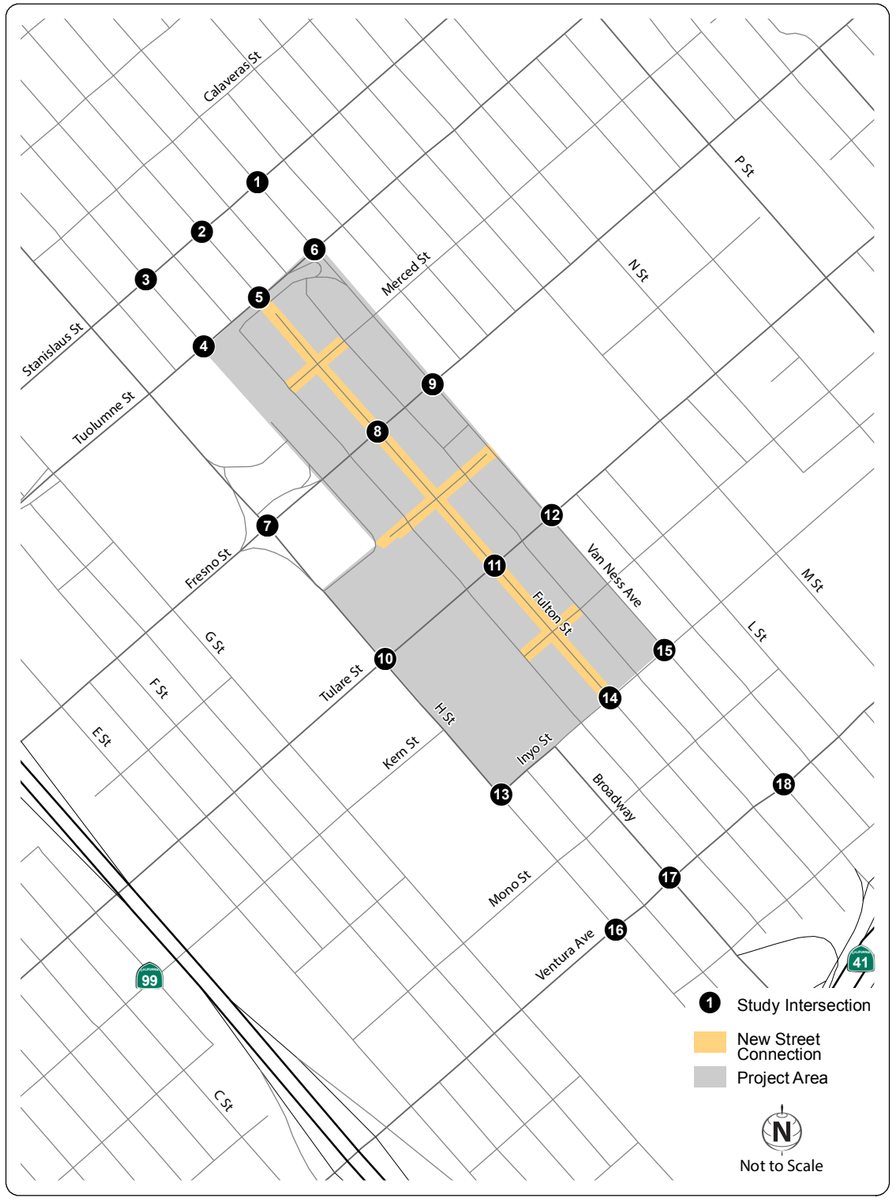
Similar to the Pedestrian Mall Alternative, the Open to Traffic Alternatives are expected to have a similar cumulative effect as the Baseline Plus Project scenario.

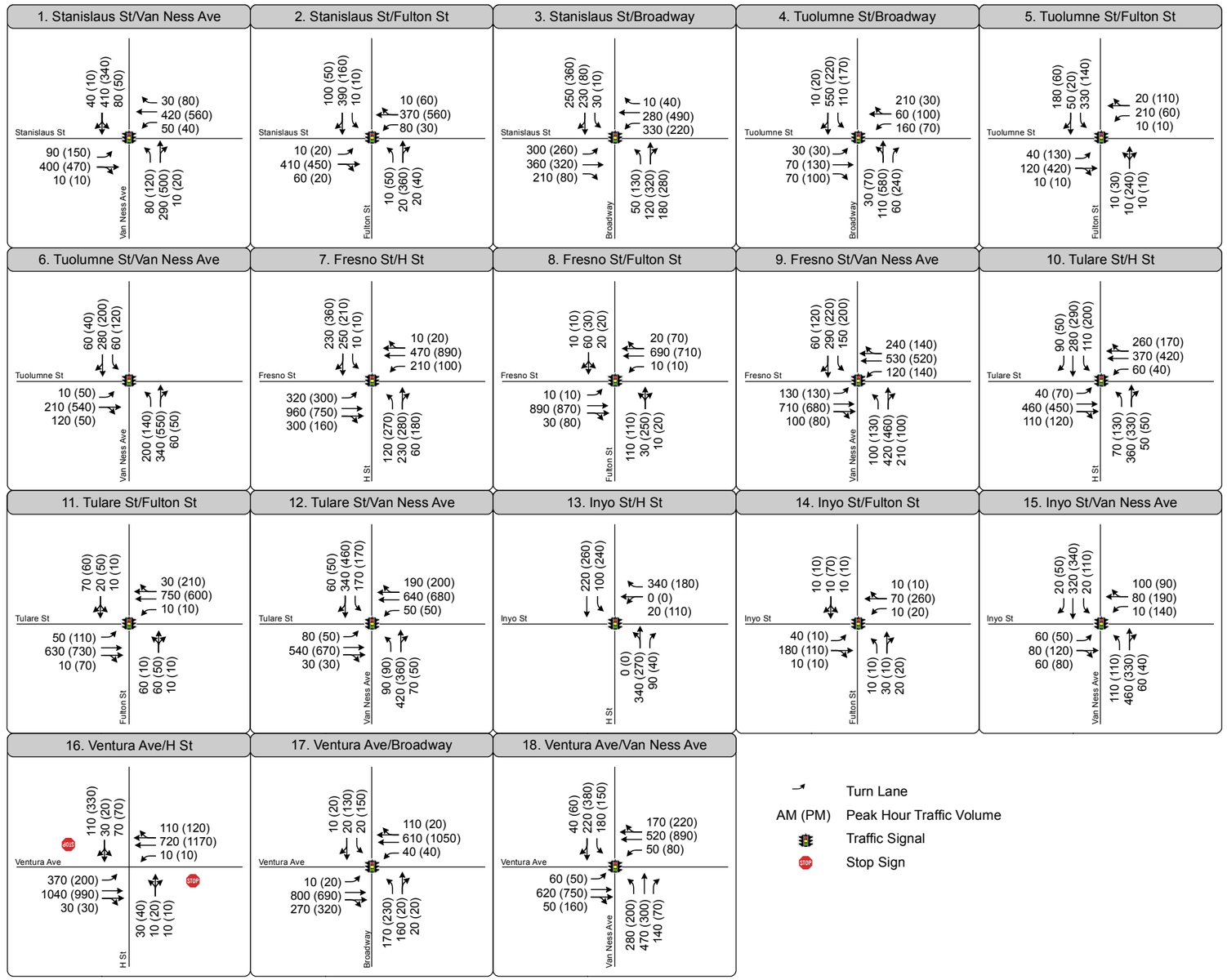
Overall, the Open to Traffic alternatives may cause some shifts in local traffic patterns by opening the Fulton Mall and its cross streets to vehicle traffic. However, since these alternatives would create narrow, two-way vehicular streets, these new roadways would primarily carry local trips to access adjacent businesses. Therefore, these changes in traffic patterns would be localized to roadways in the project study area.

The 2010 Fresno COG TDF model was used to forecast the shifts in traffic associated with the Open to Traffic alternatives under Cumulative conditions. To account for model error, this study adjusts project traffic forecasts using a process known as the "difference method," which adjusts raw model volume forecasts based on expected incremental growth from Baseline Conditions using the following formula:

Cumulative Plus Project Forecasts = Baseline Traffic Count +
(Cumulative Plus Project Raw Model Volume – Base Year Raw Model Volume)

Figure 10 shows the peak hour Cumulative Plus Project – Mall Open to Traffic forecasts at the study intersections.





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PEAK HOUR TRAFFIC VOLUMES AND LANE CONFIGURATIONS - CUMULATIVE PLUS PROJECT CONDITIONS - MALL OPEN TO TRAFFIC

FIGURE 10

Intersection Operations

For the Pedestrian Mall alternative, intersection operations would remain the same as the Baseline Conditions.

For the Mall Open to Traffic alternatives, **Table 10** summarizes the AM and PM peak hour LOS at the study intersections (refer to Appendix D for calculations). **Figure 11** also shows the peak hour intersection LOS for the Mall Open to Traffic alternatives. Based on the results in Table 9, the following four intersections would operate at LOS E or F during the AM and/or PM peak hour under Cumulative Plus Project Conditions with the Mall Open to Traffic alternatives:

- Stanislaus Street / Broadway
- Tuolumne Street / Broadway
- Fresno Street / H Street
- Ventura Avenue / H Street

All of these intersections are located within the Core Area, defined as the area bounded by State Routes 99, 41, and 180 in Fulton Corridor Specific Plan policy 9-3-1. Per the City of Fresno's General Plan policy MT-1-m, LOS E and F operations are acceptable at City of Fresno intersections within the Downtown Neighborhoods Community Plan area and the Fulton Corridor Specific Plan area. Therefore, all intersections are considered to operate at an acceptable level of service.

TABLE 10:
PEAK HOUR INTERSECTION OPERATIONS – CUMULATIVE PLUS PROJECT CONDITIONS

Intersection	Traffic Control	Cumulative No Project Conditions[1]				Cumulative + Project: Mall Open to Traffic			
		AM Peak Hr		PM Peak Hr		AM Peak Hr		PM Peak Hr	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Stanislaus Street / Van Ness Avenue	Signal	28	C	53	D	29	C	52	D
2. Stanislaus Street / Fulton Street	Signal	18	B	16	B	18	B	17	B
3. Stanislaus Street / Broadway	Signal	50	D	>150	F	51	D	>150	F
4. Tuolumne Street / Broadway	Signal	46	D	>150	F	41	D	>150	F
5. Tuolumne Street / Fulton Street	Signal	22	C	19	B	23	C	34	C
6. Tuolumne Street / Van Ness Avenue	Signal	38	D	40	D	35	D	39	D
7. Fresno Street / H Street	Signal	84	F	102	F	77	E	92	F
8. Fresno Street / Fulton Street[4]	Pedestrian Signal					19	B	13	B
9. Fresno Street / Van Ness Avenue	Signal	49	D	62	E	48	D	48	D
10. Tulare Street / H Street	Signal	14	B	27	C	15	B	22	C
11. Tulare Street / Fulton Street[4]	Pedestrian Signal					14	B	15	B
12. Tulare Street / Van Ness Avenue	Signal	38	D	35	C	42	D	33	C
13. Inyo Street / H Street	Signal	12	B	23	C	20	B	14	B
14. Inyo Street / Fulton Street	Signal	11	B	9	A	9	A	10	B
15. Inyo Street / Van Ness Avenue	Signal	13	B	13	B	14	B	13	B
16. Ventura Avenue / H Street	Side Street Stop-Controlled	>150	F	>150	F	>150	F	>150	F
17. Ventura Avenue / Broadway	Signal	15	B	18	B	17	B	19	B
18. Ventura Avenue / Van Ness Avenue	Signal	29	C	32	C	29	C	31	C

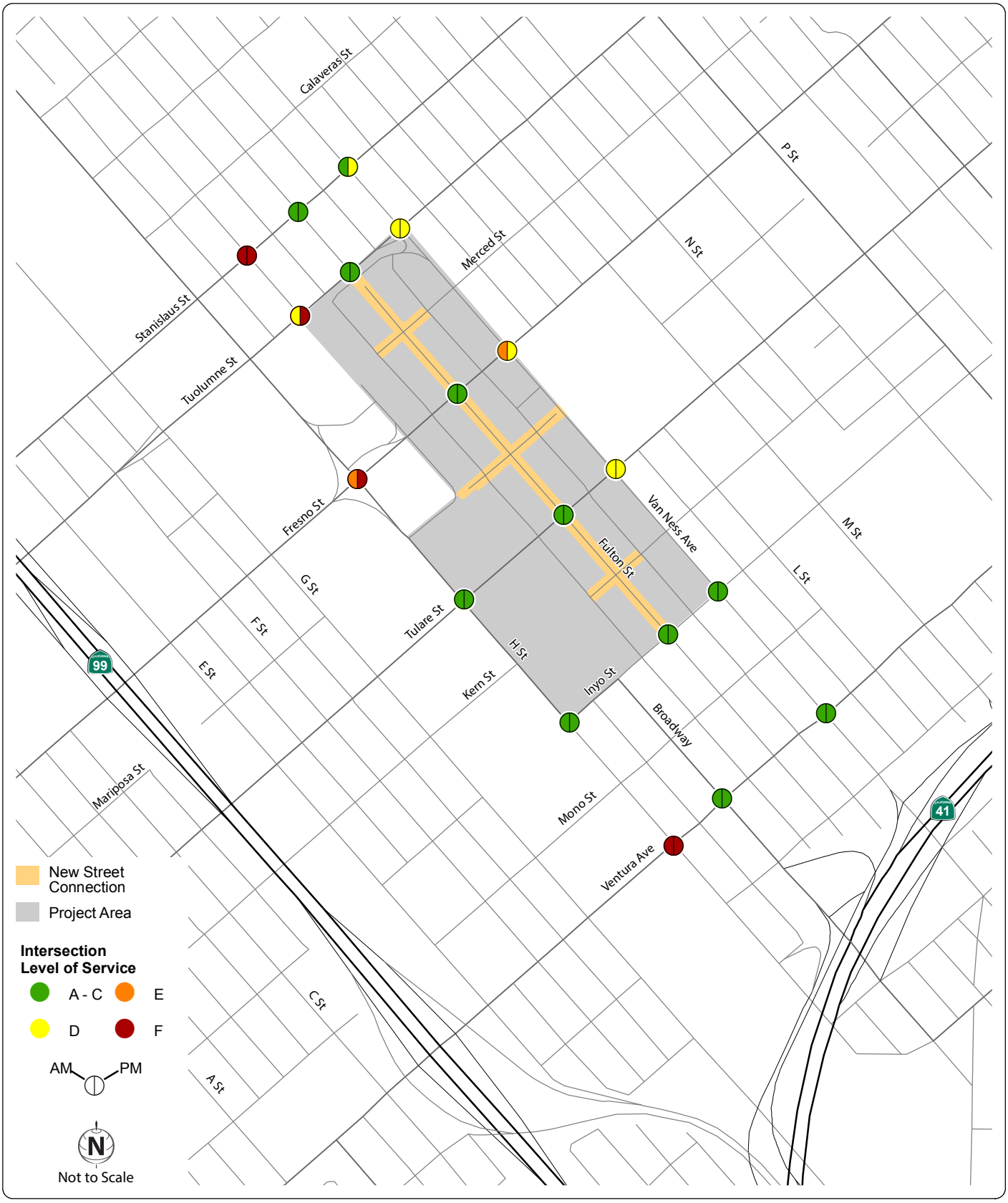
Notes: [1]Cumulative Plus Project: Pedestrian Mall alternative would have the same traffic operations as Cumulative No Project Conditions.

[2]For signalized intersections, the overall average intersection control delay is reported in seconds per vehicle. For side-street stop controlled intersections, the average control delay for the movement with the greatest delay is reported in seconds per vehicle.

[3]Level of Service based on *Highway Capacity Manual* (Transportation Research Board, 2000).

[4]Intersection would exist as a pedestrian signal as it does under Baseline Conditions and is not analyzed under Cumulative No Project Conditions. Intersection would become fully signalized under Cumulative Plus Project – Mall Open to Traffic conditions.

Source: Fehr & Peers, 2013.



FEHR PEERS

INTERSECTION LEVEL OF SERVICE - CUMULATIVE PLUS PROJECT CONDITIONS - MALL OPEN TO TRAFFIC

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FIGURE 11

Roadway Volumes

For the Pedestrian Mall alternative, roadway volumes would remain the same as the Cumulative No Project Conditions.

For the Mall Open to Traffic alternatives, **Table 11** presents the forecasted average daily traffic volumes for each study roadway segment. The daily traffic volumes are presented to provide a general evaluation on the expected change in daily traffic patterns with the mall open to traffic under Cumulative Conditions.

TABLE 11:
DAILY ROADWAY SEGMENT TRAFFIC VOLUMES –
CUMULATIVE PLUS PROJECT CONDITIONS

	Average Daily Traffic Volumes	
Roadway Segment	**Cumulative No Project Conditions[1]**	**Cumulative + Project: Mall Open to Traffic**
1. Broadway: North of Stanislaus St.	13,930	13,810
2. Fulton Street: North of Stanislaus St.	6,310	6,360
3. Van Ness Avenue: North of Stanislaus St.	11,300	11,710
4. Fulton Street: Tuolumne St. to Inyo St.[2]	N/A	2,310
5. Van Ness Avenue: Fresno St. to Tulare St.	14,280	13,950
6. Van Ness Avenue: Tulare St. to Inyo St.	13,750	13,950
7. Van Ness Avenue: Inyo St. to Ventura Ave.	13,530	13,640
8. Stanislaus Street: M Street to Van Ness Ave.	14,190	14,030
9. Stanislaus Street: Broadway to E Street	22,110	22,010
10. Tuolumne Street: E Street to Broadway	5,570	5,990
11. Tuolumne Street: Van Ness Ave. to M Street	5,290	5,210
12. Fresno Street: Broadway to Van Ness Ave.	18,420	18,480
13. Fresno Street: Van Ness Ave. to M Street	20,200	20,050
14. Tulare Street: H Street to Van Ness Ave.	18,780	18,980
15. Inyo Street: H Street to Van Ness Ave.	6,150	6,120
16. Ventura Avenue: Van Ness Ave. to M Street	24,880	24,570

Notes: [1]Cumulative Plus Project: Pedestrian Mall alternative would have the same traffic volumes as Cumulative No Project Conditions.
[2]Fulton Street is a pedestrian mall between Tuolumne St. and Inyo St. under Cumulative No Project Conditions and Cumulative Plus Project: Pedestrian Mall alternative.

Source: Fehr & Peers, 2013.

CHAPTER 5. IMPACTS AND MITIGATION MEASURES

This chapter summarizes the potentially significant project-specific and cumulative impacts of the proposed project on the transportation system. Each impact is followed by a recommended mitigation measure to reduce the significance of identified impacts.

PROJECT-SPECIFIC IMPACTS AND MITIGATION MEASURES

This section evaluates the significance of project impacts based on the thresholds of significance and analysis results presented in previous chapters.

Impact B-1: The proposed project could cause potentially significant impacts to traffic operations at study intersections.

Significance: Less Than Significant

The proposed project would not significantly change traffic volumes. For the Pedestrian Mall alternative, traffic volumes and intersection operations would remain the same as Baseline Conditions.

For the Mall Open to Traffic alternatives, minor shifts in traffic patterns are expected to occur as the result of opening Fulton Mall and its cross streets to vehicular traffic. However, the proposed streets under these alternatives would primarily carry local trips to access adjacent businesses and would not greatly affect traffic volumes or traffic operations.

Table 5 shows that all study intersections would operate at LOS D or better with the proposed project.

Therefore, this impact is **less than significant**.

Impact B-2: The proposed project could cause potentially significant impacts to traffic operations and bicycle and pedestrian circulation during construction.

Significance: Potentially Significant

Construction may include disruptions to the transportation network near the site, including the possibility of temporary closures. Heavy vehicles would access the site and may need to be staged for construction. These activities could result in degraded roadway operating conditions as well as cause impacts to bicycle and pedestrian facilities along the existing Fulton Mall.

Therefore, this impact is considered **potentially significant**.

Mitigation B-2:

Prior to the beginning of construction, a construction traffic management plan shall be prepared to address potential impacts to transportation facilities. The plan shall ensure that acceptable operating conditions are maintained on local roadways as well as detours or facilities for bicyclists, pedestrians,

and transit users. Implementation of this mitigation measure would reduce the above impact to **less than significant**.

Residual Significance: Less Than Significant

Impact B-3: The proposed project could cause potentially significant impacts to transit service.

Significance: Less Than Significant

The proposed project would not adversely affect existing or planned transit facilities. The proposed project would not conflict with adopted plans, policies, or programs regarding transit facilities. Therefore, this impact is considered **less than significant**.

Impact B-4: The proposed project could cause potentially significant impacts to bicycle and pedestrian facilities.

Significance: Less Than Significant

The Fulton Mall Reconstruction Project proposes either restoring the existing pedestrian mall or replacing the pedestrian mall with a new roadway. For the Pedestrian Mall alternative, the mall's existing use as a pedestrian and bicycle facility would remain. Therefore, there would be no impact to bicycle and pedestrian facilities except during construction activity (see Impact B-2).

For the Mall Open to Traffic alternatives, the Fulton Mall Reconstruction Project proposes wide pedestrian areas and a local-serving roadway carrying vehicle traffic at relatively low speeds. This would maintain the Mall as a bicycle and pedestrian friendly facility.

Since the proposed project would not adversely affect existing or planned bicycle or pedestrian networks this impact is considered **less than significant**.

Impact B-5: The proposed project could result in increased hazards due to design features.

Significance: Potentially Significant

For the Pedestrian Mall alternative, the mall would be improved to enhance accessibility and reduce hazards to pedestrians. Therefore, this impact would be less than significant under this alternative.

For the Mall Open to Traffic alternatives, vehicle traffic would be reintroduced into the corridor. Depending on the design of the roadway and the alternative selected, there is the potential for increased hazards from the interaction between travel modes (i.e., vehicles and pedestrians, vehicles and bicyclists, etc.) and the visibility (or lack thereof) of each at interaction points.

Therefore, this impact is considered **potentially significant**.

<u>Mitigation B-5:</u>

If one of the Mall Open to Traffic alternatives is selected, the project design shall consider issues such as design speed, sight distance, and bicycle and pedestrian treatments to enhance traveler safety.

Specifically, if Alternative B (Reconnect the Grid with Vignettes) is selected, the placement of art pieces in the project design shall consider drivers' ability to see pedestrians and cyclists at likely interaction points, such as intersections and mid-block crossings.

Implementation of this mitigation measure would reduce the above impact to **less than significant**.

Residual Significance: Less Than Significant

CUMULATIVE IMPACTS

This section identifies the incremental cumulative effects of the proposed Fulton Mall Reconstruction Project. Incremental cumulative effects that exceed the thresholds of significance based on the criteria presented in Chapter 1 are considered cumulatively considerable, and therefore a significant impact.

Impact C-1: The proposed project could contribute to traffic conditions that result in significant impacts to traffic operations at study intersections.

Significance: Less Than Significant

The proposed project is anticipated to potentially stimulate and support future development in the Project Area. However, the proposed project is not expected to greatly change traffic patterns in the Study Area.

For the Pedestrian Mall alternative, traffic volumes and intersection operations would remain the same as Cumulative No Project Conditions.

For the Mall Open to Traffic alternatives, minor shifts in traffic patterns are expected to occur as the result of opening Fulton Mall to vehicular traffic. However, the proposed streets under these alternatives would primarily carry local trips to access adjacent businesses and would not greatly affect traffic volumes or traffic operations.

Table 9 shows that the following four study intersections would operate at LOS E or F during the AM and/or PM peak hour under Cumulative Plus Project Conditions with the Mall Open to Traffic alternatives:

- Stanislaus Street / Broadway
- Tuolumne Street / Broadway
- Fresno Street / H Street
- Ventura Avenue / H Street

All of these intersections are located within the Core Area, defined as the area bounded by State Routes 99, 41, and 180 in Fulton Corridor Specific Plan policy 9-3-1. Per the City of Fresno's General Plan policy MT-1-m, LOS E and F operations are acceptable at City of Fresno intersections within the Downtown Neighborhoods Community Plan area and the Fulton Corridor Specific Plan area. Therefore, all intersections are considered to operate at an acceptable level of service.

Since these intersections all operate acceptably, this impact is **less than significant**.

APPENDIX A: REFERENCES

REFERENCES

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APPENDIX B:
TRAFFIC COUNT DATA

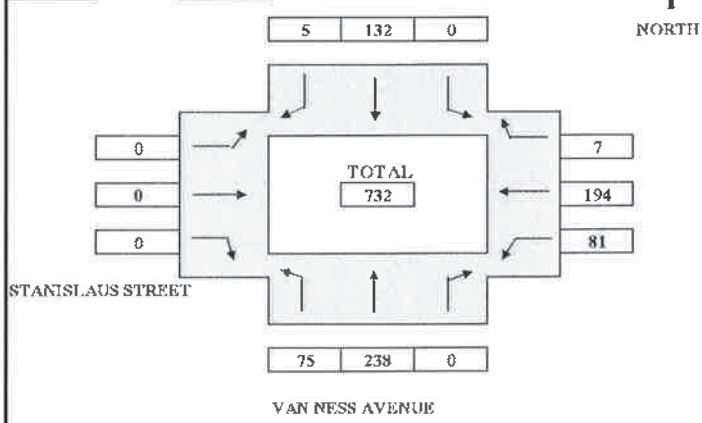
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

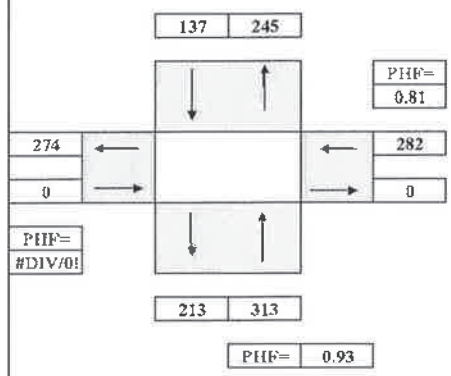
PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	STANISLAUS STREET	CITY:	FRESNO	FILE:	2911072-13AM

PEAK HOUR

07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	11	23	0	0	10	0	0	0	0	1	34	1	*80*
7:15 AM ---	7:30 AM	28	53	0	0	31	2	0	0	0	9	68	4	*195*
7:30 AM ---	7:45 AM	45	109	0	0	50	2	0	0	0	25	118	5	*354*
7:45 AM ---	8:00 AM	61	177	0	0	89	3	0	0	0	47	179	9	*565*
8:00 AM ---	8:15 AM	85	222	0	0	118	4	0	0	0	73	224	11	*737*
8:15 AM ---	8:30 AM	101	285	0	0	145	5	0	0	0	89	275	12	*912*
8:30 AM ---	8:45 AM	120	347	0	0	182	7	0	0	0	106	312	12	*1,086*
8:45 AM ---	9:00 AM	144	391	0	0	207	7	0	0	0	114	352	14	*1,229*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	11	23	0	0	10	0	0	0	0	1	34	1	*80*
7:15 AM ---	7:30 AM	17	30	0	0	21	2	0	0	0	8	34	3	*115*
7:30 AM ---	7:45 AM	17	56	0	0	19	0	0	0	0	16	50	1	*159*
7:45 AM ---	8:00 AM	16	68	0	0	39	1	0	0	0	22	61	4	*211*
8:00 AM ---	8:15 AM	24	45	0	0	29	1	0	0	0	26	45	2	*172*
8:15 AM ---	8:30 AM	16	63	0	0	27	1	0	0	0	16	51	1	*175*
8:30 AM ---	8:45 AM	19	62	0	0	37	2	0	0	0	17	37	0	*174*
8:45 AM ---	9:00 AM	24	44	0	0	25	0	0	0	0	8	40	2	*143*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	61	177	0	0	89	3	0	0	0	47	179	9	*565*
7:15 AM ---	8:15 AM	74	199	0	0	108	4	0	0	0	72	190	10	*657*
7:30 AM ---	8:30 AM	73	232	0	0	114	3	0	0	0	80	207	8	*717*
7:45 AM ---	8:45 AM	75	238	0	0	132	5	0	0	0	81	194	7	*732*
8:00 AM ---	9:00 AM	83	214	0	0	118	4	0	0	0	67	173	5	*664*

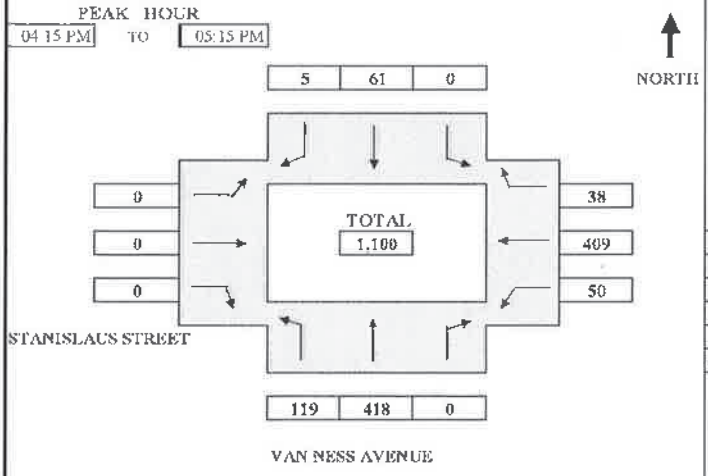
Telephone: (510)232-1271 Fax: (510)232-1272

B.A.Y.M.E.T.R.I.C.S.

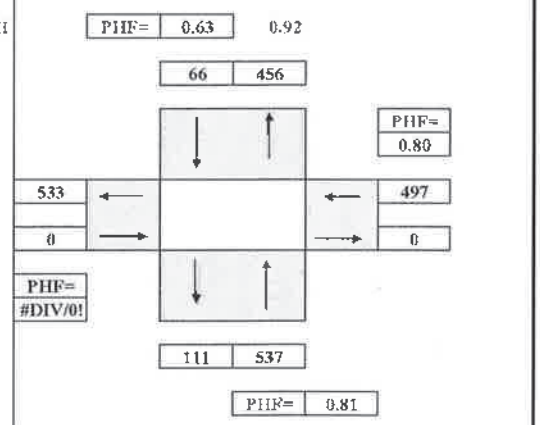
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	STANISLAUS STREET	CITY:	FRESNO	FILE:	2911072-13PM

PEAK HOUR
04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	35	103	0	0	23	3	0	0	0	10	80	12	*266*
4:15 PM	---	4:30 PM	53	195	0	0	38	3	0	0	0	27	156	20	*492*
4:30 PM	---	4:45 PM	74	302	0	0	54	5	0	0	0	39	253	29	*756*
4:45 PM	---	5:00 PM	115	395	0	0	69	7	0	0	0	55	350	38	*1,029*
5:00 PM	---	5:15 PM	154	521	0	0	84	8	0	0	0	60	489	50	*1,366*
5:15 PM	---	5:30 PM	178	608	0	0	97	12	0	0	0	69	573	54	*1,591*
5:30 PM	---	5:45 PM	204	711	0	0	110	14	0	0	0	77	644	68	*1,828*
5:45 PM	---	6:00 PM	222	759	0	0	123	15	0	0	0	80	698	74	*1,971*
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	35	103	0	0	23	3	0	0	0	10	80	12	*266*
4:15 PM	---	4:30 PM	18	92	0	0	15	0	0	0	0	17	76	8	*226*
4:30 PM	---	4:45 PM	21	107	0	0	16	2	0	0	0	12	97	9	*264*
4:45 PM	---	5:00 PM	41	93	0	0	15	2	0	0	0	16	97	9	*273*
5:00 PM	---	5:15 PM	39	126	0	0	15	1	0	0	0	5	139	12	*337*
5:15 PM	---	5:30 PM	24	87	0	0	13	4	0	0	0	9	84	4	*225*
5:30 PM	---	5:45 PM	26	103	0	0	13	2	0	0	0	8	71	14	*237*
5:45 PM	---	6:00 PM	18	48	0	0	13	1	0	0	0	3	54	6	*143*
HOURLY TOTALS															
4:00 PM	---	5:00 PM	115	395	0	0	69	7	0	0	0	55	350	38	*1,029*
4:15 PM	---	5:15 PM	119	418	0	0	61	5	0	0	0	50	409	38	*1,100*
4:30 PM	---	5:30 PM	125	413	0	0	59	9	0	0	0	42	417	34	*1,099*
4:45 PM	---	5:45 PM	130	409	0	0	56	9	0	0	0	38	391	39	*1,072*
5:00 PM	---	6:00 PM	107	364	0	0	54	8	0	0	0	25	348	36	*942*

Telephone: (510)232-1271 Fax: (510)232-1272

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

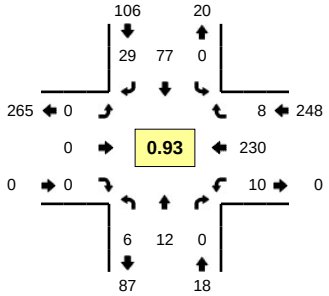
LOCATION: Fulton St -- Stanislaus St

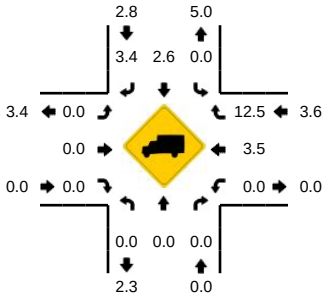
CITY/STATE: Fresno, CA

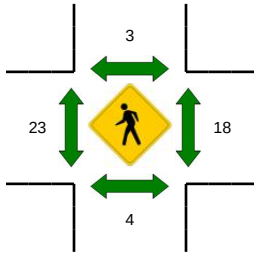
QC JOB #: 10705101

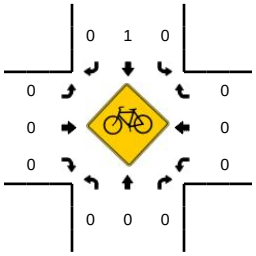
DATE: Thu, Jan 26 2012

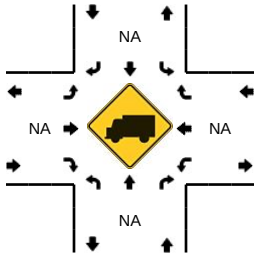
Peak-Hour: 7:55 AM -- 8:55 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

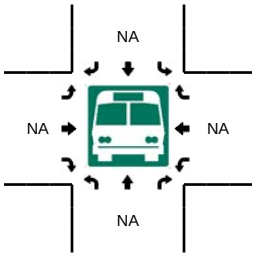












5-Min Count Period Beginning At	Fulton St (Northbound)				Fulton St (Southbound)				Stanislaus St (Eastbound)				Stanislaus St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	3	1	0	0	0	0	0	0	6	0	0	10	
7:05 AM	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0	0	6	
7:10 AM	0	0	0	0	0	2	3	0	0	0	0	0	0	13	0	0	18	
7:15 AM	0	1	0	0	0	1	5	0	0	0	0	0	0	11	0	0	18	
7:20 AM	0	0	0	0	0	3	1	0	0	0	0	0	0	17	0	0	21	
7:25 AM	2	0	0	0	0	8	5	0	0	0	0	0	0	24	0	0	39	
7:30 AM	1	0	0	0	0	2	3	0	0	0	0	0	0	15	1	0	22	
7:35 AM	1	0	0	0	0	1	2	0	0	0	0	0	0	14	0	0	18	
7:40 AM	0	2	0	0	0	4	2	0	0	0	0	0	0	21	2	0	31	
7:45 AM	0	0	0	0	0	5	3	0	0	0	0	0	0	18	0	0	26	
7:50 AM	0	1	0	0	0	5	2	0	0	0	0	0	0	19	0	0	27	
7:55 AM	1	0	0	0	0	7	2	0	0	0	0	0	1	22	0	0	33	269
8:00 AM	0	2	0	0	0	7	4	0	0	0	0	0	0	19	0	0	32	291
8:05 AM	0	3	0	0	0	10	2	0	0	0	0	0	0	15	0	0	30	315
8:10 AM	1	1	0	0	0	3	5	0	0	0	0	0	3	24	1	0	38	335
8:15 AM	0	1	0	0	0	8	3	0	0	0	0	0	1	17	2	0	32	349
8:20 AM	2	0	0	0	0	5	2	0	0	0	0	0	1	18	1	0	29	357
8:25 AM	1	1	0	0	0	9	1	0	0	0	0	0	0	22	0	0	34	352
8:30 AM	0	1	0	0	0	4	0	0	0	0	0	0	0	21	0	0	26	356
8:35 AM	0	0	0	0	0	4	3	0	0	0	0	0	1	20	1	0	29	367
8:40 AM	1	1	0	0	0	11	2	0	0	0	0	0	0	14	1	0	30	366
8:45 AM	0	1	0	0	0	1	2	0	0	0	0	0	1	22	1	0	28	368
8:50 AM	0	1	0	0	0	8	3	0	0	0	0	0	2	16	1	0	31	372
8:55 AM	1	2	0	0	0	8	0	0	0	0	0	0	0	18	2	0	31	370

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	24	0	0	0	80	44	0	0	0	0	0	12	232	4	0	400
Heavy Trucks	0	0	0		0	4	0		0	0	0		0	4	0		8
Pedestrians		8				8				16				4			36
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/30/2012 5:49 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

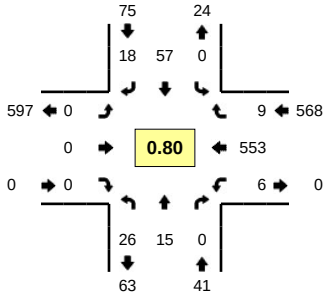
LOCATION: Fulton St -- Stanislaus St

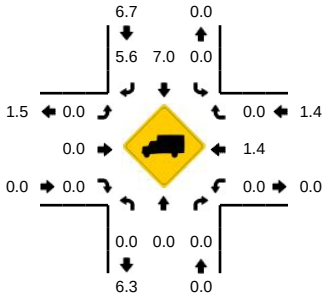
CITY/STATE: Fresno, CA

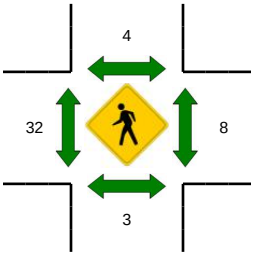
QC JOB #: 10705102

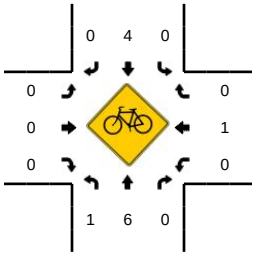
DATE: Thu, Jan 26 2012

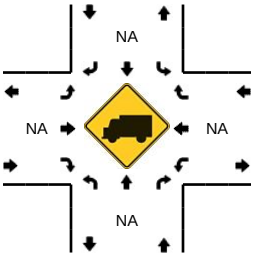
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

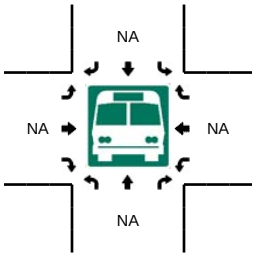












5-Min Count Period Beginning At	Fulton St (Northbound)				Fulton St (Southbound)				Stanislaus St (Eastbound)				Stanislaus St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	2	0	0	0	7	2	0	0	0	0	0	0	38	0	0	49	
4:05 PM	1	0	0	0	0	4	3	0	0	0	0	0	0	30	1	0	39	
4:10 PM	0	2	0	0	0	3	0	0	0	0	0	0	1	36	1	0	43	
4:15 PM	1	0	0	0	0	3	3	0	0	0	0	0	2	39	0	0	48	
4:20 PM	1	0	0	0	0	4	3	0	0	0	0	0	0	41	0	0	49	
4:25 PM	0	0	0	0	0	2	0	0	0	0	0	0	1	29	0	0	32	
4:30 PM	0	0	0	0	0	5	1	0	0	0	0	0	0	33	1	0	40	
4:35 PM	0	3	0	0	0	8	2	0	0	0	0	0	1	49	0	0	63	
4:40 PM	1	0	0	0	0	7	0	0	0	0	0	0	0	64	3	0	75	
4:45 PM	0	0	0	0	0	3	2	0	0	0	0	0	0	49	1	0	55	
4:50 PM	1	1	0	0	0	7	2	0	0	0	0	0	2	41	0	0	54	
4:55 PM	2	0	0	0	0	6	1	0	0	0	0	0	0	36	0	0	45	592
5:00 PM	8	2	0	0	0	9	2	0	0	0	0	0	0	51	0	0	72	615
5:05 PM	6	2	0	0	0	2	1	0	0	0	0	0	2	55	1	0	69	645
5:10 PM	6	6	0	0	0	2	1	0	0	0	0	0	0	55	2	0	72	674
5:15 PM	1	1	0	0	0	1	1	0	0	0	0	0	1	45	1	0	51	677
5:20 PM	1	0	0	0	0	5	1	0	0	0	0	0	0	40	0	0	47	675
5:25 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	35	0	0	38	681
5:30 PM	0	0	0	0	0	4	5	0	0	0	0	0	0	33	1	0	43	684
5:35 PM	4	0	0	0	0	4	3	0	0	0	0	0	0	36	1	0	48	669
5:40 PM	1	2	0	0	0	1	1	0	0	0	0	0	1	33	2	0	41	635
5:45 PM	0	2	0	0	0	4	2	0	0	0	0	0	0	24	0	0	32	612
5:50 PM	0	2	0	0	0	1	1	0	0	0	0	0	0	15	2	0	21	579
5:55 PM	1	0	0	0	0	7	1	0	0	0	0	0	0	13	0	0	22	556

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	80	40	0	0	0	52	16	0	0	0	0	0	8	644	12	0	852
Heavy Trucks	0	0	0		0	4	0		0	0	0		0	8	0		12
Pedestrians		4				0				28				8			40
Bicycles	0	5	0		0	0	0		0	0	0		0	0	0		5
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/30/2012 5:49 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

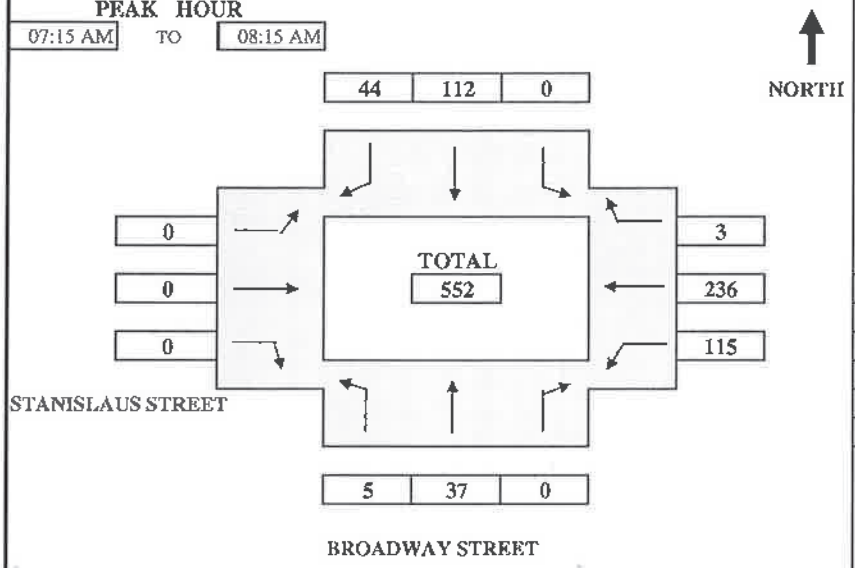
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

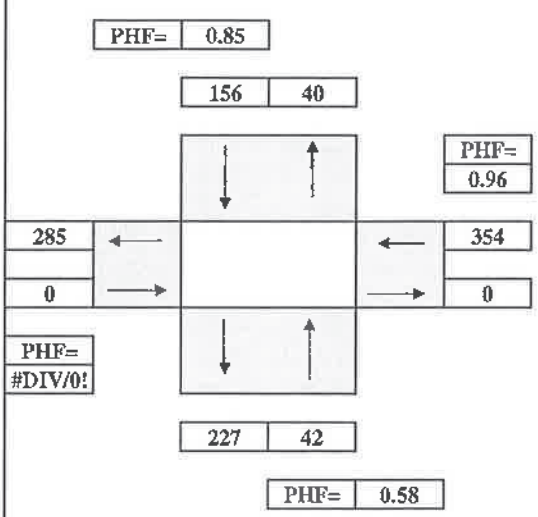
PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	BROADWAY STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	STANISLAUS STREET	CITY:	FRESNO	FILE:	2911072-2AM

PEAK HOUR

07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
7:00 AM	---	7:15 AM	1	7	0	0	19	10	0	0	0	11	42	0	*90*
7:15 AM	---	7:30 AM	1	14	0	0	50	22	0	0	0	53	91	1	*232*
7:30 AM	---	7:45 AM	1	21	0	0	74	31	0	0	0	78	153	2	*360*
7:45 AM	---	8:00 AM	5	35	0	0	98	41	0	0	0	106	216	2	*503*
8:00 AM	---	8:15 AM	6	44	0	0	131	54	0	0	0	126	278	3	*642*
8:15 AM	---	8:30 AM	6	53	0	0	150	72	0	0	0	144	343	7	*775*
8:30 AM	---	8:45 AM	6	62	0	0	168	85	0	0	0	155	401	11	*888*
8:45 AM	---	9:00 AM	7	67	0	0	185	93	0	0	0	159	466	14	*991*
TOTAL BY PERIOD															
7:00 AM	---	7:15 AM	1	7	0	0	19	10	0	0	0	11	42	0	*90*
7:15 AM	---	7:30 AM	0	7	0	0	31	12	0	0	0	42	49	1	*142*
7:30 AM	---	7:45 AM	0	7	0	0	24	9	0	0	0	25	62	1	*128*
7:45 AM	---	8:00 AM	4	14	0	0	24	10	0	0	0	28	63	0	*143*
8:00 AM	---	8:15 AM	1	9	0	0	33	13	0	0	0	20	62	1	*139*
8:15 AM	---	8:30 AM	0	9	0	0	19	18	0	0	0	18	65	4	*133*
8:30 AM	---	8:45 AM	0	9	0	0	18	13	0	0	0	11	58	4	*113*
8:45 AM	---	9:00 AM	1	5	0	0	17	8	0	0	0	4	65	3	*103*
HOURLY TOTALS															
7:00 AM	---	8:00 AM	5	35	0	0	98	41	0	0	0	106	216	2	*503*
7:15 AM	---	8:15 AM	5	37	0	0	112	44	0	0	0	115	236	3	*552*
7:30 AM	---	8:30 AM	5	39	0	0	100	50	0	0	0	91	252	6	*543*
7:45 AM	---	8:45 AM	5	41	0	0	94	54	0	0	0	77	248	9	*528*
8:00 AM	---	9:00 AM	2	32	0	0	87	52	0	0	0	53	250	12	*488*

Telephone: (510)232-1271 Fax: (510)232-1272

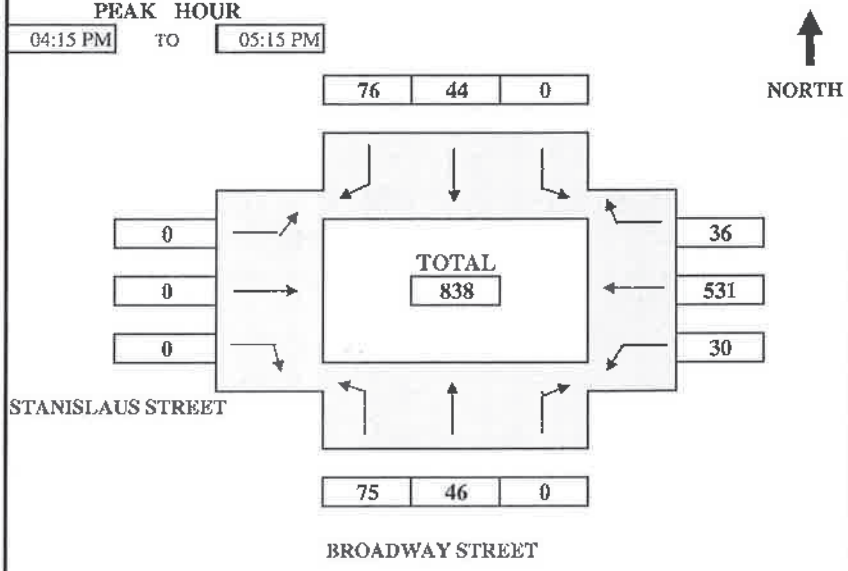
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

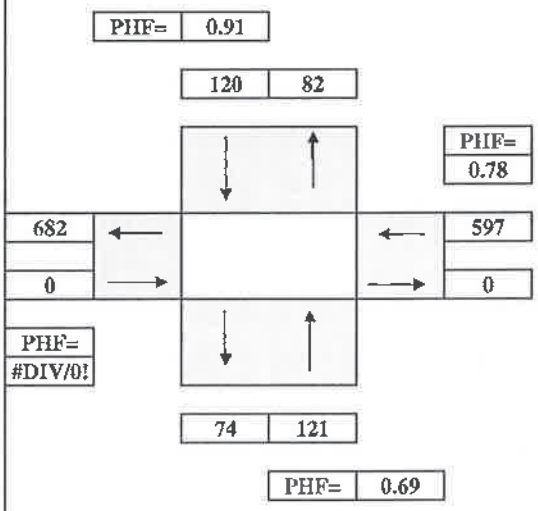
PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	BROADWAY STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	STANISLAUS STREET	CITY:	FRESNO	FILE:	2911072-2PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	24	10	0	0	10	11	0	0	0	12	97	5	*169*
4:15 PM	---	4:30 PM	43	22	0	0	22	26	0	0	0	26	190	14	*343*
4:30 PM	---	4:45 PM	59	30	0	0	33	48	0	0	0	33	315	21	*539*
4:45 PM	---	5:00 PM	71	40	0	0	46	67	0	0	0	38	452	29	*743*
5:00 PM	---	5:15 PM	99	56	0	0	54	87	0	0	0	42	628	41	*1,007*
5:15 PM	---	5:30 PM	109	69	0	0	57	101	0	0	0	42	750	49	*1,177*
5:30 PM	---	5:45 PM	119	76	0	0	61	109	0	0	0	42	841	51	*1,299*
5:45 PM	---	6:00 PM	123	82	0	0	64	117	0	0	0	43	922	53	*1,404*
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	24	10	0	0	10	11	0	0	0	12	97	5	*169*
4:15 PM	---	4:30 PM	19	12	0	0	12	15	0	0	0	14	93	9	*174*
4:30 PM	---	4:45 PM	16	8	0	0	11	22	0	0	0	7	125	7	*196*
4:45 PM	---	5:00 PM	12	10	0	0	13	19	0	0	0	5	137	8	*204*
5:00 PM	---	5:15 PM	28	16	0	0	8	20	0	0	0	4	176	12	*264*
5:15 PM	---	5:30 PM	10	13	0	0	3	14	0	0	0	0	122	8	*170*
5:30 PM	---	5:45 PM	10	7	0	0	4	8	0	0	0	0	91	2	*122*
5:45 PM	---	6:00 PM	4	6	0	0	3	8	0	0	0	1	81	2	*105*
HOURLY TOTALS															
4:00 PM	---	5:00 PM	71	40	0	0	46	67	0	0	0	38	452	29	*743*
4:15 PM	---	5:15 PM	75	46	0	0	44	76	0	0	0	30	531	36	*838*
4:30 PM	---	5:30 PM	66	47	0	0	35	75	0	0	0	16	560	35	*834*
4:45 PM	---	5:45 PM	60	46	0	0	28	61	0	0	0	9	526	30	*760*
5:00 PM	---	6:00 PM	52	42	0	0	18	50	0	0	0	5	470	24	*661*

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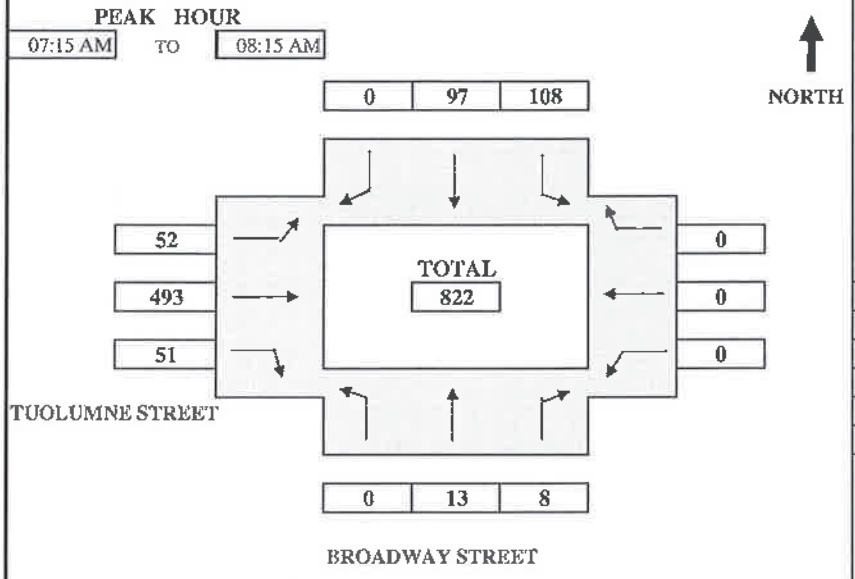
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

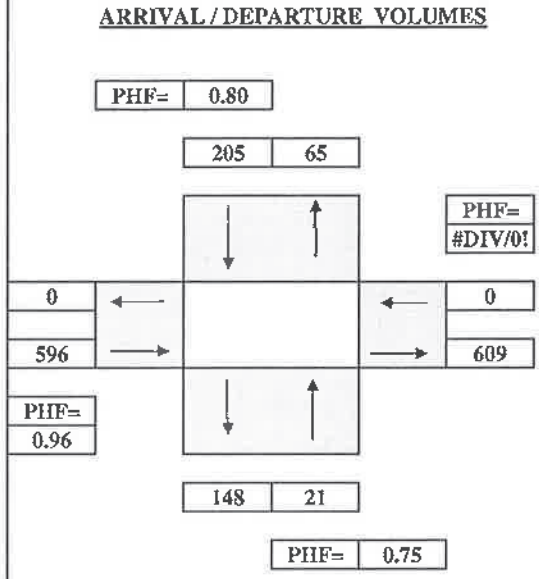
PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	BROADWAY STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	TUOLUMNE STREET	CITY:	FRESNO	FILE:	2911072-3AM

PEAK HOUR

07:15 AM TO 08:15 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
7:00 AM	---	7:15 AM	0	2	1	13	16	0	14	56	11	0	0	0	*113*
7:15 AM	---	7:30 AM	0	5	2	48	45	0	25	170	36	0	0	0	*331*
7:30 AM	---	7:45 AM	0	8	5	79	62	0	42	290	45	0	0	0	*531*
7:45 AM	---	8:00 AM	0	13	7	98	88	0	55	422	55	0	0	0	*738*
8:00 AM	---	8:15 AM	0	15	9	121	113	0	66	549	62	0	0	0	*935*
8:15 AM	---	8:30 AM	0	19	11	141	127	0	72	645	71	0	0	0	*1,086*
8:30 AM	---	8:45 AM	0	21	12	160	137	0	84	746	75	0	0	0	*1,235*
8:45 AM	---	9:00 AM	0	24	13	174	144	0	89	854	76	0	0	0	*1,374*
TOTAL BY PERIOD															
7:00 AM	---	7:15 AM	0	2	1	13	16	0	14	56	11	0	0	0	*113*
7:15 AM	---	7:30 AM	0	3	1	35	29	0	11	114	25	0	0	0	*218*
7:30 AM	---	7:45 AM	0	3	3	31	17	0	17	120	9	0	0	0	*200*
7:45 AM	---	8:00 AM	0	5	2	19	26	0	13	132	10	0	0	0	*207*
8:00 AM	---	8:15 AM	0	2	2	23	25	0	11	127	7	0	0	0	*197*
8:15 AM	---	8:30 AM	0	4	2	20	14	0	6	96	9	0	0	0	*151*
8:30 AM	---	8:45 AM	0	2	1	19	10	0	12	101	4	0	0	0	*149*
8:45 AM	---	9:00 AM	0	3	1	14	7	0	5	108	1	0	0	0	*139*
HOURLY TOTALS															
7:00 AM	---	8:00 AM	0	13	7	98	88	0	55	422	55	0	0	0	*738*
7:15 AM	---	8:15 AM	0	13	8	108	97	0	52	493	51	0	0	0	*822*
7:30 AM	---	8:30 AM	0	14	9	93	82	0	47	475	35	0	0	0	*755*
7:45 AM	---	8:45 AM	0	13	7	81	75	0	42	456	30	0	0	0	*704*
8:00 AM	---	9:00 AM	0	11	6	76	56	0	34	432	21	0	0	0	*636*

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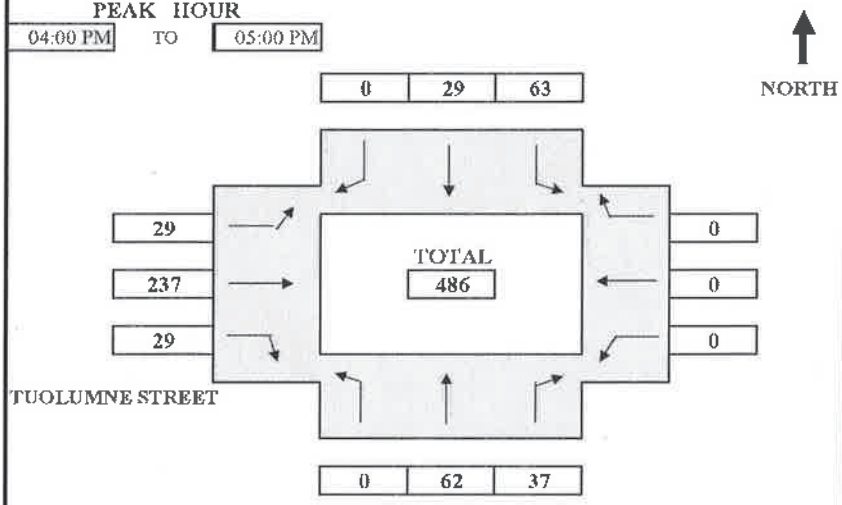
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

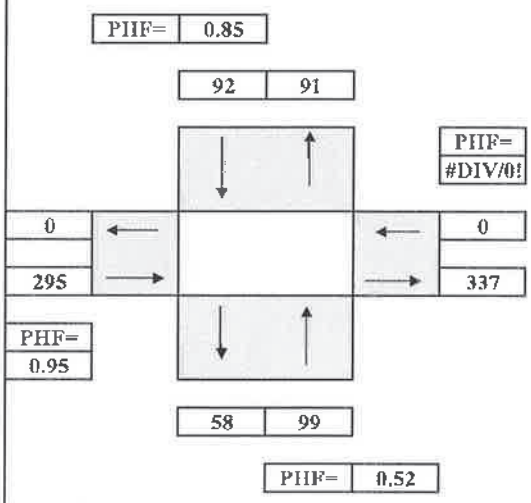
PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	BROADWAY STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	TUOLUMNE STREET	CITY:	FRESNO	FILE:	2911072-3PM

PEAK HOUR

04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	0	27	21	17	10	0	8	60	9	0	0	0	*152*
4:15 PM	---	4:30 PM	0	39	28	33	21	0	20	112	23	0	0	0	*276*
4:30 PM	---	4:45 PM	0	51	34	45	28	0	25	170	27	0	0	0	*380*
4:45 PM	---	5:00 PM	0	62	37	63	29	0	29	237	29	0	0	0	*486*
5:00 PM	---	5:15 PM	0	79	45	81	29	0	38	309	30	0	0	0	*611*
5:15 PM	---	5:30 PM	0	85	49	87	29	0	45	377	31	0	0	0	*703*
5:30 PM	---	5:45 PM	0	92	52	90	30	0	52	426	31	0	0	0	*773*
5:45 PM	---	6:00 PM	0	97	56	92	32	0	57	461	31	0	0	0	*826*
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	0	27	21	17	10	0	8	60	9	0	0	0	*152*
4:15 PM	---	4:30 PM	0	12	7	16	11	0	12	52	14	0	0	0	*124*
4:30 PM	---	4:45 PM	0	12	6	12	7	0	5	58	4	0	0	0	*104*
4:45 PM	---	5:00 PM	0	11	3	18	1	0	4	67	2	0	0	0	*106*
5:00 PM	---	5:15 PM	0	17	8	18	0	0	9	72	1	0	0	0	*125*
5:15 PM	---	5:30 PM	0	6	4	6	0	0	7	68	1	0	0	0	*92*
5:30 PM	---	5:45 PM	0	7	3	3	1	0	7	49	0	0	0	0	*70*
5:45 PM	---	6:00 PM	0	5	4	2	2	0	5	35	0	0	0	0	*53*
HOURLY TOTALS															
4:00 PM	---	5:00 PM	0	62	37	63	29	0	29	237	29	0	0	0	*486*
4:15 PM	---	5:15 PM	0	52	24	64	19	0	30	249	21	0	0	0	*459*
4:30 PM	---	5:30 PM	0	46	21	54	8	0	25	265	8	0	0	0	*427*
4:45 PM	---	5:45 PM	0	41	18	45	2	0	27	256	4	0	0	0	*393*
5:00 PM	---	6:00 PM	0	35	19	29	3	0	28	224	2	0	0	0	*340*

Telephone: (510)232-1271 Fax: (510)232-1272

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

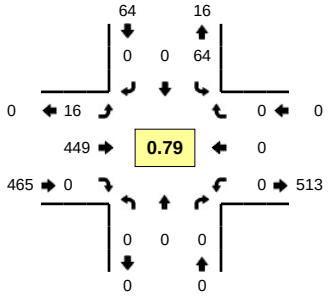
LOCATION: Fulton St -- Tuolumne St

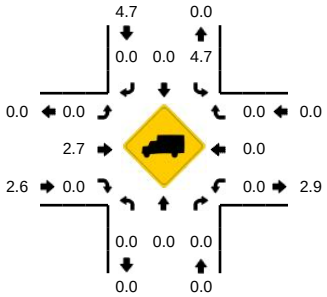
CITY/STATE: Fresno, CA

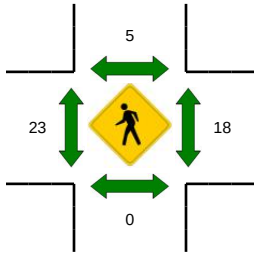
QC JOB #: 10705103

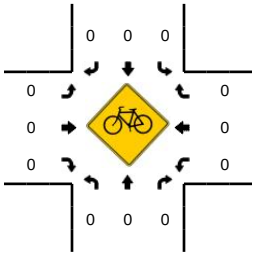
DATE: Thu, Jan 26 2012

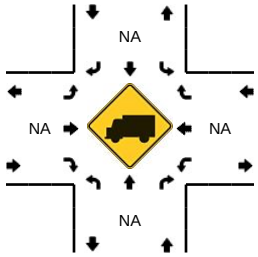
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

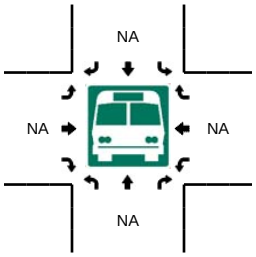












5-Min Count Period Beginning At	Fulton St (Northbound)				Fulton St (Southbound)				Tuolumne St (Eastbound)				Tuolumne St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	2	0	0	0	0	26	0	0	0	0	0	0	28	
7:05 AM	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	20	
7:10 AM	0	0	0	0	2	0	0	0	0	16	0	0	0	0	0	0	18	
7:15 AM	0	0	0	0	0	0	0	0	2	15	0	0	0	0	0	0	17	
7:20 AM	0	0	0	0	3	0	0	0	0	24	0	0	0	0	0	0	27	
7:25 AM	0	0	0	0	5	0	0	0	2	25	0	0	0	0	0	0	32	
7:30 AM	0	0	0	0	3	0	0	0	1	36	0	0	0	0	0	0	40	
7:35 AM	0	0	0	0	3	0	0	0	1	24	0	0	0	0	0	0	28	
7:40 AM	0	0	0	0	2	0	0	0	2	42	0	0	0	0	0	0	46	
7:45 AM	0	0	0	0	7	0	0	0	0	38	0	0	0	0	0	0	45	
7:50 AM	0	0	0	0	4	0	0	0	1	57	0	0	0	0	0	0	62	
7:55 AM	0	0	0	0	6	0	0	0	1	42	0	0	0	0	0	0	49	412
8:00 AM	0	0	0	0	6	0	0	0	2	48	0	0	0	0	0	0	56	440
8:05 AM	0	0	0	0	8	0	0	0	4	47	0	0	0	0	0	0	59	479
8:10 AM	0	0	0	0	6	0	0	0	1	26	0	0	0	0	0	0	33	494
8:15 AM	0	0	0	0	7	0	0	0	0	27	0	0	0	0	0	0	34	511
8:20 AM	0	0	0	0	3	0	0	0	1	32	0	0	0	0	0	0	36	520
8:25 AM	0	0	0	0	9	0	0	0	2	30	0	0	0	0	0	0	41	529
8:30 AM	0	0	0	0	3	0	0	0	1	28	0	0	0	0	0	0	32	521
8:35 AM	0	0	0	0	4	0	0	0	1	21	0	0	0	0	0	0	26	519
8:40 AM	0	0	0	0	10	0	0	0	1	32	0	0	0	0	0	0	43	516
8:45 AM	0	0	0	0	2	0	0	0	1	27	0	0	0	0	0	0	30	501
8:50 AM	0	0	0	0	3	0	0	0	1	29	0	0	0	0	0	0	33	472
8:55 AM	0	0	0	0	13	0	0	0	3	25	0	0	0	0	0	0	41	464

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	64	0	0	0	16	588	0	0	0	0	0	0	668
Heavy Trucks	0	0	0		0	0	0		0	16	0		0	0	0		16
Pedestrians		0				0				20				4			24
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/30/2012 5:49 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

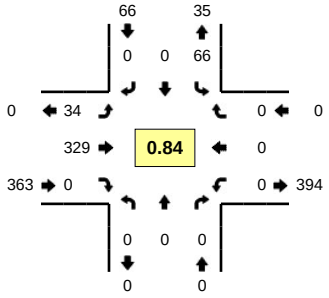
LOCATION: Fulton St -- Tuolumne St

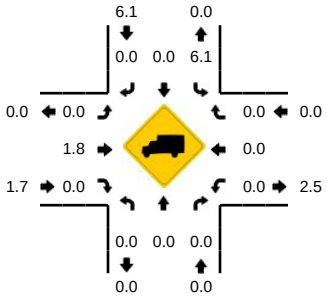
CITY/STATE: Fresno, CA

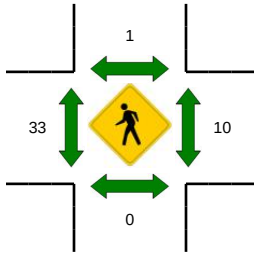
QC JOB #: 10705104

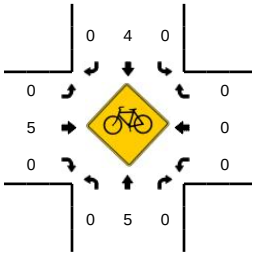
DATE: Thu, Jan 26 2012

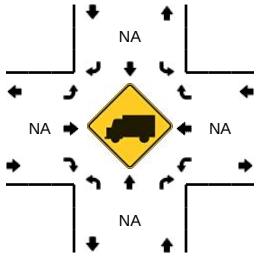
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:55 PM -- 5:10 PM

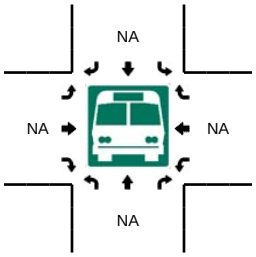












5-Min Count Period Beginning At	Fulton St (Northbound)				Fulton St (Southbound)				Tuolumne St (Eastbound)				Tuolumne St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	5	0	0	0	0	16	0	0	0	0	0	0	21	
4:05 PM	0	0	0	0	3	0	0	0	0	27	0	0	0	0	0	0	30	
4:10 PM	0	0	0	0	4	0	0	0	1	30	0	0	0	0	0	0	35	
4:15 PM	0	0	0	0	3	0	0	0	0	33	0	0	0	0	0	0	36	
4:20 PM	0	0	0	0	5	0	0	0	1	26	0	0	0	0	0	0	32	
4:25 PM	0	0	0	0	4	0	0	0	0	26	0	0	0	0	0	0	30	
4:30 PM	0	0	0	0	4	0	0	0	0	28	0	0	0	0	0	0	32	
4:35 PM	0	0	0	0	11	0	0	0	1	33	0	0	0	0	0	0	45	
4:40 PM	0	0	0	0	7	0	0	0	0	23	0	0	0	0	0	0	30	
4:45 PM	0	0	0	0	3	0	0	0	0	17	0	0	0	0	0	0	20	
4:50 PM	0	0	0	0	5	0	0	0	2	32	0	0	0	0	0	0	39	
4:55 PM	0	0	0	0	11	0	0	1	3	24	0	0	0	0	0	0	39	389
5:00 PM	0	0	0	0	3	0	0	0	7	23	0	0	0	0	0	0	33	401
5:05 PM	0	0	0	0	6	0	0	0	10	39	0	0	0	0	0	0	55	426
5:10 PM	0	0	0	0	4	0	0	0	8	25	0	0	0	0	0	0	37	428
5:15 PM	0	0	0	0	1	0	0	0	2	26	0	0	0	0	0	0	29	421
5:20 PM	0	0	0	0	5	0	0	0	1	28	0	0	0	0	0	0	34	423
5:25 PM	0	0	0	0	5	0	0	0	0	31	0	0	0	0	0	0	36	429
5:30 PM	0	0	0	0	2	0	0	0	0	21	0	0	0	0	0	0	23	420
5:35 PM	0	0	0	0	4	0	0	0	3	27	0	0	0	0	0	0	34	409
5:40 PM	0	0	0	0	2	0	0	0	3	16	0	0	0	0	0	0	21	400
5:45 PM	0	0	0	0	4	0	0	0	2	24	0	0	0	0	0	0	30	410
5:50 PM	0	0	0	0	2	0	0	0	1	16	0	0	0	0	0	0	19	390
5:55 PM	0	0	0	0	5	0	0	0	1	14	0	0	0	0	0	0	20	371

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	80	0	0	4	80	344	0	0	0	0	0	0	508
Heavy Trucks	0	0	0		4	0	0		0	4	0		0	0	0		8
Pedestrians		0				0				32				16			48
Bicycles	0	4	0		0	0	0		0	4	0		0	0	0		8
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/30/2012 5:49 PM

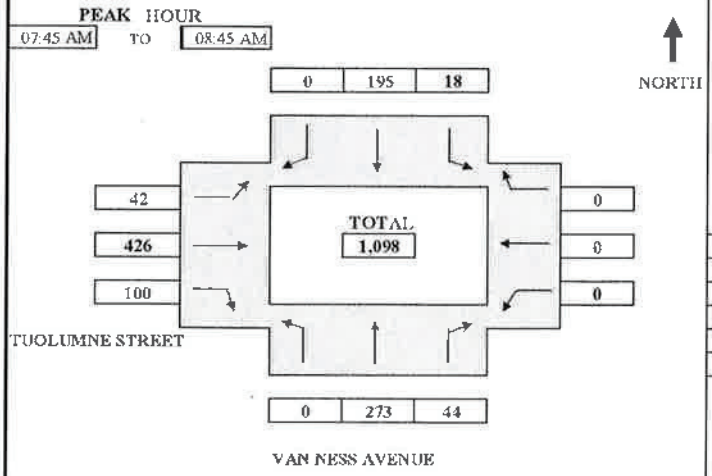
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

B.A.Y.M.E.T.R.I.C.S.

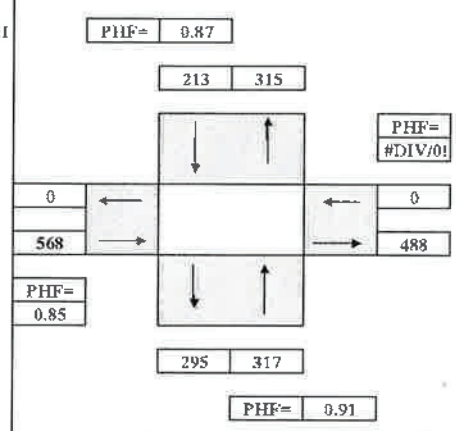
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	TUOLUMNE STREET	CITY:	FRESNO	FILE:	2911072-14AM

PEAK HOUR
07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
7:00 AM	---	7:15 AM	0	30	2	1	8	0	4	47	7	0	0	0	*99*
7:15 AM	---	7:30 AM	0	69	6	2	36	0	12	120	24	0	0	0	*269*
7:30 AM	---	7:45 AM	0	136	12	5	68	0	18	228	43	0	0	0	*510*
7:45 AM	---	8:00 AM	0	208	24	10	124	0	31	367	58	0	0	0	*822*
8:00 AM	---	8:15 AM	0	265	32	15	174	0	43	475	95	0	0	0	*1,099*
8:15 AM	---	8:30 AM	0	333	45	20	212	0	54	560	118	0	0	0	*1,342*
8:30 AM	---	8:45 AM	0	409	56	23	263	0	60	654	143	0	0	0	*1,608*
8:45 AM	---	9:00 AM	0	466	69	25	293	0	71	738	159	0	0	0	*1,821*
TOTAL BY PERIOD															
7:00 AM	---	7:15 AM	0	30	2	1	8	0	4	47	7	0	0	0	*99*
7:15 AM	---	7:30 AM	0	39	4	1	28	0	8	73	17	0	0	0	*170*
7:30 AM	---	7:45 AM	0	67	6	3	32	0	6	108	19	0	0	0	*241*
7:45 AM	---	8:00 AM	0	72	12	5	56	0	13	139	15	0	0	0	*312*
8:00 AM	---	8:15 AM	0	57	8	5	50	0	12	108	37	0	0	0	*277*
8:15 AM	---	8:30 AM	0	68	13	5	38	0	11	85	23	0	0	0	*243*
8:30 AM	---	8:45 AM	0	76	11	3	51	0	6	94	25	0	0	0	*266*
8:45 AM	---	9:00 AM	0	57	13	2	30	0	11	84	16	0	0	0	*213*
HOURLY TOTALS															
7:00 AM	---	8:00 AM	0	208	24	10	124	0	31	367	58	0	0	0	*822*
7:15 AM	---	8:15 AM	0	235	30	14	166	0	39	428	88	0	0	0	*1,000*
7:30 AM	---	8:30 AM	0	264	39	18	176	0	42	440	94	0	0	0	*1,073*
7:45 AM	---	8:45 AM	0	273	44	18	195	0	42	426	100	0	0	0	*1,098*
8:00 AM	---	9:00 AM	0	258	45	15	169	0	40	371	101	0	0	0	*999*

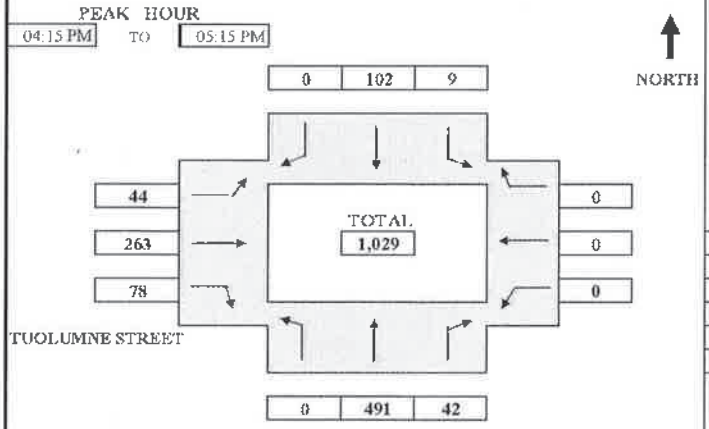
Telephone: (510)232-1271 Fax: (510)232-1272

B.A.Y.M.E.T.R.I.C.S.

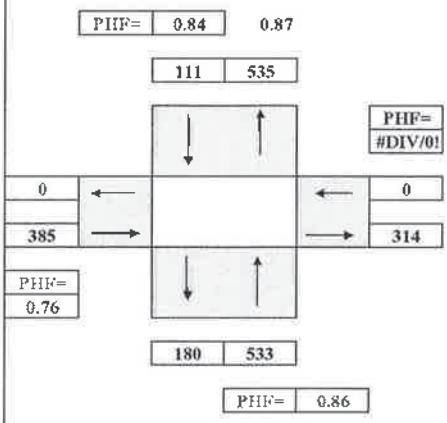
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	TUOLUMNE STREET	CITY:	FRESNO	FILE:	2911072-14PM

PEAK HOUR
04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
4:00 PM ---	4:15 PM	0	123	9	2	31	0	15	64	30	0	0	0	*274*
4:15 PM ---	4:30 PM	0	226	18	4	61	0	21	124	47	0	0	0	*501*
4:30 PM ---	4:45 PM	0	347	29	7	86	0	28	186	67	0	0	0	*750*
4:45 PM ---	5:00 PM	0	474	36	8	116	0	34	247	86	0	0	0	*1,001*
5:00 PM ---	5:15 PM	0	614	51	11	133	0	59	327	108	0	0	0	*1,303*
5:15 PM ---	5:30 PM	0	715	67	13	153	0	68	394	116	0	0	0	*1,526*
5:30 PM ---	5:45 PM	0	825	79	15	172	0	87	453	128	0	0	0	*1,759*
5:45 PM ---	6:00 PM	0	890	87	15	186	0	87	490	139	0	0	0	*1,894*
TOTAL BY PERIOD														
4:00 PM ---	4:15 PM	0	123	9	2	31	0	15	64	30	0	0	0	*274*
4:15 PM ---	4:30 PM	0	103	9	2	30	0	6	60	17	0	0	0	*227*
4:30 PM ---	4:45 PM	0	121	11	3	25	0	7	62	20	0	0	0	*249*
4:45 PM ---	5:00 PM	0	127	7	1	30	0	6	61	19	0	0	0	*251*
5:00 PM ---	5:15 PM	0	140	15	3	17	0	25	80	22	0	0	0	*302*
5:15 PM ---	5:30 PM	0	101	16	2	20	0	9	67	8	0	0	0	*223*
5:30 PM ---	5:45 PM	0	110	12	2	19	0	19	59	12	0	0	0	*233*
5:45 PM ---	6:00 PM	0	65	8	0	14	0	0	37	11	0	0	0	*135*
HOURLY TOTALS														
4:00 PM ---	5:00 PM	0	474	36	8	116	0	34	247	86	0	0	0	*1,001*
4:15 PM ---	5:15 PM	0	491	42	9	102	0	44	263	78	0	0	0	*1,029*
4:30 PM ---	5:30 PM	0	489	49	9	92	0	47	270	69	0	0	0	*1,025*
4:45 PM ---	5:45 PM	0	478	50	8	86	0	59	267	61	0	0	0	*1,009*
5:00 PM ---	6:00 PM	0	416	51	7	70	0	53	243	53	0	0	0	*893*

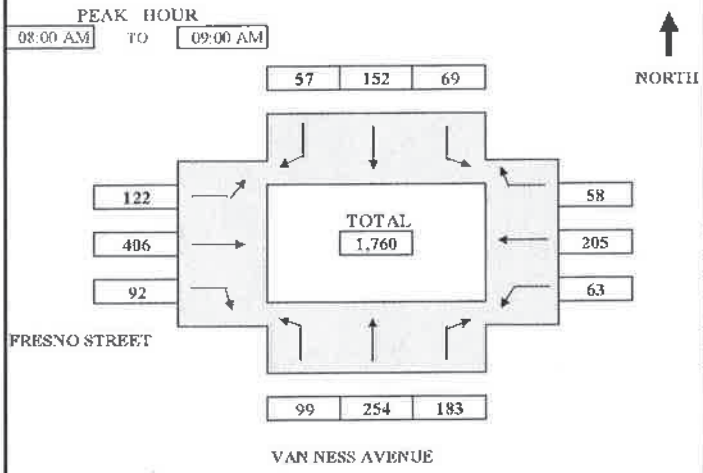
Telephone: (510)232-1271 Fax: (510)232-1272

B.A.Y.M.E.T.R.I.C.S.

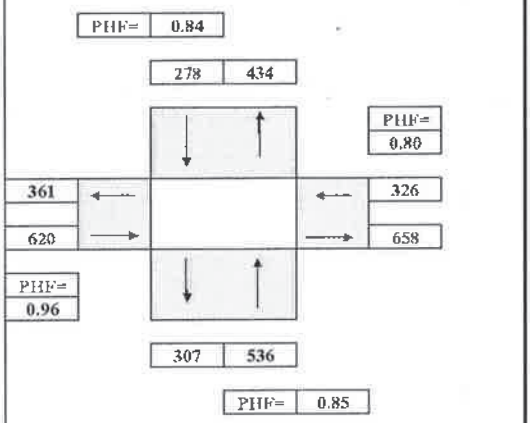
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	FRESNO STREET	CITY:	FRESNO	FILE:	2911072-15AM

PEAK HOUR
08:00 AM TO 09:00 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	16	29	12	5	13	3	6	46	10	6	27	5	*178*
7:15 AM ---	7:30 AM	29	68	26	14	38	17	17	107	20	14	48	15	*413*
7:30 AM ---	7:45 AM	53	123	58	23	63	27	35	180	45	22	105	24	*758*
7:45 AM ---	8:00 AM	68	185	80	35	105	36	65	281	68	33	171	34	*1,161*
8:00 AM ---	8:15 AM	93	239	117	58	149	52	95	385	95	46	221	39	*1,589*
8:15 AM ---	8:30 AM	121	311	172	70	184	69	118	488	118	69	267	55	*2,042*
8:30 AM ---	8:45 AM	155	387	219	88	222	78	139	601	143	74	314	74	*2,494*
8:45 AM ---	9:00 AM	167	439	263	104	257	93	187	687	160	96	376	92	*2,921*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	16	29	12	5	13	3	6	46	10	6	27	5	*178*
7:15 AM ---	7:30 AM	13	39	14	9	25	14	11	61	10	8	21	10	*235*
7:30 AM ---	7:45 AM	24	55	32	9	25	10	18	73	25	8	57	9	*345*
7:45 AM ---	8:00 AM	15	62	22	12	42	9	30	101	23	11	66	10	*403*
8:00 AM ---	8:15 AM	25	54	37	23	44	16	30	104	27	13	50	5	*428*
8:15 AM ---	8:30 AM	28	72	55	12	35	17	23	103	23	23	46	16	*453*
8:30 AM ---	8:45 AM	34	76	47	18	38	9	21	113	25	5	47	19	*452*
8:45 AM ---	9:00 AM	12	52	44	16	35	15	48	86	17	22	62	18	*427*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	68	185	80	35	105	36	65	281	68	33	171	34	*1,161*
7:15 AM ---	8:15 AM	77	210	105	53	136	49	89	339	85	40	194	34	*1,411*
7:30 AM ---	8:30 AM	92	243	146	56	146	52	101	381	98	55	219	40	*1,629*
7:45 AM ---	8:45 AM	102	264	161	65	159	51	104	421	98	52	209	50	*1,736*
8:00 AM ---	9:00 AM	99	254	183	69	152	57	122	406	92	63	205	58	*1,760*

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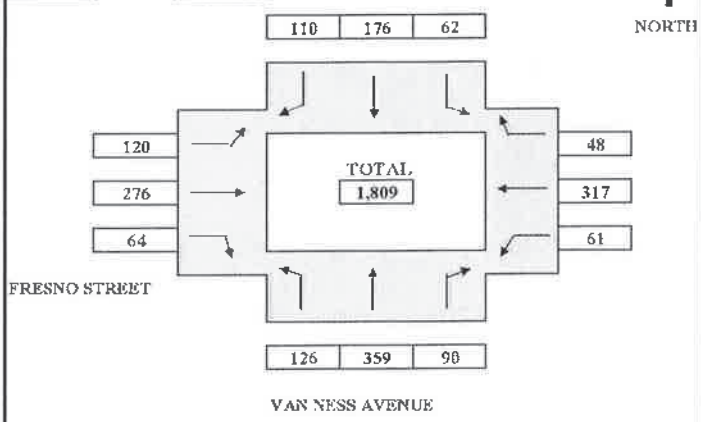
B.A.Y.M.E.T.R.I.C.S.

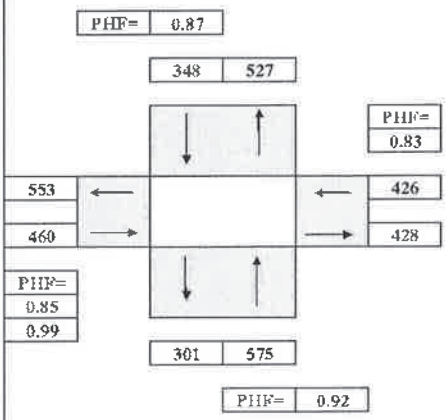
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	IIST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	FRESNO STREET	CITY:	FRESNO	FILE:	2911072-15PM

PEAK HOUR
04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	39	96	19	19	35	29	30	76	10	18	76	9	*456*
4:15 PM	---	4:30 PM	60	183	40	38	84	61	63	137	32	31	135	20	*884*
4:30 PM	---	4:45 PM	93	287	60	52	130	90	89	206	51	47	230	37	*1,372*
4:45 PM	---	5:00 PM	126	359	90	62	176	110	120	276	64	61	317	48	*1,809*
5:00 PM	---	5:15 PM	156	454	99	75	214	125	146	371	79	75	402	56	*2,252*
5:15 PM	---	5:30 PM	179	535	107	84	241	134	171	432	90	87	467	62	*2,589*
5:30 PM	---	5:45 PM	203	587	118	92	261	150	188	485	98	97	524	70	*2,873*
5:45 PM	---	6:00 PM	216	625	121	101	275	157	201	532	105	109	578	79	*3,099*
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	39	96	19	19	35	29	30	76	10	18	76	9	*456*
4:15 PM	---	4:30 PM	21	87	21	19	49	32	33	61	22	13	59	11	*428*
4:30 PM	---	4:45 PM	33	104	20	14	46	29	26	69	19	16	95	17	*488*
4:45 PM	---	5:00 PM	33	72	30	10	46	20	31	70	13	14	87	11	*437*
5:00 PM	---	5:15 PM	30	95	9	13	38	15	26	95	15	14	85	8	*443*
5:15 PM	---	5:30 PM	23	81	8	9	27	9	25	61	11	12	65	6	*337*
5:30 PM	---	5:45 PM	24	52	11	8	20	16	17	53	8	10	57	8	*284*
5:45 PM	---	6:00 PM	13	38	3	9	14	7	13	47	7	12	54	9	*226*
HOURLY TOTALS															
4:00 PM	---	5:00 PM	126	359	90	62	176	110	120	276	64	61	317	48	*1,809*
4:15 PM	---	5:15 PM	117	358	80	56	179	96	116	295	69	57	326	47	*1,796*
4:30 PM	---	5:30 PM	119	352	67	46	157	73	108	295	58	56	332	42	*1,705*
4:45 PM	---	5:45 PM	110	300	58	40	131	60	99	279	47	50	294	33	*1,501*
5:00 PM	---	6:00 PM	90	266	31	39	99	47	81	256	41	48	261	31	*1,290*

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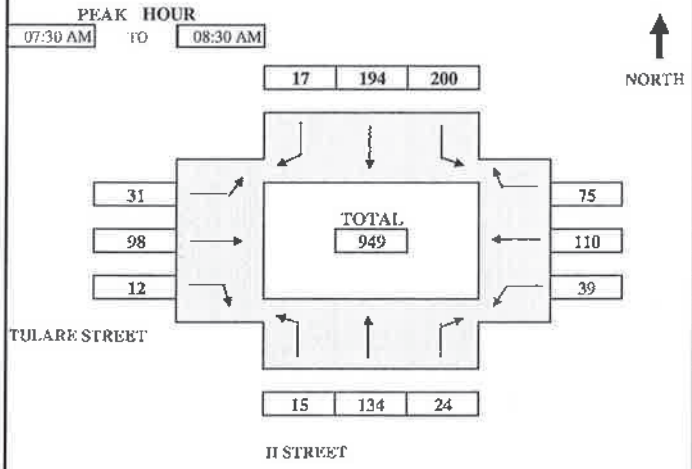
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

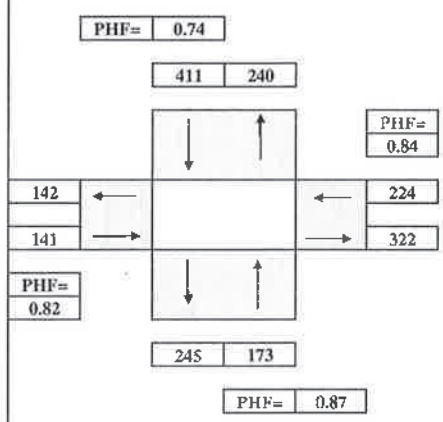
PROJECT:	HST PROJECT	SURVEY DATE:	11/12/2009	DAY:	THURSDAY
N-S APPROACH:	H STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	TULARE STREET	CITY:	FRESNO	FILE:	2911072-44AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
7:00 AM	---	7:15 AM	0	14	4	18	24	2	1	12	1	3	8	4	*91*
7:15 AM	---	7:30 AM	1	48	7	70	56	6	6	21	2	5	23	19	*264*
7:30 AM	---	7:45 AM	3	82	10	111	97	8	13	44	4	8	53	31	*464*
7:45 AM	---	8:00 AM	8	117	18	178	161	16	21	76	7	14	79	47	*742*
8:00 AM	---	8:15 AM	12	147	20	226	214	21	30	97	13	30	107	70	*987*
8:15 AM	---	8:30 AM	16	182	31	270	250	23	37	119	14	44	133	94	*1,213*
8:30 AM	---	8:45 AM	20	200	38	309	283	29	41	137	17	53	155	115	*1,397*
8:45 AM	---	9:00 AM	22	224	46	346	316	37	44	163	18	59	185	143	*1,603*
TOTAL BY PERIOD															
7:00 AM	---	7:15 AM	0	14	4	18	24	2	1	12	1	3	8	4	*91*
7:15 AM	---	7:30 AM	1	34	3	52	32	4	5	9	1	2	15	15	*173*
7:30 AM	---	7:45 AM	2	34	3	41	41	2	7	23	2	3	30	12	*200*
7:45 AM	---	8:00 AM	5	35	8	67	64	8	8	32	3	6	26	16	*278*
8:00 AM	---	8:15 AM	4	30	2	48	53	5	9	21	6	16	28	23	*245*
8:15 AM	---	8:30 AM	4	35	11	44	36	2	7	22	1	14	26	24	*226*
8:30 AM	---	8:45 AM	4	18	7	39	33	6	4	18	3	9	22	21	*184*
8:45 AM	---	9:00 AM	2	24	8	37	33	8	3	26	1	6	30	28	*206*
HOURLY TOTALS															
7:00 AM	---	8:00 AM	8	117	18	178	161	16	21	76	7	14	79	47	*742*
7:15 AM	---	8:15 AM	12	133	16	208	190	19	29	85	12	27	99	66	*896*
7:30 AM	---	8:30 AM	15	134	24	200	194	17	31	98	12	39	110	75	*949*
7:45 AM	---	8:45 AM	17	118	28	198	186	21	28	93	13	45	102	84	*933*
8:00 AM	---	9:00 AM	14	107	28	168	155	21	23	87	11	45	106	96	*861*

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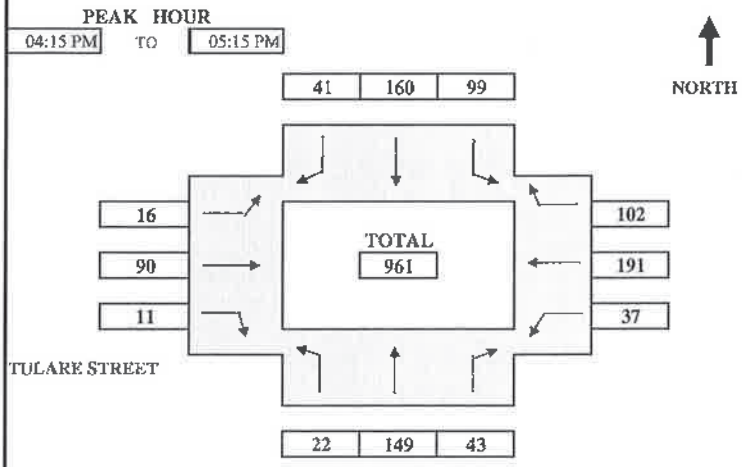
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

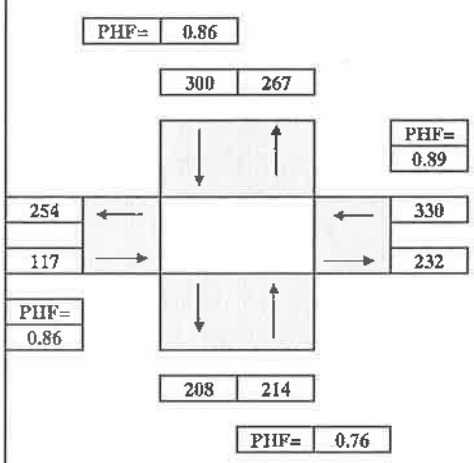
PROJECT:	HST PROJECT	SURVEY DATE:	11/12/2009	DAY:	THURSDAY
N-S APPROACH:	H STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	TULARE STREET	CITY:	FRESNO	FILE:	2911072-44PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	2	27	13	27	39	9	5	23	5	6	55	28	*239*
4:15 PM	---	4:30 PM	5	57	22	55	75	21	6	48	5	18	102	51	*465*
4:30 PM	---	4:45 PM	14	96	29	81	117	29	10	70	10	24	146	73	*699*
4:45 PM	---	5:00 PM	17	124	45	104	148	36	14	96	14	37	190	99	*924*
5:00 PM	---	5:15 PM	24	176	56	126	199	50	21	113	16	43	246	130	*1,200*
5:15 PM	---	5:30 PM	25	207	63	143	221	59	24	136	16	52	288	141	*1,375*
5:30 PM	---	5:45 PM	27	226	68	156	239	63	29	162	16	54	321	151	*1,512*
5:45 PM	---	6:00 PM	29	242	70	171	267	69	31	173	17	54	341	167	*1,631*
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	2	27	13	27	39	9	5	23	5	6	55	28	*239*
4:15 PM	---	4:30 PM	3	30	9	28	36	12	1	25	0	12	47	23	*226*
4:30 PM	---	4:45 PM	9	39	7	26	42	8	4	22	5	6	44	22	*234*
4:45 PM	---	5:00 PM	3	28	16	23	31	7	4	26	4	13	44	26	*225*
5:00 PM	---	5:15 PM	7	52	11	22	51	14	7	17	2	6	56	31	*276*
5:15 PM	---	5:30 PM	1	31	7	17	22	9	3	23	0	9	42	11	*175*
5:30 PM	---	5:45 PM	2	19	5	13	18	4	5	26	0	2	33	10	*137*
5:45 PM	---	6:00 PM	2	16	2	15	28	6	2	11	1	0	20	16	*119*
HOURLY TOTALS															
4:00 PM	---	5:00 PM	17	124	45	104	148	36	14	96	14	37	190	99	*924*
4:15 PM	---	5:15 PM	22	149	43	99	160	41	16	90	11	37	191	102	*961*
4:30 PM	---	5:30 PM	20	150	41	88	146	38	18	88	11	34	186	90	*910*
4:45 PM	---	5:45 PM	13	130	39	75	122	34	19	92	6	30	175	78	*813*
5:00 PM	---	6:00 PM	12	118	25	67	119	33	17	77	3	17	151	68	*707*

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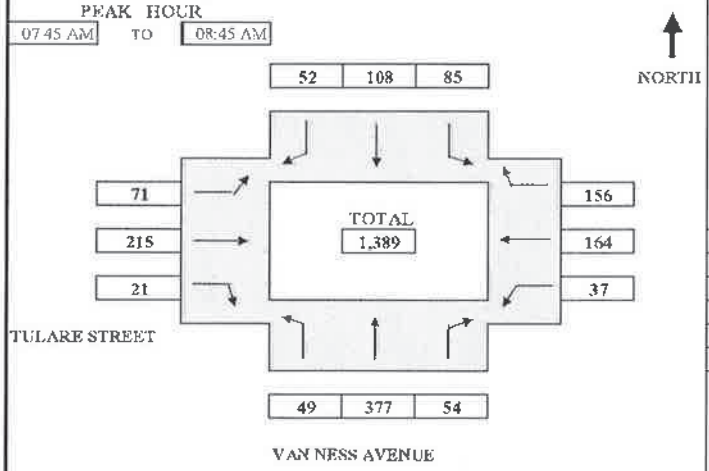
B.A.Y.M.E.T.R.I.C.S.

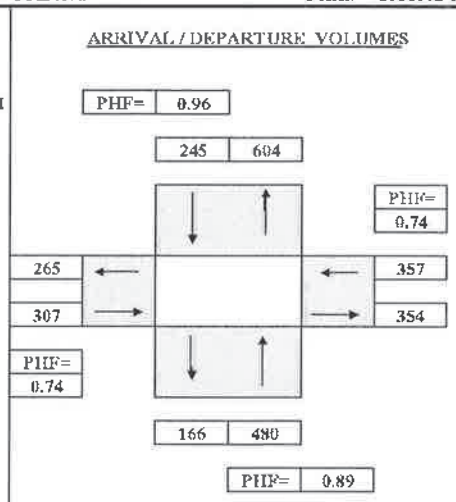
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	TULARE STREET	CITY:	FRESNO	FILE:	2911072-16AM

PEAK HOUR
07:45 AM TO 08:45 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
7:00 AM	---	7:15 AM	3	47	10	12	15	6	6	25	2	3	15	13	*157*
7:15 AM	---	7:30 AM	11	131	18	22	38	12	19	75	6	9	39	35	*415*
7:30 AM	---	7:45 AM	20	207	31	37	60	15	22	119	7	12	80	67	*677*
7:45 AM	---	8:00 AM	35	311	47	57	90	28	38	202	12	21	125	97	*1,063*
8:00 AM	---	8:15 AM	49	395	58	79	109	47	52	247	15	27	162	133	*1,373*
8:15 AM	---	8:30 AM	63	493	70	107	139	53	77	299	20	40	212	190	*1,763*
8:30 AM	---	8:45 AM	69	584	85	122	168	67	93	334	28	49	244	223	*2,066*
8:45 AM	---	9:00 AM	85	657	103	141	193	78	102	383	31	62	286	285	*2,406*
TOTAL BY PERIOD															
7:00 AM	---	7:15 AM	3	47	10	12	15	6	6	25	2	3	15	13	*157*
7:15 AM	---	7:30 AM	8	84	8	10	23	6	13	50	4	6	24	22	*258*
7:30 AM	---	7:45 AM	9	76	13	15	22	3	3	44	1	3	41	32	*262*
7:45 AM	---	8:00 AM	15	104	16	20	30	13	16	83	5	9	45	30	*386*
8:00 AM	---	8:15 AM	14	84	11	22	19	19	14	45	3	6	37	36	*310*
8:15 AM	---	8:30 AM	14	98	12	28	30	6	25	52	5	13	50	57	*390*
8:30 AM	---	8:45 AM	6	91	15	15	29	14	16	35	8	9	32	33	*303*
8:45 AM	---	9:00 AM	16	73	18	19	25	11	9	49	3	13	42	62	*340*
HOURLY TOTALS															
7:00 AM	---	8:00 AM	35	311	47	57	90	28	38	202	12	21	125	97	*1,063*
7:15 AM	---	8:15 AM	46	348	48	67	94	41	46	222	13	24	147	120	*1,216*
7:30 AM	---	8:30 AM	52	362	52	85	101	41	58	224	14	31	173	155	*1,348*
7:45 AM	---	8:45 AM	49	377	54	85	108	52	71	215	21	37	164	156	*1,389*
8:00 AM	---	9:00 AM	50	346	56	84	103	50	64	181	19	41	161	188	*1,343*

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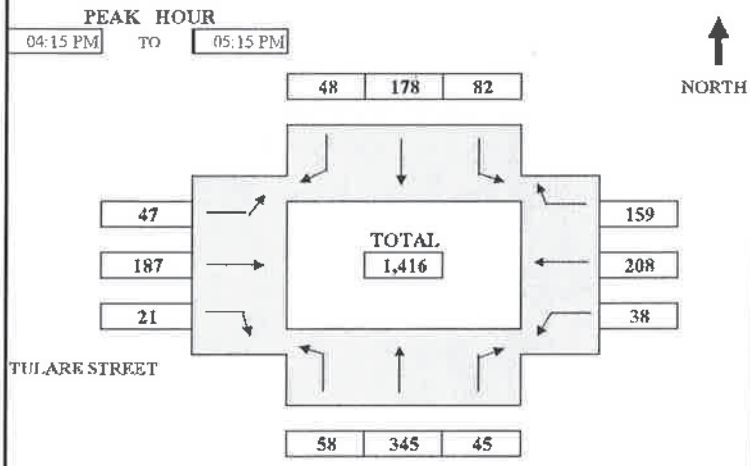
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

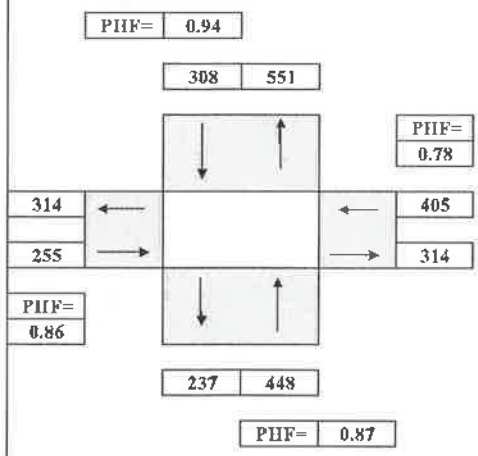
PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	TULARE STREET	CITY:	FRESNO	FILE:	2911072-16PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	12	104	10	18	46	11	7	48	7	10	44	44	*361*
4:15 PM	---	4:30 PM	20	165	17	36	87	24	19	80	11	21	85	83	*648*
4:30 PM	---	4:45 PM	38	257	31	57	133	38	27	127	18	29	128	134	*1,017*
4:45 PM	---	5:00 PM	50	360	45	74	184	52	43	179	21	37	178	159	*1,382*
5:00 PM	---	5:15 PM	70	449	55	100	224	59	54	235	28	48	252	203	*1,777*
5:15 PM	---	5:30 PM	77	516	60	112	252	67	58	273	29	50	283	228	*2,005*
5:30 PM	---	5:45 PM	80	584	72	125	272	73	68	306	33	53	314	255	*2,235*
5:45 PM	---	6:00 PM	85	610	78	138	292	77	71	343	37	61	352	271	*2,415*
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	12	104	10	18	46	11	7	48	7	10	44	44	*361*
4:15 PM	---	4:30 PM	8	61	7	18	41	13	12	32	4	11	41	39	*287*
4:30 PM	---	4:45 PM	18	92	14	21	46	14	8	47	7	8	43	51	*369*
4:45 PM	---	5:00 PM	12	103	14	17	51	14	16	52	3	8	50	25	*365*
5:00 PM	---	5:15 PM	20	89	10	26	40	7	11	56	7	11	74	44	*395*
5:15 PM	---	5:30 PM	7	67	5	12	28	8	4	38	1	2	31	25	*228*
5:30 PM	---	5:45 PM	3	68	12	13	20	6	10	33	4	3	31	27	*230*
5:45 PM	---	6:00 PM	5	26	6	13	20	4	3	37	4	8	38	16	*180*
HOURLY TOTALS															
4:00 PM	---	5:00 PM	50	360	45	74	184	52	43	179	21	37	178	159	*1,382*
4:15 PM	---	5:15 PM	58	345	45	82	178	48	47	187	21	38	208	159	*1,416*
4:30 PM	---	5:30 PM	57	351	43	76	165	43	39	193	18	29	198	145	*1,357*
4:45 PM	---	5:45 PM	42	327	41	68	139	35	41	179	15	24	186	121	*1,218*
5:00 PM	---	6:00 PM	35	250	33	64	108	25	28	164	16	24	174	112	*1,033*

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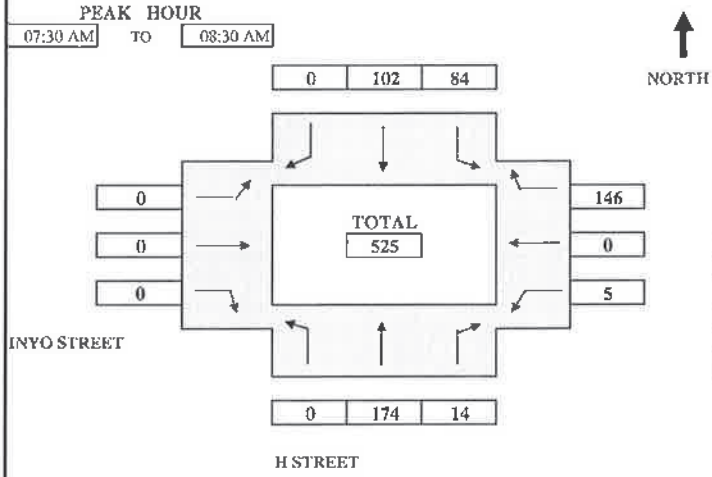
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

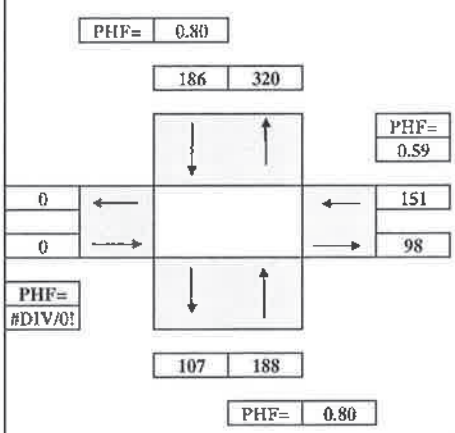
PROJECT:	HST PROJECT	SURVEY DATE:	11/12/2009	DAY:	THURSDAY
N-S APPROACH:	H STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	INYO STREET	CITY:	FRESNO	FILE:	2911072-75AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
7:00 AM	---	7:15 AM	0	14	3	12	15	0	0	0	0	0	0	9	*53*
7:15 AM	---	7:30 AM	0	46	6	27	32	0	0	0	0	1	0	20	*132*
7:30 AM	---	7:45 AM	0	85	8	48	55	0	0	0	0	3	0	44	*243*
7:45 AM	---	8:00 AM	0	131	13	73	88	0	0	0	0	3	0	71	*379*
8:00 AM	---	8:15 AM	0	163	18	97	110	0	0	0	0	6	0	132	*526*
8:15 AM	---	8:30 AM	0	220	20	111	134	0	0	0	0	6	0	166	*657*
8:30 AM	---	8:45 AM	0	241	21	126	159	0	0	0	0	6	0	187	*740*
8:45 AM	---	9:00 AM	0	262	22	138	185	0	0	0	0	9	0	201	*817*
TOTAL BY PERIOD															
7:00 AM	---	7:15 AM	0	14	3	12	15	0	0	0	0	0	0	9	*53*
7:15 AM	---	7:30 AM	0	32	3	15	17	0	0	0	0	1	0	11	*79*
7:30 AM	---	7:45 AM	0	39	2	21	23	0	0	0	0	2	0	24	*111*
7:45 AM	---	8:00 AM	0	46	5	25	33	0	0	0	0	0	0	27	*136*
8:00 AM	---	8:15 AM	0	32	5	24	22	0	0	0	0	3	0	61	*147*
8:15 AM	---	8:30 AM	0	57	2	14	24	0	0	0	0	0	0	34	*131*
8:30 AM	---	8:45 AM	0	21	1	15	25	0	0	0	0	0	0	21	*83*
8:45 AM	---	9:00 AM	0	21	1	12	26	0	0	0	0	3	0	14	*77*
HOURLY TOTALS															
7:00 AM	---	8:00 AM	0	131	13	73	88	0	0	0	0	3	0	71	*379*
7:15 AM	---	8:15 AM	0	149	15	85	95	0	0	0	0	6	0	123	*473*
7:30 AM	---	8:30 AM	0	174	14	84	102	0	0	0	0	5	0	146	*525*
7:45 AM	---	8:45 AM	0	156	13	78	104	0	0	0	0	3	0	143	*497*
8:00 AM	---	9:00 AM	0	131	9	65	97	0	0	0	0	6	0	130	*438*

Telephone: (510)232-1271 Fax: (510)232-1272

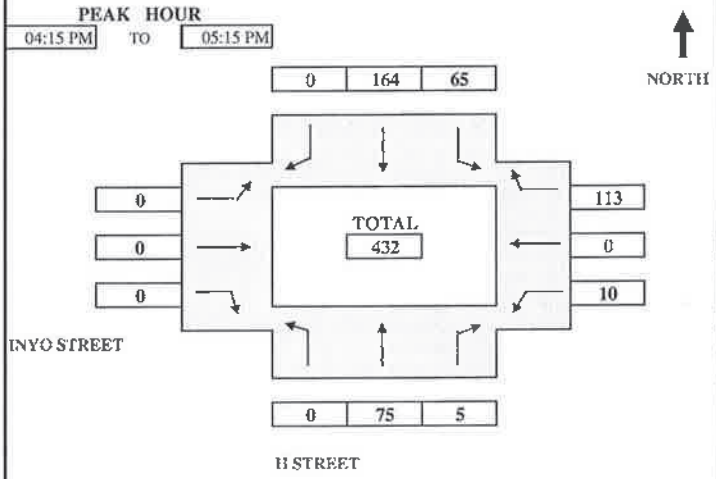
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

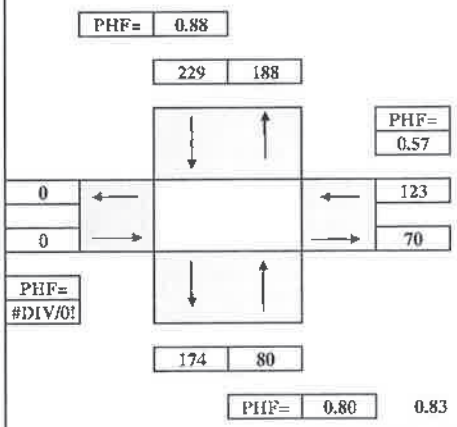
PROJECT:	HST PROJECT	SURVEY DATE:	11/12/2009	DAY:	THURSDAY
N-S APPROACH:	H STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	INYO STREET	CITY:	FRESNO	FILE:	2911072-75PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	0	16	1	18	41	0	0	0	0	3	0	24	*103*
4:15 PM	---	4:30 PM	0	38	3	37	73	0	0	0	0	4	0	40	*195*
4:30 PM	---	4:45 PM	0	58	4	51	124	0	0	0	0	8	0	67	*312*
4:45 PM	---	5:00 PM	0	77	5	71	153	0	0	0	0	8	0	88	*402*
5:00 PM	---	5:15 PM	0	91	6	83	205	0	0	0	0	13	0	137	*535*
5:15 PM	---	5:30 PM	0	115	7	90	233	0	0	0	0	16	0	150	*611*
5:30 PM	---	5:45 PM	0	123	7	96	254	0	0	0	0	18	0	170	*668*
5:45 PM	---	6:00 PM	0	132	7	103	276	0	0	0	0	19	0	182	*719*
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	0	16	1	18	41	0	0	0	0	3	0	24	*103*
4:15 PM	---	4:30 PM	0	22	2	19	32	0	0	0	0	1	0	16	*92*
4:30 PM	---	4:45 PM	0	20	1	14	51	0	0	0	0	4	0	27	*117*
4:45 PM	---	5:00 PM	0	19	1	20	29	0	0	0	0	0	0	21	*90*
5:00 PM	---	5:15 PM	0	14	1	12	52	0	0	0	0	5	0	49	*133*
5:15 PM	---	5:30 PM	0	24	1	7	28	0	0	0	0	3	0	13	*76*
5:30 PM	---	5:45 PM	0	8	0	6	21	0	0	0	0	2	0	20	*57*
5:45 PM	---	6:00 PM	0	9	0	7	22	0	0	0	0	1	0	12	*51*
HOURLY TOTALS															
4:00 PM	---	5:00 PM	0	77	5	71	153	0	0	0	0	8	0	88	*402*
4:15 PM	---	5:15 PM	0	75	5	65	164	0	0	0	0	10	0	113	*432*
4:30 PM	---	5:30 PM	0	77	4	53	160	0	0	0	0	12	0	110	*416*
4:45 PM	---	5:45 PM	0	65	3	45	130	0	0	0	0	10	0	103	*356*
5:00 PM	---	6:00 PM	0	55	2	32	123	0	0	0	0	11	0	94	*317*

Telephone: (510)232-1271 Fax: (510)232-1272

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

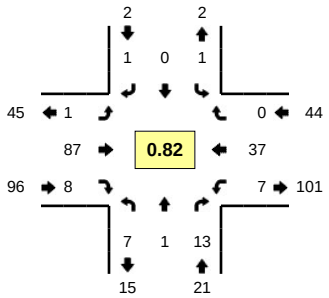
LOCATION: Fulton St -- Inyo St

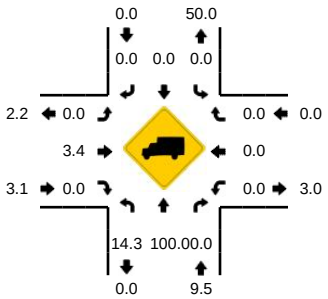
CITY/STATE: Fresno, CA

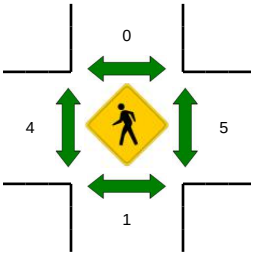
QC JOB #: 10705105

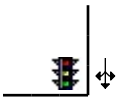
DATE: Thu, Jan 26 2012

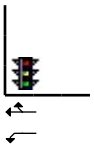
Peak-Hour: 7:50 AM -- 8:50 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

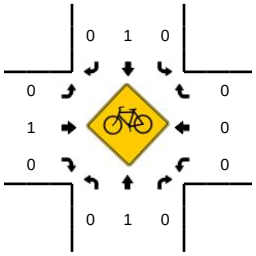


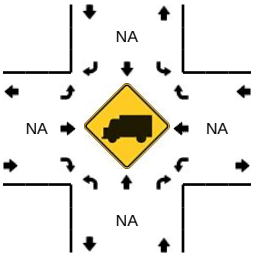


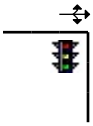


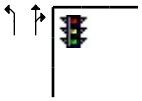


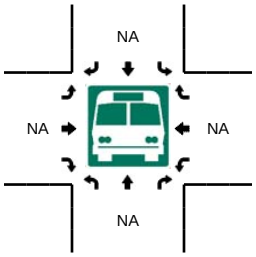












5-Min Count Period Beginning At	Fulton St (Northbound)				Fulton St (Southbound)				Inyo St (Eastbound)				Inyo St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4	
7:05 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	
7:10 AM	0	0	1	0	0	0	0	0	0	2	0	0	0	1	1	0	5	
7:15 AM	0	0	0	0	1	0	0	0	0	3	0	0	0	1	0	0	5	
7:20 AM	0	0	2	0	0	0	0	0	0	7	0	0	0	1	0	0	10	
7:25 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4	
7:30 AM	1	0	0	0	0	0	1	0	0	11	0	0	0	1	0	0	14	
7:35 AM	0	0	1	0	0	0	0	0	0	2	0	0	0	4	0	0	7	
7:40 AM	0	0	1	0	0	0	1	0	0	7	1	0	0	0	0	0	10	
7:45 AM	1	0	0	0	0	0	0	0	0	10	0	0	0	2	0	0	13	
7:50 AM	1	0	0	0	0	0	0	0	0	9	0	0	0	3	0	0	13	
7:55 AM	1	0	1	0	0	0	0	0	0	17	1	0	1	1	0	0	22	109
8:00 AM	1	0	1	0	0	0	0	0	0	10	0	0	0	3	0	0	15	120
8:05 AM	0	0	1	0	0	0	0	0	0	6	0	0	3	1	0	0	11	129
8:10 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	5	0	0	11	135
8:15 AM	0	0	1	0	0	0	0	0	0	9	2	0	0	2	0	0	14	144
8:20 AM	1	0	2	0	0	0	0	0	0	11	2	0	1	1	0	0	18	152
8:25 AM	0	1	1	0	0	0	0	0	0	7	0	0	0	3	0	0	12	160
8:30 AM	2	0	1	0	0	0	0	0	0	2	0	0	0	6	0	0	11	157
8:35 AM	1	0	1	0	1	0	0	0	0	2	1	0	1	5	0	0	12	162
8:40 AM	0	0	1	0	0	0	1	0	1	5	0	0	0	1	0	0	9	161
8:45 AM	0	0	3	0	0	0	0	0	0	3	2	0	1	6	0	0	15	163
8:50 AM	0	0	1	0	0	0	0	0	0	3	0	0	1	3	0	0	8	158
8:55 AM	0	0	0	0	0	0	0	0	0	4	3	0	1	3	0	0	11	147

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	0	8	0	0	0	0	0	0	144	4	0	4	28	0	0	200
Heavy Trucks	4	0	0		0	0	0		0	4	0		0	0	0		8
Pedestrians		0				0				0				4			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/30/2012 5:49 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

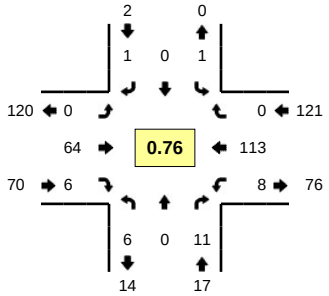
LOCATION: Fulton St -- Inyo St

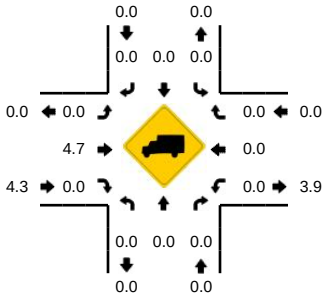
CITY/STATE: Fresno, CA

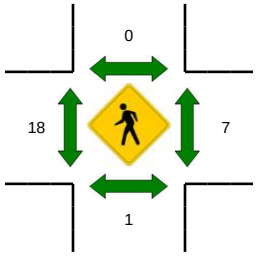
QC JOB #: 10705106

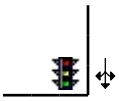
DATE: Thu, Jan 26 2012

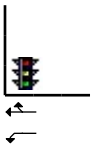
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

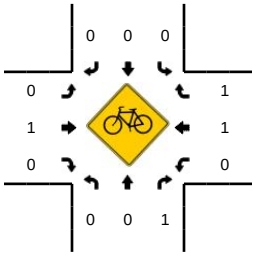


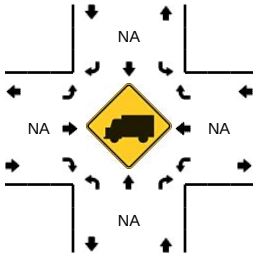


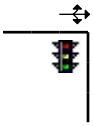


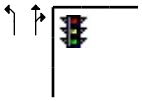


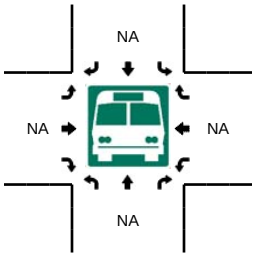












5-Min Count Period Beginning At	Fulton St (Northbound)				Fulton St (Southbound)				Inyo St (Eastbound)				Inyo St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	0	9	0	0	1	5	0	0	15	
4:05 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	7	0	0	13	
4:10 PM	0	0	1	0	0	0	0	0	0	8	0	0	2	7	0	0	18	
4:15 PM	0	0	1	0	1	0	0	0	0	1	1	0	3	4	0	0	11	
4:20 PM	1	0	2	0	0	0	0	0	0	2	1	0	1	9	0	0	16	
4:25 PM	0	0	1	0	0	0	0	0	0	3	0	0	2	9	0	0	15	
4:30 PM	0	0	2	0	0	0	0	0	0	2	1	0	1	8	0	1	15	
4:35 PM	0	0	0	0	0	0	0	0	0	5	0	0	1	12	0	0	18	
4:40 PM	0	0	1	0	0	0	0	0	0	6	0	0	0	5	0	0	12	
4:45 PM	1	0	1	0	0	0	0	0	0	5	0	0	0	13	0	0	20	
4:50 PM	0	0	1	0	0	0	0	0	0	5	0	0	0	5	0	0	11	
4:55 PM	0	0	1	0	0	0	0	0	0	4	0	0	0	5	0	0	10	174
5:00 PM	1	0	0	0	0	0	0	0	0	4	0	0	0	8	0	0	13	172
5:05 PM	0	0	0	0	0	0	0	0	0	7	0	0	1	14	0	0	22	181
5:10 PM	1	0	1	0	0	0	0	0	0	4	0	0	2	14	0	0	22	185
5:15 PM	1	0	1	0	0	0	0	0	0	7	1	0	1	14	0	0	25	199
5:20 PM	0	0	1	0	0	0	0	0	0	6	2	0	1	7	0	0	17	200
5:25 PM	1	0	1	0	0	0	0	0	0	4	1	0	2	9	0	0	18	203
5:30 PM	1	0	1	0	0	0	0	0	0	7	0	0	0	8	0	0	17	205
5:35 PM	0	0	1	0	1	0	0	0	0	5	2	0	0	11	0	0	20	207
5:40 PM	0	0	2	0	0	0	1	0	0	6	0	0	1	5	0	0	15	210
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	0	6	196
5:50 PM	0	0	1	0	0	0	0	0	0	3	2	0	0	0	0	0	6	191
5:55 PM	0	0	2	0	0	0	0	0	0	3	0	0	1	2	0	0	8	189

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	0	8	0	0	0	0	0	0	72	4	0	16	168	0	0	276
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	0	0		4
Pedestrians		0				0				4				4			8
Bicycles	0	0	1		0	0	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments:

Report generated on 1/30/2012 5:49 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

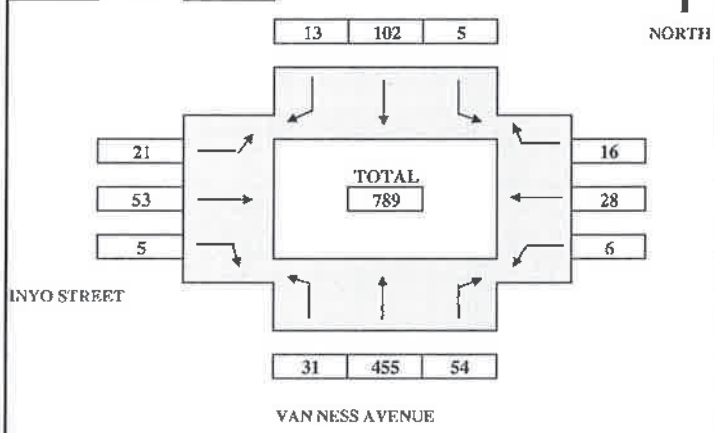
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

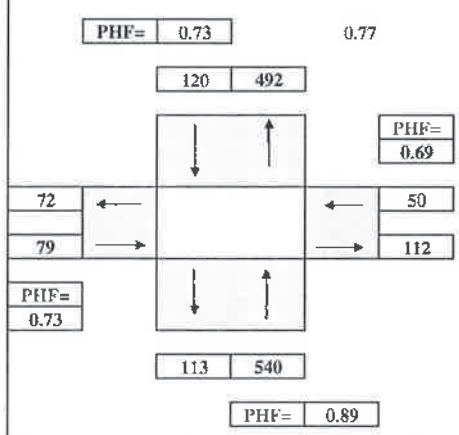
PROJECT:	HST PROJECT	SURVEY DATE:	11/5/2009	DAY:	THURSDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	INYO STREET	CITY:	FRESNO	FILE:	2911072-74AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
7:00 AM	---	7:15 AM	1	55	8	0	9	3	2	8	2	1	7	2	*98*
7:15 AM	---	7:30 AM	9	141	21	3	20	5	6	14	2	3	10	4	*238*
7:30 AM	---	7:45 AM	13	244	34	3	36	8	9	25	3	4	17	8	*404*
7:45 AM	---	8:00 AM	21	370	50	3	58	11	15	45	4	6	27	14	*624*
8:00 AM	---	8:15 AM	31	492	69	6	88	15	21	53	6	8	33	17	*839*
8:15 AM	---	8:30 AM	40	596	75	8	122	18	27	67	7	9	38	20	*1,027*
8:30 AM	---	8:45 AM	44	678	80	10	144	21	32	80	10	10	44	29	*1,182*
8:45 AM	---	9:00 AM	50	759	84	18	174	24	39	86	10	10	50	31	*1,335*
TOTAL BY PERIOD															
7:00 AM	---	7:15 AM	1	55	8	0	9	3	2	8	2	1	7	2	*98*
7:15 AM	---	7:30 AM	8	86	13	3	11	2	4	6	0	2	3	2	*140*
7:30 AM	---	7:45 AM	4	103	13	0	16	3	3	11	1	1	7	4	*166*
7:45 AM	---	8:00 AM	8	126	16	0	22	3	6	20	1	2	10	6	*220*
8:00 AM	---	8:15 AM	10	122	19	3	30	4	6	8	2	2	6	3	*215*
8:15 AM	---	8:30 AM	9	104	6	2	34	3	6	14	1	1	5	3	*188*
8:30 AM	---	8:45 AM	4	82	5	2	22	3	5	13	3	1	6	9	*155*
8:45 AM	---	9:00 AM	6	81	4	8	30	3	7	6	0	0	6	2	*153*
HOURLY TOTALS															
7:00 AM	---	8:00 AM	21	370	50	3	58	11	15	45	4	6	27	14	*624*
7:15 AM	---	8:15 AM	30	437	61	6	79	12	19	45	4	7	26	15	*741*
7:30 AM	---	8:30 AM	31	455	54	5	102	13	21	53	5	6	28	16	*789*
7:45 AM	---	8:45 AM	31	434	46	7	108	13	23	55	7	6	27	21	*778*
8:00 AM	---	9:00 AM	29	389	34	15	116	13	24	41	6	4	23	17	*711*

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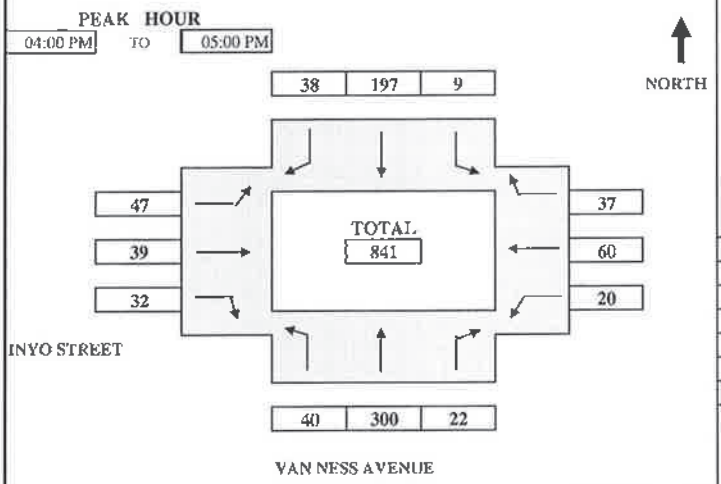
B.A.Y.M.E.T.R.I.C.S.

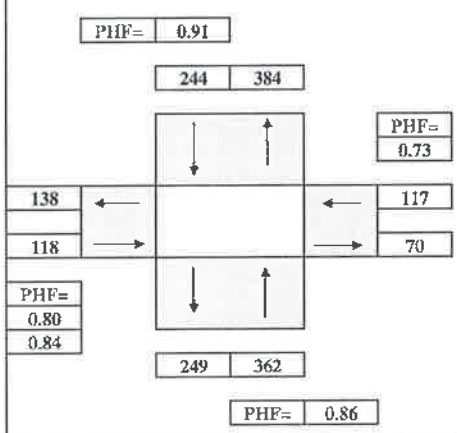
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HST PROJECT	SURVEY DATE:	11/5/2009	DAY:	THURSDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	INYO STREET	CITY:	FRESNO	FILE:	2911072-74PM

PEAK HOUR
04:00 PM TO 05:00 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	9	59	4	1	46	15	12	12	11	5	24	11	*209*
4:15 PM	---	4:30 PM	18	146	10	4	96	26	19	17	20	8	38	17	*419*
4:30 PM	---	4:45 PM	32	210	15	5	154	34	35	27	25	18	52	25	*632*
4:45 PM	---	5:00 PM	40	300	22	9	197	38	47	39	32	20	60	37	*841*
5:00 PM	---	5:15 PM	53	383	22	12	243	47	61	48	37	22	74	45	*1,047*
5:15 PM	---	5:30 PM	67	456	22	13	290	53	67	56	54	25	91	53	*1,247*
5:30 PM	---	5:45 PM	84	511	24	17	335	64	77	68	54	26	98	65	*1,423*
5:45 PM	---	6:00 PM	97	569	26	20	359	77	92	79	65	29	102	67	*1,582*
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	9	59	4	1	46	15	12	12	11	5	24	11	*209*
4:15 PM	---	4:30 PM	9	87	6	3	50	11	7	5	9	3	14	6	*210*
4:30 PM	---	4:45 PM	14	64	5	1	58	8	16	10	5	10	14	8	*213*
4:45 PM	---	5:00 PM	8	90	7	4	43	4	12	12	7	2	8	12	*209*
5:00 PM	---	5:15 PM	13	83	0	3	46	9	14	9	5	2	14	8	*206*
5:15 PM	---	5:30 PM	14	73	0	1	47	6	6	8	17	3	17	8	*200*
5:30 PM	---	5:45 PM	17	55	2	4	45	11	10	12	0	1	7	12	*176*
5:45 PM	---	6:00 PM	13	58	2	3	24	13	15	11	11	3	4	2	*159*
HOURLY TOTALS															
4:00 PM	---	5:00 PM	40	300	22	9	197	38	47	39	32	20	60	37	*841*
4:15 PM	---	5:15 PM	44	324	18	11	197	32	49	36	26	17	50	34	*838*
4:30 PM	---	5:30 PM	49	310	12	9	194	27	48	39	34	17	53	36	*828*
4:45 PM	---	5:45 PM	52	301	9	12	181	30	42	41	29	8	46	40	*791*
5:00 PM	---	6:00 PM	57	269	4	11	162	39	45	40	33	9	42	30	*741*

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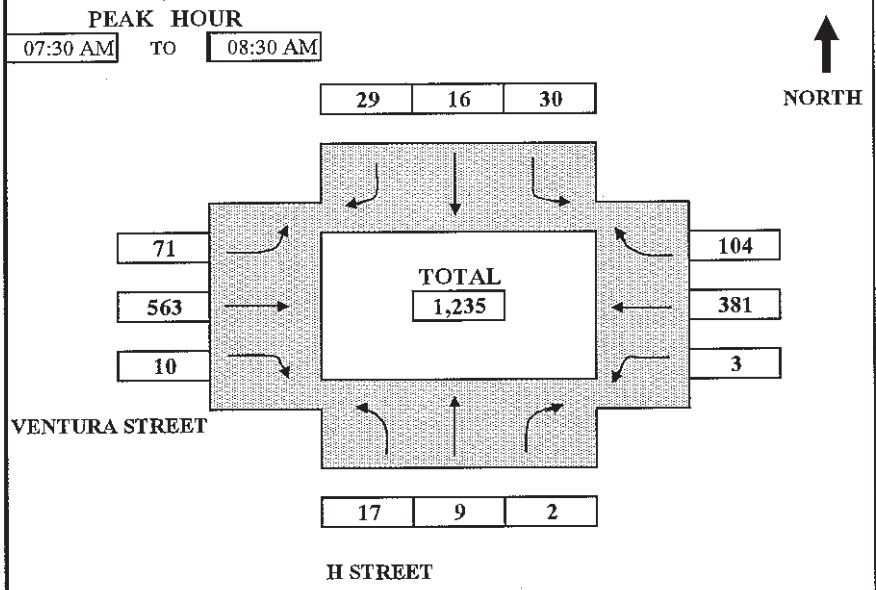
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

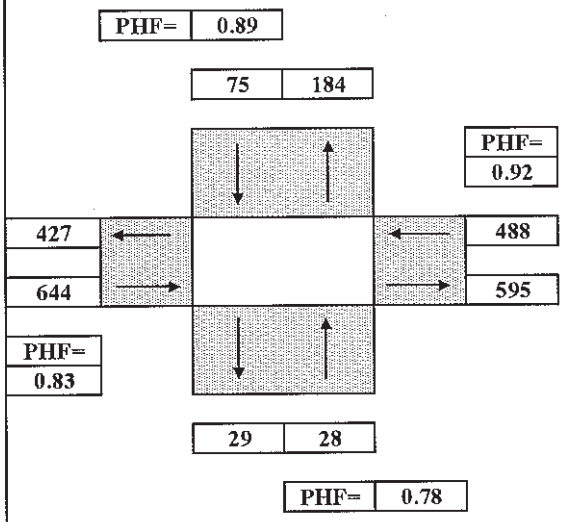
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/10/2011	DAY:	THURSDAY
N-S APPROACH:	H STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	VENTURA STREET	JURISDICTION: FRESNO		FILE:	3103016-3AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
7:00 AM	---	7:15 AM	2	1	0	7	5	4	4	81	3	0	68	9	*184*
7:15 AM	---	7:30 AM	5	4	2	13	8	13	23	200	8	1	149	26	*452*
7:30 AM	---	7:45 AM	9	7	2	21	12	20	37	358	9	2	260	47	*784*
7:45 AM	---	8:00 AM	11	9	2	31	18	25	53	532	14	4	345	69	*1,113*
8:00 AM	---	8:15 AM	19	10	2	40	22	32	69	649	17	4	445	94	*1,403*
8:15 AM	---	8:30 AM	22	13	4	43	24	42	94	763	18	4	530	130	*1,687*
8:30 AM	---	8:45 AM	25	18	4	61	28	46	100	854	22	6	601	147	*1,912*
8:45 AM	---	9:00 AM	26	22	5	70	30	56	109	967	25	8	677	162	*2,157*
TOTAL BY PERIOD															
7:00 AM	---	7:15 AM	2	1	0	7	5	4	4	81	3	0	68	9	*184*
7:15 AM	---	7:30 AM	3	3	2	6	3	9	19	119	5	1	81	17	*268*
7:30 AM	---	7:45 AM	4	3	0	8	4	7	14	158	1	1	111	21	*332*
7:45 AM	---	8:00 AM	2	2	0	10	6	5	16	174	5	2	85	22	*329*
8:00 AM	---	8:15 AM	8	1	0	9	4	7	16	117	3	0	100	25	*290*
8:15 AM	---	8:30 AM	3	3	2	3	2	10	25	114	1	0	85	36	*284*
8:30 AM	---	8:45 AM	3	5	0	18	4	4	6	91	4	2	71	17	*225*
8:45 AM	---	9:00 AM	1	4	1	9	2	10	9	113	3	2	76	15	*245*
HOURLY TOTALS															
7:00 AM	---	8:00 AM	11	9	2	31	18	25	53	532	14	4	345	69	*1,113*
7:15 AM	---	8:15 AM	17	9	2	33	17	28	65	568	14	4	377	85	*1,219*
7:30 AM	---	8:30 AM	17	9	2	30	16	29	71	563	10	3	381	104	*1,235*
7:45 AM	---	8:45 AM	16	11	2	40	16	26	63	496	13	4	341	100	*1,128*
8:00 AM	---	9:00 AM	15	13	3	39	12	31	56	435	11	4	332	93	*1,044*

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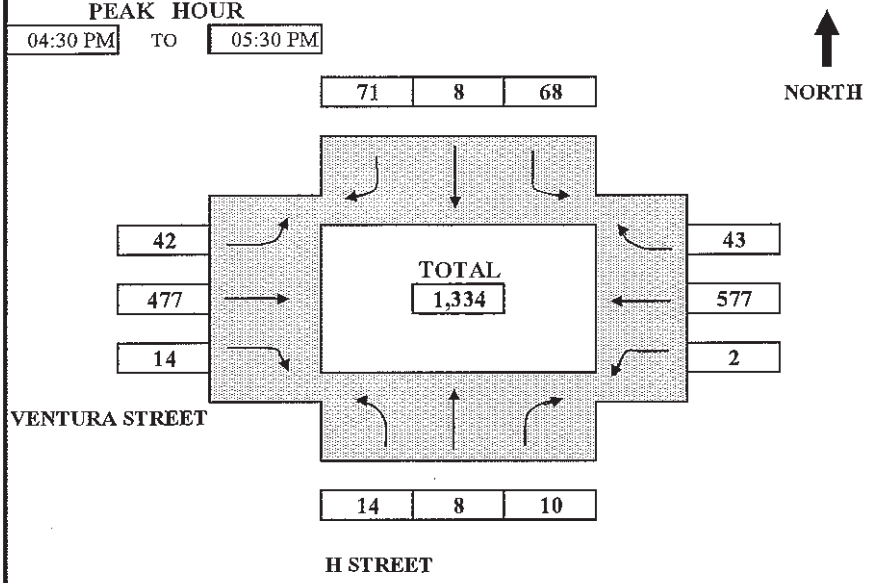
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

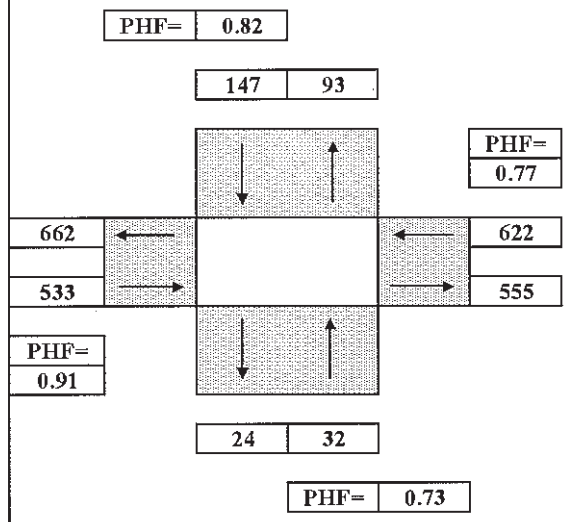
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/10/2011	DAY:	THURSDAY
N-S APPROACH:	H STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	VENTURA STREET	JURISDICTION:	FRESNO	FILE:	3103016-3PM

PEAK HOUR

04:30 PM TO 05:30 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	2	0	3	12	3	19	7	122	5	3	127	11	*314*
4:15 PM	---	4:30 PM	3	3	5	26	5	30	22	239	8	3	213	16	*573*
4:30 PM	---	4:45 PM	6	5	9	39	6	55	30	370	15	3	343	24	*905*
4:45 PM	---	5:00 PM	11	9	11	64	10	71	38	502	18	4	441	32	*1,211*
5:00 PM	---	5:15 PM	14	10	14	79	13	86	51	606	21	5	629	44	*1,572*
5:15 PM	---	5:30 PM	17	11	15	94	13	101	64	716	22	5	790	59	*1,907*
5:30 PM	---	5:45 PM	21	14	16	105	16	118	70	823	24	7	927	66	*2,207*
5:45 PM	---	6:00 PM	24	15	19	124	19	130	76	916	26	7	1,039	72	*2,467*
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	2	0	3	12	3	19	7	122	5	3	127	11	*314*
4:15 PM	---	4:30 PM	1	3	2	14	2	11	15	117	3	0	86	5	*259*
4:30 PM	---	4:45 PM	3	2	4	13	1	25	8	131	7	0	130	8	*332*
4:45 PM	---	5:00 PM	5	4	2	25	4	16	8	132	3	1	98	8	*306*
5:00 PM	---	5:15 PM	3	1	3	15	3	15	13	104	3	1	188	12	*361*
5:15 PM	---	5:30 PM	3	1	1	15	0	15	13	110	1	0	161	15	*335*
5:30 PM	---	5:45 PM	4	3	1	11	3	17	6	107	2	2	137	7	*300*
5:45 PM	---	6:00 PM	3	1	3	19	3	12	6	93	2	0	112	6	*260*
HOURLY TOTALS															
4:00 PM	---	5:00 PM	11	9	11	64	10	71	38	502	18	4	441	32	*1,211*
4:15 PM	---	5:15 PM	12	10	11	67	10	67	44	484	16	2	502	33	*1,258*
4:30 PM	---	5:30 PM	14	8	10	68	8	71	42	477	14	2	577	43	*1,334*
4:45 PM	---	5:45 PM	15	9	7	66	10	63	40	453	9	4	584	42	*1,302*
5:00 PM	---	6:00 PM	13	6	8	60	9	59	38	414	8	3	598	40	*1,256*

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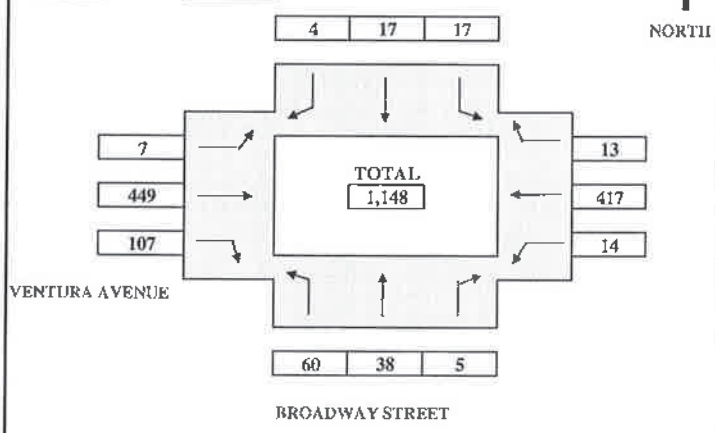
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

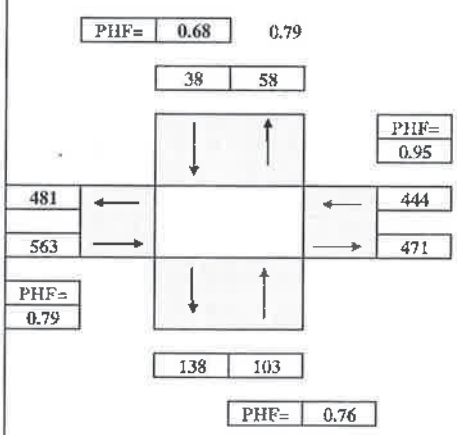
PROJECT:	HST PROJECT	SURVEY DATE:	11/5/2009	DAY:	THURSDAY
N-S APPROACH:	BROADWAY STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	VENTURA AVENUE	CITY:	FRESNO	FILE:	2911072-50AM

PEAK HOUR

07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	5	4	0	1	2	0	0	55	20	2	63	1	*153*
7:15 AM ---	7:30 AM	20	6	1	7	5	0	1	168	50	2	160	4	*424*
7:30 AM ---	7:45 AM	37	13	2	13	9	0	2	290	84	3	268	5	*726*
7:45 AM ---	8:00 AM	54	29	3	20	13	1	4	432	118	5	367	8	*1,054*
8:00 AM ---	8:15 AM	67	37	4	23	15	3	5	510	137	10	472	11	*1,294*
8:15 AM ---	8:30 AM	80	44	6	24	22	4	8	617	157	16	577	17	*1,572*
8:30 AM ---	8:45 AM	84	48	6	29	29	6	12	708	180	19	657	19	*1,797*
8:45 AM ---	9:00 AM	92	51	9	30	39	7	12	810	204	25	735	22	*2,036*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	5	4	0	1	2	0	0	55	20	2	63	1	*153*
7:15 AM ---	7:30 AM	15	2	1	6	3	0	1	113	30	0	97	3	*271*
7:30 AM ---	7:45 AM	17	7	1	6	4	0	1	122	34	1	108	1	*302*
7:45 AM ---	8:00 AM	17	16	1	7	4	1	2	142	34	2	99	3	*328*
8:00 AM ---	8:15 AM	13	8	1	3	2	2	1	78	19	5	105	3	*240*
8:15 AM ---	8:30 AM	13	7	2	1	7	1	3	107	20	6	105	6	*278*
8:30 AM ---	8:45 AM	4	4	0	5	7	2	4	91	23	3	80	2	*225*
8:45 AM ---	9:00 AM	8	3	3	1	10	1	0	102	24	6	78	3	*239*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	54	29	3	20	13	1	4	432	118	5	367	8	*1,054*
7:15 AM ---	8:15 AM	62	33	4	22	13	3	5	455	117	8	409	10	*1,141*
7:30 AM ---	8:30 AM	60	38	5	17	17	4	7	449	107	14	417	13	*1,148*
7:45 AM ---	8:45 AM	47	35	4	16	20	6	10	418	96	16	389	14	*1,071*
8:00 AM ---	9:00 AM	38	22	6	10	26	6	8	378	86	20	368	14	*982*

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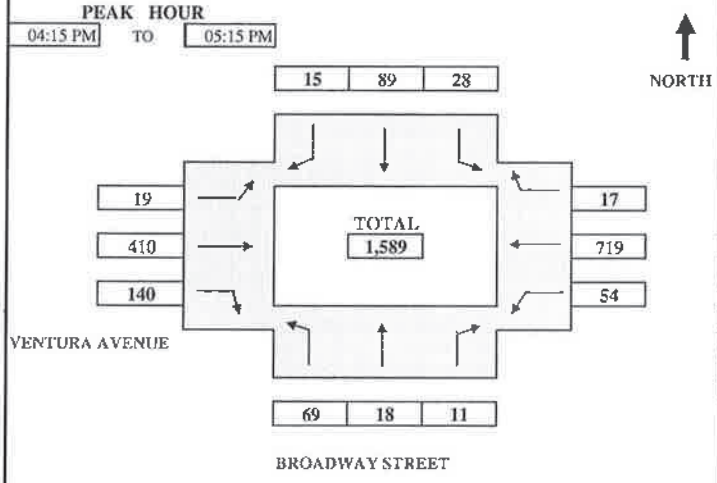
B.A.Y.M.E.T.R.I.C.S.

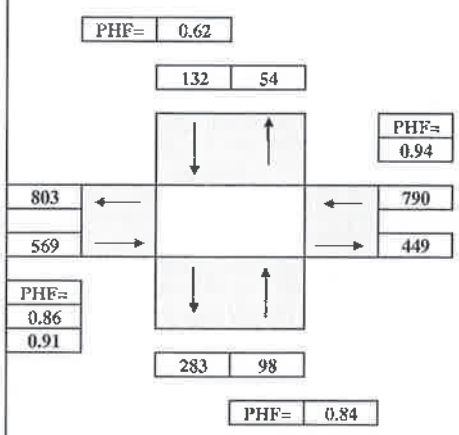
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HST PROJECT	SURVEY DATE:	11/5/2009	DAY:	THURSDAY
N-S APPROACH:	BROADWAY STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	VENTURA AVENUE	CITY:	FRESNO	FILE:	2911072-50PM

PEAK HOUR
04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	18	3	2	4	26	5	7	128	31	12	140	6	*382*
4:15 PM	---	4:30 PM	33	9	4	10	39	10	10	221	63	24	317	10	*750*
4:30 PM	---	4:45 PM	52	14	9	16	65	13	18	330	101	44	491	13	*1,166*
4:45 PM	---	5:00 PM	66	17	11	22	77	15	23	446	137	52	666	21	*1,553*
5:00 PM	---	5:15 PM	87	21	13	32	115	20	26	538	171	66	859	23	*1,971*
5:15 PM	---	5:30 PM	106	27	14	36	124	21	35	645	205	71	1,012	29	*2,325*
5:30 PM	---	5:45 PM	120	27	15	39	139	24	38	714	240	78	1,150	32	*2,616*
5:45 PM	---	6:00 PM	129	28	15	40	146	30	39	800	275	91	1,281	38	*2,912*
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	18	3	2	4	26	5	7	128	31	12	140	6	*382*
4:15 PM	---	4:30 PM	15	6	2	6	13	5	3	93	32	12	177	4	*368*
4:30 PM	---	4:45 PM	19	5	5	6	26	3	8	109	38	20	174	3	*416*
4:45 PM	---	5:00 PM	14	3	2	6	12	2	5	116	36	8	175	8	*387*
5:00 PM	---	5:15 PM	21	4	2	10	38	5	3	92	34	14	193	2	*418*
5:15 PM	---	5:30 PM	19	6	1	4	9	1	9	107	34	5	153	6	*354*
5:30 PM	---	5:45 PM	14	0	1	3	15	3	3	69	35	7	138	3	*291*
5:45 PM	---	6:00 PM	9	1	0	1	7	6	1	86	35	13	131	6	*296*
HOURLY TOTALS															
4:00 PM	---	5:00 PM	66	17	11	22	77	15	23	446	137	52	666	21	*1,553*
4:15 PM	---	5:15 PM	69	18	11	28	89	15	19	410	140	54	719	17	*1,589*
4:30 PM	---	5:30 PM	73	18	10	26	85	11	25	424	142	47	695	19	*1,575*
4:45 PM	---	5:45 PM	68	13	6	23	74	11	20	384	139	34	659	19	*1,450*
5:00 PM	---	6:00 PM	63	11	4	18	69	15	16	354	138	39	615	17	*1,359*

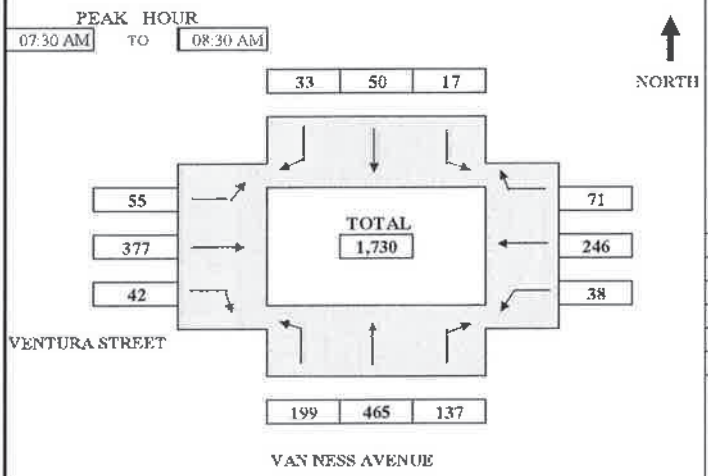
Telephone: (510)232-1271 Fax: (510)232-1272

B.A.Y.M.E.T.R.I.C.S.

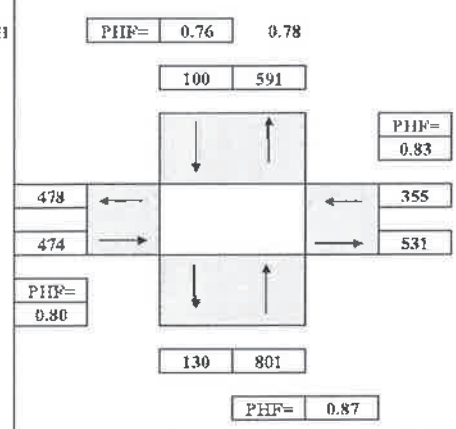
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HST PROJECT	SURVEY DATE:	11/5/2009	DAY:	THURSDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	VENTURA STREET	CITY:	FRESNO	FILE:	2911072-17AM

PEAK HOUR
07:30 AM TO 08:30 AM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From	To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA														
7:00 AM ---	7:15 AM	20	73	22	1	10	2	5	47	5	5	44	8	*242*
7:15 AM ---	7:30 AM	73	165	60	5	14	5	15	136	17	8	96	21	*615*
7:30 AM ---	7:45 AM	118	272	87	6	26	10	34	235	28	19	166	34	*1,035*
7:45 AM ---	8:00 AM	171	412	124	10	39	14	50	354	42	26	219	48	*1,509*
8:00 AM ---	8:15 AM	219	540	164	17	49	29	64	429	47	39	287	74	*1,958*
8:15 AM ---	8:30 AM	272	630	197	22	64	38	70	513	59	46	342	92	*2,345*
8:30 AM ---	8:45 AM	306	701	212	30	84	43	77	595	63	50	392	113	*2,666*
8:45 AM ---	9:00 AM	333	773	237	37	96	47	86	670	74	60	449	129	*2,991*
TOTAL BY PERIOD														
7:00 AM ---	7:15 AM	20	73	22	1	10	2	5	47	5	5	44	8	*242*
7:15 AM ---	7:30 AM	53	92	38	4	4	3	10	89	12	3	52	13	*373*
7:30 AM ---	7:45 AM	45	107	27	1	12	5	19	99	11	11	70	13	*420*
7:45 AM ---	8:00 AM	53	140	37	4	13	4	16	119	14	7	53	14	*474*
8:00 AM ---	8:15 AM	48	128	40	7	10	15	14	75	5	13	68	26	*449*
8:15 AM ---	8:30 AM	53	90	33	5	15	9	6	84	12	7	55	18	*387*
8:30 AM ---	8:45 AM	34	71	15	8	20	5	7	82	4	4	50	21	*321*
8:45 AM ---	9:00 AM	27	72	25	7	12	4	9	75	11	10	57	16	*325*
HOURLY TOTALS														
7:00 AM ---	8:00 AM	171	412	124	10	39	14	50	354	42	26	219	48	*1,509*
7:15 AM ---	8:15 AM	199	467	142	16	39	27	59	382	42	34	243	66	*1,716*
7:30 AM ---	8:30 AM	199	465	137	17	50	33	55	377	42	38	246	71	*1,730*
7:45 AM ---	8:45 AM	188	429	125	24	58	33	43	360	35	31	226	79	*1,631*
8:00 AM ---	9:00 AM	162	361	113	27	57	33	36	316	32	34	230	81	*1,482*

Telephone: (510)232-1271 Fax: (510)232-1272

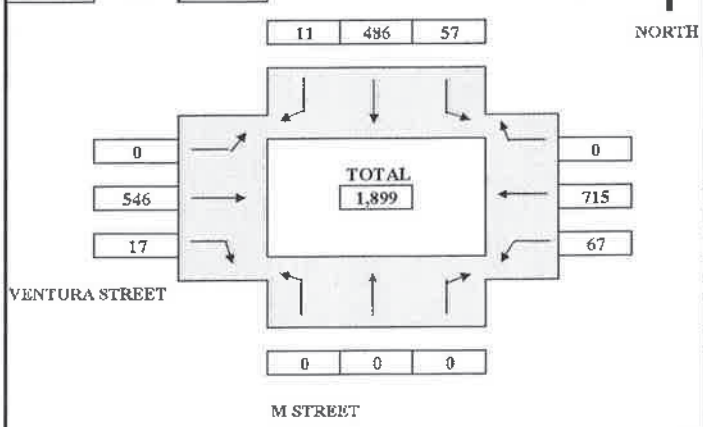
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

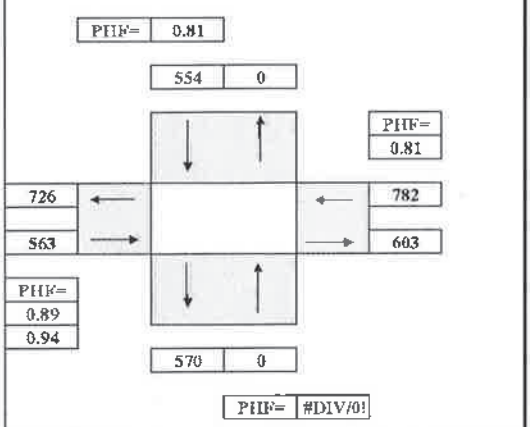
PROJECT:	HST PROJECT	SURVEY DATE:	11/5/2009	DAY:	THURSDAY
N-S APPROACH:	M STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	VENTURA STREET	CITY:	FRESNO	FILE:	2911072-21PM

PEAK HOUR

04:15 PM TO 05:15 PM



ARRIVAL / DEPARTURE VOLUMES



TIME PERIOD From		To	NORTHBOUND Left	Thru	Right	SOUTHBOUND Left	Thru	Right	EASTBOUND Left	Thru	Right	WESTBOUND Left	Thru	Right	TOTAL
SURVEY DATA															
4:00 PM	---	4:15 PM	0	0	0	16	135	4	0	142	16	30	169	0	*512*
4:15 PM	---	4:30 PM	0	0	0	27	197	7	0	269	23	43	328	0	*894*
4:30 PM	---	4:45 PM	0	0	0	50	340	11	0	396	27	68	497	0	*1,389*
4:45 PM	---	5:00 PM	0	0	0	58	466	13	0	540	31	80	660	0	*1,848*
5:00 PM	---	5:15 PM	0	0	0	73	621	15	0	688	33	97	884	0	*2,411*
5:15 PM	---	5:30 PM	0	0	0	88	709	21	0	785	34	114	998	0	*2,749*
5:30 PM	---	5:45 PM	0	0	0	97	787	22	0	882	41	141	1,159	0	*3,129*
5:45 PM	---	6:00 PM	0	0	0	100	838	29	0	977	43	156	1,288	0	*3,431*
TOTAL BY PERIOD															
4:00 PM	---	4:15 PM	0	0	0	16	135	4	0	142	16	30	169	0	*512*
4:15 PM	---	4:30 PM	0	0	0	11	62	3	0	127	7	13	159	0	*382*
4:30 PM	---	4:45 PM	0	0	0	23	143	4	0	127	4	25	169	0	*495*
4:45 PM	---	5:00 PM	0	0	0	8	126	2	0	144	4	12	163	0	*459*
5:00 PM	---	5:15 PM	0	0	0	15	155	2	0	148	2	17	224	0	*563*
5:15 PM	---	5:30 PM	0	0	0	15	88	6	0	97	1	17	114	0	*338*
5:30 PM	---	5:45 PM	0	0	0	9	78	1	0	97	7	27	161	0	*380*
5:45 PM	---	6:00 PM	0	0	0	3	51	7	0	95	2	15	129	0	*302*
HOURLY TOTALS															
4:00 PM	---	5:00 PM	0	0	0	58	466	13	0	540	31	80	660	0	*1,848*
4:15 PM	---	5:15 PM	0	0	0	57	486	11	0	546	17	67	715	0	*1,899*
4:30 PM	---	5:30 PM	0	0	0	61	512	14	0	516	11	71	670	0	*1,855*
4:45 PM	---	5:45 PM	0	0	0	47	447	11	0	486	14	73	662	0	*1,740*
5:00 PM	---	6:00 PM	0	0	0	42	372	16	0	437	12	76	628	0	*1,583*

Telephone: (510)232-1271 Fax: (510)232-1272

Data File: 'Broadway_NO_Stanislaus_NB_031809.rdf'
Site Code: '800000000008'
Start Date: 3/19/2009
Start Time: 12:00 AM
Sensor Layout: '11'

'LOCATION': 'Broadway'
'CROSS ST': 'N/O Stanislaus'
'COUNT': 'Downtown Study'

Date	Time	NB	Date	Time	NB	Date	Time	NB	Date	Time	NB
3/19/2009	12:00 AM	14	3/20/2009	12:00 AM	11	3/21/2009	12:00 AM	20	3/22/2009	12:00 AM	16
3/19/2009	1:00 AM	8	3/20/2009	1:00 AM	10	3/21/2009	1:00 AM	10	3/22/2009	1:00 AM	10
3/19/2009	2:00 AM	1	3/20/2009	2:00 AM	0	3/21/2009	2:00 AM	6	3/22/2009	2:00 AM	4
3/19/2009	3:00 AM	0	3/20/2009	3:00 AM	1	3/21/2009	3:00 AM	3	3/22/2009	3:00 AM	2
3/19/2009	4:00 AM	1	3/20/2009	4:00 AM	2	3/21/2009	4:00 AM	0	3/22/2009	4:00 AM	0
3/19/2009	5:00 AM	13	3/20/2009	5:00 AM	12	3/21/2009	5:00 AM	6	3/22/2009	5:00 AM	1
3/19/2009	6:00 AM	18	3/20/2009	6:00 AM	19	3/21/2009	6:00 AM	6	3/22/2009	6:00 AM	4
3/19/2009	7:00 AM	32	3/20/2009	7:00 AM	34	3/21/2009	7:00 AM	19	3/22/2009	7:00 AM	10
3/19/2009	8:00 AM	47	3/20/2009	8:00 AM	34	3/21/2009	8:00 AM	17	3/22/2009	8:00 AM	14
3/19/2009	9:00 AM	50	3/20/2009	9:00 AM	44	3/21/2009	9:00 AM	28	3/22/2009	9:00 AM	32
3/19/2009	10:00 AM	39	3/20/2009	10:00 AM	55	3/21/2009	10:00 AM	58	3/22/2009	10:00 AM	104
3/19/2009	11:00 AM	52	3/20/2009	11:00 AM	62	3/21/2009	11:00 AM	46	3/22/2009	11:00 AM	60
3/19/2009	12:00 PM	62	3/20/2009	12:00 PM	75	3/21/2009	12:00 PM	41	3/22/2009	12:00 PM	125
3/19/2009	1:00 PM	54	3/20/2009	1:00 PM	55	3/21/2009	1:00 PM	23	3/22/2009	1:00 PM	18
3/19/2009	2:00 PM	57	3/20/2009	2:00 PM	70	3/21/2009	2:00 PM	20	3/22/2009	2:00 PM	23
3/19/2009	3:00 PM	73	3/20/2009	3:00 PM	71	3/21/2009	3:00 PM	37	3/22/2009	3:00 PM	11
3/19/2009	4:00 PM	71	3/20/2009	4:00 PM	88	3/21/2009	4:00 PM	30	3/22/2009	4:00 PM	9
3/19/2009	5:00 PM	73	3/20/2009	5:00 PM	56	3/21/2009	5:00 PM	22	3/22/2009	5:00 PM	15
3/19/2009	6:00 PM	28	3/20/2009	6:00 PM	30	3/21/2009	6:00 PM	24	3/22/2009	6:00 PM	17
3/19/2009	7:00 PM	21	3/20/2009	7:00 PM	27	3/21/2009	7:00 PM	33	3/22/2009	7:00 PM	13
3/19/2009	8:00 PM	15	3/20/2009	8:00 PM	52	3/21/2009	8:00 PM	71	3/22/2009	8:00 PM	11
3/19/2009	9:00 PM	15	3/20/2009	9:00 PM	90	3/21/2009	9:00 PM	89	3/22/2009	9:00 PM	14
3/19/2009	10:00 PM	14	3/20/2009	10:00 PM	48	3/21/2009	10:00 PM	38	3/22/2009	10:00 PM	2
3/19/2009	11:00 PM	7	3/20/2009	11:00 PM	26	3/21/2009	11:00 PM	17	3/22/2009	11:00 PM	2
		765			972			664			517

Data File: 'Broadway_NO_Stanislaus_SB_031809.rdf'
Site Code: '000000000009'
Start Date: 3/19/2009
Start Time: 12:00 AM
Sensor Layout: '11'

'LOCATION': 'Broadway'
'CROSS ST': 'N/O Stanislaus'
'COUNT': 'Downtown Study'

Thursday			Friday			Saturday			Sunday		
Date	Time	SB									
3/19/2009	12:00 AM	4	3/20/2009	12:00 AM	12	3/21/2009	12:00 AM	56	3/22/2009	12:00 AM	51
3/19/2009	1:00 AM	2	3/20/2009	1:00 AM	10	3/21/2009	1:00 AM	74	3/22/2009	1:00 AM	106
3/19/2009	2:00 AM	3	3/20/2009	2:00 AM	2	3/21/2009	2:00 AM	7	3/22/2009	2:00 AM	20
3/19/2009	3:00 AM	3	3/20/2009	3:00 AM	2	3/21/2009	3:00 AM	1	3/22/2009	3:00 AM	1
3/19/2009	4:00 AM	10	3/20/2009	4:00 AM	11	3/21/2009	4:00 AM	3	3/22/2009	4:00 AM	3
3/19/2009	5:00 AM	46	3/20/2009	5:00 AM	40	3/21/2009	5:00 AM	32	3/22/2009	5:00 AM	3
3/19/2009	6:00 AM	55	3/20/2009	6:00 AM	50	3/21/2009	6:00 AM	21	3/22/2009	6:00 AM	7
3/19/2009	7:00 AM	154	3/20/2009	7:00 AM	158	3/21/2009	7:00 AM	32	3/22/2009	7:00 AM	20
3/19/2009	8:00 AM	141	3/20/2009	8:00 AM	117	3/21/2009	8:00 AM	58	3/22/2009	8:00 AM	26
3/19/2009	9:00 AM	105	3/20/2009	9:00 AM	104	3/21/2009	9:00 AM	64	3/22/2009	9:00 AM	43
3/19/2009	10:00 AM	92	3/20/2009	10:00 AM	92	3/21/2009	10:00 AM	69	3/22/2009	10:00 AM	53
3/19/2009	11:00 AM	107	3/20/2009	11:00 AM	120	3/21/2009	11:00 AM	87	3/22/2009	11:00 AM	44
3/19/2009	12:00 PM	145	3/20/2009	12:00 PM	88	3/21/2009	12:00 PM	67	3/22/2009	12:00 PM	65
3/19/2009	1:00 PM	117	3/20/2009	1:00 PM	109	3/21/2009	1:00 PM	57	3/22/2009	1:00 PM	49
3/19/2009	2:00 PM	143	3/20/2009	2:00 PM	160	3/21/2009	2:00 PM	38	3/22/2009	2:00 PM	41
3/19/2009	3:00 PM	136	3/20/2009	3:00 PM	125	3/21/2009	3:00 PM	41	3/22/2009	3:00 PM	51
3/19/2009	4:00 PM	120	3/20/2009	4:00 PM	131	3/21/2009	4:00 PM	43	3/22/2009	4:00 PM	31
3/19/2009	5:00 PM	76	3/20/2009	5:00 PM	115	3/21/2009	5:00 PM	28	3/22/2009	5:00 PM	24
3/19/2009	6:00 PM	52	3/20/2009	6:00 PM	58	3/21/2009	6:00 PM	36	3/22/2009	6:00 PM	32
3/19/2009	7:00 PM	40	3/20/2009	7:00 PM	58	3/21/2009	7:00 PM	32	3/22/2009	7:00 PM	20
3/19/2009	8:00 PM	27	3/20/2009	8:00 PM	52	3/21/2009	8:00 PM	37	3/22/2009	8:00 PM	14
3/19/2009	9:00 PM	34	3/20/2009	9:00 PM	57	3/21/2009	9:00 PM	31	3/22/2009	9:00 PM	10
3/19/2009	10:00 PM	13	3/20/2009	10:00 PM	42	3/21/2009	10:00 PM	20	3/22/2009	10:00 PM	8
3/19/2009	11:00 PM	15	3/20/2009	11:00 PM	56	3/21/2009	11:00 PM	41	3/22/2009	11:00 PM	10
		1,640			1,769			975			732

Data File: 'Fulton_NO_Stanislaus_031809.rdf'
Site Code: '000000000000'
Start Date: 3/19/2009
Start Time: 12:00 AM
Sensor Layout: '31'

'LOCATION': 'Fulton'
'CROSS ST': 'N/O Stanislaus'
'COUNT': 'Downtown Study'

Thursday					Friday					Saturday					Sunday				
Date	Time	Total	**SB**	**NB**	Date	Time	Total	**SB**	**NB**	Date	Time	Total	**SB**	**NB**	Date	Time	Total	**SB**	**NB**
3/19/2009	12:00 AM	3	3	0	3/20/2009	12:00 AM	4	4	0	3/21/2009	12:00 AM	35	32	3	3/22/2009	12:00 AM	23	20	3
3/19/2009	1:00 AM	4	3	1	3/20/2009	1:00 AM	7	5	2	3/21/2009	1:00 AM	23	21	2	3/22/2009	1:00 AM	32	27	5
3/19/2009	2:00 AM	5	5	0	3/20/2009	2:00 AM	8	6	2	3/21/2009	2:00 AM	7	3	4	3/22/2009	2:00 AM	10	8	2
3/19/2009	3:00 AM	5	5	0	3/20/2009	3:00 AM	6	6	0	3/21/2009	3:00 AM	7	6	1	3/22/2009	3:00 AM	4	4	0
3/19/2009	4:00 AM	41	41	0	3/20/2009	4:00 AM	28	28	0	3/21/2009	4:00 AM	5	4	1	3/22/2009	4:00 AM	3	2	1
3/19/2009	5:00 AM	63	59	4	3/20/2009	5:00 AM	64	60	4	3/21/2009	5:00 AM	41	38	3	3/22/2009	5:00 AM	2	1	1
3/19/2009	6:00 AM	88	82	6	3/20/2009	6:00 AM	62	59	3	3/21/2009	6:00 AM	31	20	11	3/22/2009	6:00 AM	28	24	4
3/19/2009	7:00 AM	242	221	21	3/20/2009	7:00 AM	188	173	15	3/21/2009	7:00 AM	42	32	10	3/22/2009	7:00 AM	53	43	10
3/19/2009	8:00 AM	270	225	45	3/20/2009	8:00 AM	218	184	34	3/21/2009	8:00 AM	80	57	23	3/22/2009	8:00 AM	96	79	17
3/19/2009	9:00 AM	174	141	33	3/20/2009	9:00 AM	169	144	25	3/21/2009	9:00 AM	124	89	35	3/22/2009	9:00 AM	64	52	12
3/19/2009	10:00 AM	187	147	40	3/20/2009	10:00 AM	185	153	32	3/21/2009	10:00 AM	158	120	38	3/22/2009	10:00 AM	136	103	33
3/19/2009	11:00 AM	222	173	49	3/20/2009	11:00 AM	210	182	28	3/21/2009	11:00 AM	147	106	41	3/22/2009	11:00 AM	122	79	43
3/19/2009	12:00 PM	238	200	38	3/20/2009	12:00 PM	208	174	34	3/21/2009	12:00 PM	130	90	40	3/22/2009	12:00 PM	161	108	53
3/19/2009	1:00 PM	246	214	32	3/20/2009	1:00 PM	220	191	29	3/21/2009	1:00 PM	100	69	31	3/22/2009	1:00 PM	101	74	27
3/19/2009	2:00 PM	185	150	35	3/20/2009	2:00 PM	214	191	23	3/21/2009	2:00 PM	100	76	24	3/22/2009	2:00 PM	81	65	16
3/19/2009	3:00 PM	194	161	33	3/20/2009	3:00 PM	198	175	23	3/21/2009	3:00 PM	151	136	15	3/22/2009	3:00 PM	71	63	8
3/19/2009	4:00 PM	148	122	26	3/20/2009	4:00 PM	185	153	32	3/21/2009	4:00 PM	95	83	12	3/22/2009	4:00 PM	57	45	12
3/19/2009	5:00 PM	143	115	28	3/20/2009	5:00 PM	133	116	17	3/21/2009	5:00 PM	70	61	9	3/22/2009	5:00 PM	68	61	7
3/19/2009	6:00 PM	95	75	20	3/20/2009	6:00 PM	108	86	22	3/21/2009	6:00 PM	84	59	25	3/22/2009	6:00 PM	63	43	20
3/19/2009	7:00 PM	47	39	8	3/20/2009	7:00 PM	71	58	13	3/21/2009	7:00 PM	65	54	11	3/22/2009	7:00 PM	49	37	12
3/19/2009	8:00 PM	46	38	8	3/20/2009	8:00 PM	66	59	7	3/21/2009	8:00 PM	59	42	17	3/22/2009	8:00 PM	25	21	4
3/19/2009	9:00 PM	43	30	13	3/20/2009	9:00 PM	75	50	25	3/21/2009	9:00 PM	70	46	24	3/22/2009	9:00 PM	44	27	17
3/19/2009	10:00 PM	23	19	4	3/20/2009	10:00 PM	43	28	15	3/21/2009	10:00 PM	50	40	10	3/22/2009	10:00 PM	8	8	0
3/19/2009	11:00 PM	9	9	0	3/20/2009	11:00 PM	44	37	7	3/21/2009	11:00 PM	32	25	7	3/22/2009	11:00 PM	7	5	2
		2,721	**2,277**	**444**			2,714	**2,322**	**392**			1,706	**1,309**	**397**			1,308	**999**	**309**

Data File: 'VanNess_NO_Stanislaus_031809.rdf'
Site Code: '000000000000'
Start Date: 3/19/2009
Start Time: 12:00 AM
Sensor Layout: '21'

'LOCATION': 'Van Ness'
'CROSS ST': 'N/O Stanislaus'
'COUNT': 'Downtown Study'

Thursday					Friday					Saturday					Sunday				
Date	Time	Total	**NB**	**SB**	Date	Time	Total	**NB**	**SB**	Date	Time	Total	**NB**	**SB**	Date	Time	Total	**NB**	**SB**
3/19/2009	12:00 AM	57	47	10	3/20/2009	12:00 AM	51	42	9	3/21/2009	12:00 AM	82	67	15	3/22/2009	12:00 AM	63	51	12
3/19/2009	1:00 AM	53	43	10	3/20/2009	1:00 AM	52	45	7	3/21/2009	1:00 AM	68	53	15	3/22/2009	1:00 AM	58	45	13
3/19/2009	2:00 AM	14	9	5	3/20/2009	2:00 AM	17	13	4	3/21/2009	2:00 AM	29	21	8	3/22/2009	2:00 AM	32	25	7
3/19/2009	3:00 AM	21	14	7	3/20/2009	3:00 AM	17	12	5	3/21/2009	3:00 AM	18	13	5	3/22/2009	3:00 AM	17	13	4
3/19/2009	4:00 AM	12	10	2	3/20/2009	4:00 AM	15	12	3	3/21/2009	4:00 AM	20	15	5	3/22/2009	4:00 AM	9	5	4
3/19/2009	5:00 AM	43	30	13	3/20/2009	5:00 AM	39	29	10	3/21/2009	5:00 AM	19	14	5	3/22/2009	5:00 AM	12	8	4
3/19/2009	6:00 AM	76	46	30	3/20/2009	6:00 AM	89	61	28	3/21/2009	6:00 AM	48	34	14	3/22/2009	6:00 AM	19	13	6
3/19/2009	7:00 AM	252	133	119	3/20/2009	7:00 AM	216	114	102	3/21/2009	7:00 AM	83	49	34	3/22/2009	7:00 AM	52	38	14
3/19/2009	8:00 AM	338	199	139	3/20/2009	8:00 AM	344	198	146	3/21/2009	8:00 AM	147	93	54	3/22/2009	8:00 AM	73	50	23
3/19/2009	9:00 AM	337	233	104	3/20/2009	9:00 AM	374	256	118	3/21/2009	9:00 AM	217	133	84	3/22/2009	9:00 AM	87	62	25
3/19/2009	10:00 AM	408	289	119	3/20/2009	10:00 AM	399	269	130	3/21/2009	10:00 AM	258	186	72	3/22/2009	10:00 AM	123	79	44
3/19/2009	11:00 AM	533	384	149	3/20/2009	11:00 AM	529	379	150	3/21/2009	11:00 AM	306	217	89	3/22/2009	11:00 AM	176	126	50
3/19/2009	12:00 PM	488	358	130	3/20/2009	12:00 PM	512	375	137	3/21/2009	12:00 PM	285	223	62	3/22/2009	12:00 PM	218	160	58
3/19/2009	1:00 PM	551	379	172	3/20/2009	1:00 PM	608	459	149	3/21/2009	1:00 PM	277	199	78	3/22/2009	1:00 PM	264	199	65
3/19/2009	2:00 PM	513	397	116	3/20/2009	2:00 PM	524	370	154	3/21/2009	2:00 PM	289	211	78	3/22/2009	2:00 PM	255	179	76
3/19/2009	3:00 PM	528	408	120	3/20/2009	3:00 PM	548	399	149	3/21/2009	3:00 PM	246	180	66	3/22/2009	3:00 PM	195	141	54
3/19/2009	4:00 PM	535	437	98	3/20/2009	4:00 PM	580	472	108	3/21/2009	4:00 PM	260	188	72	3/22/2009	4:00 PM	185	134	51
3/19/2009	5:00 PM	525	458	67	3/20/2009	5:00 PM	542	440	102	3/21/2009	5:00 PM	167	124	43	3/22/2009	5:00 PM	132	102	30
3/19/2009	6:00 PM	289	214	75	3/20/2009	6:00 PM	255	193	62	3/21/2009	6:00 PM	208	105	103	3/22/2009	6:00 PM	140	110	30
3/19/2009	7:00 PM	187	144	43	3/20/2009	7:00 PM	209	167	42	3/21/2009	7:00 PM	146	111	35	3/22/2009	7:00 PM	91	62	29
3/19/2009	8:00 PM	127	92	35	3/20/2009	8:00 PM	204	154	50	3/21/2009	8:00 PM	111	91	20	3/22/2009	8:00 PM	97	74	23
3/19/2009	9:00 PM	106	85	21	3/20/2009	9:00 PM	158	129	29	3/21/2009	9:00 PM	147	123	24	3/22/2009	9:00 PM	53	39	14
3/19/2009	10:00 PM	59	43	16	3/20/2009	10:00 PM	139	102	37	3/21/2009	10:00 PM	175	141	34	3/22/2009	10:00 PM	56	41	15
3/19/2009	11:00 PM	73	44	29	3/20/2009	11:00 PM	100	76	24	3/21/2009	11:00 PM	111	79	32	3/22/2009	11:00 PM	48	30	18
		6,125	**4,496**	**1,629**			6,521	**4,766**	**1,755**			3,717	**2,670**	**1,047**			2,455	**1,786**	**669**

B A Y M E T R I C S

HST PROJECT - FRESNO

Date	15-Nov-09 Sunday				16-Nov-09 Monday				17-Nov-09 Tuesday				18-Nov-09 Wednesday				19-Nov-09 Thursday				20-Nov-09 Friday				21-Nov-09 Saturday			
Location	19. On Van Ness Avenue, between Fresno Street and Tulare Street																											
Direction	NB		SB		NB		SB		NB		SB		NB		SB		NB		SB		NB		SB		NB		SB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	15	0	14	0	8	0	4	0	6	0	5	0	3	0	8	0	4	0	5	0	13	0	3	0	15	0	7	0
1215	12	0	8	0	5	0	7	0	12	0	7	0	15	0	3	0	8	0	6	0	10	0	3	0	14	0	5	0
1230	8	0	13	0	6	0	11	0	13	0	1	0	15	0	4	0	24	0	4	0	16	0	2	0	16	0	6	0
1245	17	52	20	55	3	22	5	27	33	64	2	15	30	63	5	20	18	54	4	19	24	63	0	8	26	71	3	21
100	9	46	12	53	4	18	4	27	5	63	4	14	1	61	5	17	17	67	4	18	8	58	2	7	9	65	2	16
115	8	42	19	64	2	15	2	22	6	57	3	10	4	50	3	17	5	64	1	13	3	51	1	5	7	58	2	13
130	10	44	44	95	4	13	5	16	4	48	5	14	6	41	6	19	4	44	5	14	5	40	5	8	8	50	5	12
145	5	32	36	111	3	13	1	12	2	17	6	18	2	13	5	19	2	28	2	12	5	21	1	9	9	33	3	12
200	4	27	9	108	3	12	4	12	4	16	7	21	5	17	3	17	4	15	5	13	3	16	7	14	5	29	4	14
215	2	21	5	94	4	14	6	16	1	11	4	22	7	20	4	18	6	16	2	14	2	15	1	14	3	25	5	17
230	8	19	12	62	3	13	4	15	4	11	3	20	2	16	4	16	1	13	3	12	3	13	9	18	4	21	9	21
245	8	22	12	38	3	13	4	18	1	10	3	17	4	18	4	15	5	16	7	17	3	11	7	24	7	19	9	27
300	6	24	8	37	2	12	3	17	7	13	3	13	1	14	3	15	2	14	13	25	6	14	10	27	5	19	9	32
315	6	28	7	39	0	8	1	12	2	14	2	11	2	9	6	17	4	12	5	28	0	12	15	41	2	18	6	33
330	3	23	3	30	3	8	4	12	2	12	6	14	0	7	11	24	2	13	6	31	4	13	9	41	1	15	9	33
345	4	19	6	24	7	12	4	12	2	13	10	21	3	6	5	25	2	10	19	43	4	14	13	47	5	13	9	33
400	6	19	4	20	2	12	3	12	3	9	5	23	6	11	9	31	4	12	14	44	0	8	16	53	7	15	11	35
415	2	15	6	19	3	15	4	15	2	9	1	22	2	11	13	38	1	9	17	56	2	10	24	62	1	14	11	40
430	1	13	2	18	4	16	4	15	7	14	9	25	7	18	14	41	3	10	16	66	4	10	29	82	3	16	18	49
445	2	11	1	13	5	14	8	19	9	21	17	32	8	23	14	50	15	23	22	69	7	13	36	105	4	15	27	67
500	2	7	5	14	11	23	6	22	6	24	7	34	8	25	16	57	9	28	26	81	6	19	46	135	3	11	22	78
515	3	8	5	13	4	24	13	31	5	27	14	47	10	33	20	64	7	34	37	101	5	22	58	169	9	19	47	114
530	4	11	1	12	15	35	9	36	12	32	21	59	12	38	26	76	19	50	57	142	13	31	81	221	7	23	32	128
545	6	15	6	17	14	44	12	40	20	43	23	65	15	45	39	101	18	53	72	192	16	40	59	244	9	28	26	127
600	11	24	9	21	25	58	24	58	26	63	26	84	19	56	53	138	27	71	69	235	24	58	69	267	13	38	37	142
615	4	25	6	22	16	70	23	68	20	78	50	120	23	69	88	206	18	82	73	271	24	77	51	260	7	36	37	132
630	12	33	9	30	25	80	32	91	32	98	73	172	28	85	87	267	28	91	59	273	27	91	74	253	7	36	50	150
645	5	32	9	33	26	92	44	123	34	112	85	234	37	107	62	290	29	102	83	284	28	103	75	269	7	34	46	170
700	7	28	4	28	44	111	46	145	42	128	86	294	43	131	55	292	56	131	67	282	41	120	91	291	20	41	57	190
715	10	34	8	30	48	143	96	218	60	168	84	328	16	124	67	271	62	175	87	296	52	148	92	332	24	58	52	205
730	13	35	12	33	74	192	66	252	77	213	76	331	71	167	61	245	87	234	88	325	70	191	108	366	15	66	56	211
745	8	38	10	34	73	239	74	282	70	249	63	309	63	193	82	265	72	277	87	329	81	244	88	379	24	83	41	206
800	15	46	11	41	115	310	73	309	97	304	71	294	75	225	69	279	88	309	72	334	100	303	85	373	27	90	51	200
815	20	56	5	38	106	368	71	284	120	364	83	293	77	286	72	284	92	339	71	318	117	368	103	384	33	99	57	205
830	10	53	18	44	104	398	72	290	125	412	85	302	75	290	88	311	132	384	82	312	118	416	103	379	28	112	53	202
845	19	64	8	42	116	441	72	288	142	484	89	328	81	308	62	291	122	434	82	307	96	431	97	388	26	114	65	226
900	24	73	8	39	115	441	77	292	96	483	83	340	86	319	79	301	110	456	111	346	89	420	96	399	44	131	44	219
915	27	80	29	63	107	442	88	309	99	462	71	328	87	329	81	310	108	472	103	378	101	404	105	401	47	145	51	213
930	17	87	24	69	93	431	66	303	99	436	89	332	86	340	80	302	97	437	87	383	98	384	120	418	44	161	56	216
945	32	100	31	92	115	430	79	310	126	420	111	354	92	351	90	330	110	425	104	405	102	390	111	432	34	169	55	206
1000	28	104	21	105	107	422	87	320	106	430	91	362	97	362	110	361	93	408	110	404	128	429	96	432	56	181	65	227
1015	29	106	27	103	108	423	96	328	118	449	95	386	105	380	111	391	136	436	106	407	106	434	112	439	59	193	56	232
1030	25	114	38	117	114	444	84	346	115	465	97	394	90	384	79	390	98	437	77	397	103	439	113	432	58	207	60	236
1045	41	123	39	125	117	446	97	364	122	461	102	385	119	411	99	399	129	456	93	386	134	471	112	433	56	229	87	268
1100	42	137	38	142	117	456	86	363	127	482	112	406	118	432	96	385	126	489	98	374	130	473	124	461	57	230	64	267
1115	36	144	44	159	117	465	99	366	110	474	91	402	101	428	91	365	110	463	115	383	95	462	100	449	62	233	68	279
1130	23	142	37	158	114	465	125	407	126	485	77	382	91	429	89	375	123	488	93	399	136	495	93	429	61	236	67	286
1145	50	151	42	161	149	497	87	397	118	481	94	374	151	461	83	359	154	513	84	390	122	483	114	431	72	252	62	261
1200	44	153	37	160	153	533	100	411	112	466	94	356	139	482	82	345	120	507	89	381	133	486	124	431	53	248	50	247
1215	39	156	45	161	152	568	105	417	149	505	82	347	159	540	73	327	156	553	94	360	141	532	127	458	63	249	45	224
1230	38	171	66	190	132	586	94	386	106	485	91	361	104	553	92	330	135	565	93	360	145	541	123	488	69	257	54	211
1245	48	169	37	185	125	562	117	416	121	488	87	354	117	519	72	319	138	549	72	348	140	559	85	459	72	257	47	196
1300	39	164	46	194	155	564	93	409	136	512	79	339	123	503	89	326	143	572	94	353	138	564	109	444	56	260	59	205
1315	53	178	55	204	171	583	84	388	146	509	79	336	111	455	88	341	27	443	90	349	129	552	93	410	73	270	66	226
1330	50	190	49	187	134	585	94	388	134	537	103	348	109	460	87	336	133	441	92	348	130	537	113	400	39	240	47	219
1345	39	181	42	192	125	585	82	353	116	532	98	359	107	450	83	347	97	400	103	379	145	542	110	425	59	227	60	232
1400	43	185	36	182	152	582	93	353	141	537	100	380	110	437	98	356	97	354	91	376	147	551	94	410	68	239	57	230
1415	60	192	53	180	139	550	102	371	113	504	104	405	113	439	98	366	147	474	54	340	140	562	97	414	67	233	46	210
1430	49	191	34	165	153	569	104	381	133	503	69	371	112	442	90	369	142	483	71	319	125	557	98	399	52	246	47	210
1445	55	207	50	173	142	586	129	428	142	529	87	360	114	449	100	386	138	524	79	295	152	564	85	374	54	241	45	195
1500	48	212	35	172	132	566	112	447	109	497	108	368	117	456	84	372	114	541	72	276	141	558	59	339	55	228	41	179
1515	61	213	50	169	127	554	86	431	121	505	80	344	111	454	73	347	135	529	60	282	162	580	53	295	51	212	36	169
1530	45	209	33	168	141	542	69	396	122	494	78	353	124	466	73	330	128	515	49	260	137	592	51	248	36	196	39	161
1545	48	202	40	158	179	579	82	349	128	480	81	347	125	477	49	279	143	520	33	214	149	589	46	209	64	206	40	156
1600	34	188	35	158	132	579	87	324	133	504	66	305	111	471	56	251	131	537	33	175	135	583	56	206	46	197	42	157
1615	44	171	49	157	165	617	89	327	146	529	58	283	138	498	39	217	156	558	36	151	150	571	47	200	61	207	41	162
1630	36	162	46	170	111	587	72	330	134	541	52	257	113	487	24	168	106	536	29	131	145	579	35	184	35	206	38	161
1645	45	159	36	166	136	544	61	309	144	557	39	215	115	477	44	163	144	537	26	124	135	565	36	174	69	211	31	152
1700	34	159	22	153	93	505	40	262	127	551	27	176	112	478	25	132	110	516	24	115	134	564	34	152	47	212	31	141
1715	28	143	28	132	172	512	38	211	151	556	41	159	163	503	34	127	167	527	22	101	188	602	36	141	63	214	36	136
1730	30	137	30	116	103	504	39	178	109	531	34	141	91	481	20	123	109	530	20	92	112	569	56	162	42	221	28	126
1745	34	126	18	98	100	468	44	161	79	466	36	138	62	428	23	102	81	467	21	87	92	526	35	161	45	197	42	137
1800	25	117	25	101	54	429	34	155	60	399	25	136	67	383	21	98	57	414	27	90	64	456	25	152	52	202	30	136
1815	18	107	19	92	42	299	23	140	52	300	20	115	54	274	17	81	56	303	26	94	63	331	25	141	36	175	34	134
1830	24	101	17	79	38	234	23	124	44	235	23	104	33	216	35	96	54	248	12	86	42	261	39	124	29	162	28	134
1845	20	87	16	77	37	171	15	95	42	198	21	89	38	192	34	107	38	205	15	80	46	215	29	118	37	154	24	116
1900	24	86	23	75	27	144	24	85	35	173	23	87	31	156	21	107	30	178	26	79	35	186	20	113	30	132	33	119
1915	20	88	9	65	26	128	18	80	38	159	22	89	35	137	22	112	24	146	16	69	39	162	23	111	27	123	38	123
1930	29	93	20	68	18	108	10	67	30	145	16	82	40	144	19	96	26	118	16	73	38	158	17	89	28	122	34	129
1945	20	93	22	74	27	98	25	77	37	140	22	83	22	128	13	75	29	109	11	69	37	149	25	85	23	108	13	118
2000	18	87	22	73	22	93	25	78	17	122	16	76	17	114	10	64	16	95	14	57	34	148	18	83	25	103	0	85
2015	23	90	19	83	18	85	23	83	11	95	14	68	20	99	16	58	22	93	12	53	27	136	27	87	33	109	0	47
2030	17	78	14	77	16	83	15	88	21	86	16	68	16	75	18	57	13	80	19	56	41	139	20	90	33	114	0	13
2045	18	76	11	66	27	83	15	78	22	71	13	59	27	80	23	67	22	73	8	53	33	135	15	80	26	117	0	0
2100	11	69	11	55	16	77	15	68	17	71	19	62	23	86	8	65	13	70	9	48	26	127	28	90	36	128	0	0
2115	10	56	7	43	21	80	13	58	9	69	16	64	23	89	13	62	22	70	9	45	24	124	17	80	22	117	0	0
2130	11	50	8	37	15	79	10	53	15	63	11	59	14	87	7	51	14	71	10	36	19	102	22	82	24	108	0	0
2145	11	43	12	38	14	66	8	46	18	59	9	55	23	83	11	39	16	65	11	39	31	100	14	81	25	107	0	0
2200	19	51	12	39	18	68	3	34	21	63	14	50	15	75	7	38	13	65	2	32	32	106	18	71	34	105	0	0
2215	7	48	14	46	14	61	11	32	34	88	8	42	45	97	8	33	20	63	7	30	26	108	10	64	54	137	0	0
2230	7	44	12	50	5	51	7	29	12	85	6	37	21	104	8	34	18	67	3	23	28	117	23	65	54	167	0	0
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2300	7	28	9	54	11	39	8	31	16	72	4	22	7	84	7	28	22	78	7	22	19	96	18	59	18	152	0	0
2315	10	31	11	51	13	38	3	23	11	49	6	20	20	59	11	31	23	81	14	29	19	89	6	55	24	122	0	0
2330	8	32	8	47	6	39	7	23	9	46	1	15	12	50	9	32	10	73	6	32	13	74	8	40	30	98	0	0
2345	6	31	7	35	5	35	12	30	2	38	6	17	10	49	10	37	12	67	6	33	15	66	7	39	10	82	0	0
TOTAL	2,073	N/A	2,064	N/A	6,086	N/A	4,260	N/A	6,010	N/A	4,260	N/A	5,423	N/A	4,113	N/A	5,976	N/A	4,191	N/A	6,403	N/A	5,033	N/A	3,135	N/A	2,926	N/A
AM	100		92		442		310		484		354		351		330		472		405		431		432		169		226	
NOON	207		204		586		428		537		406		553		399		572		407		564		488		270		286	
PM	213		172		617		447		557		368		503		372		558		282		602		339		228		179	
EVEN	90		83		93		88		122		76		114		67		95		57		148		90		168		85	

Telephone: (510) 232-1271 *Fax: (510) 232-1272*

Data File: 'VanNess_NO_Inyo_NB_031809.rdf'
Site Code: '000000000000'
Start Date: 3/19/2009
Start Time: 12:00 AM
Sensor Layout: '11'

'LOCATION': 'Van Ness'
'CROSS ST': 'N/O Inyo'
'COUNT': 'Downtown Study'

Thursday			Friday			Saturday			Sunday		
Date	Time	NB	Date	Time	NB	Date	Time	NB	Date	Time	NB
3/19/2009	12:00 AM	39	3/20/2009	12:00 AM	30	3/21/2009	12:00 AM	71	3/22/2009	12:00 AM	60
3/19/2009	1:00 AM	14	3/20/2009	1:00 AM	23	3/21/2009	1:00 AM	40	3/22/2009	1:00 AM	58
3/19/2009	2:00 AM	7	3/20/2009	2:00 AM	12	3/21/2009	2:00 AM	24	3/22/2009	2:00 AM	27
3/19/2009	3:00 AM	4	3/20/2009	3:00 AM	8	3/21/2009	3:00 AM	11	3/22/2009	3:00 AM	13
3/19/2009	4:00 AM	19	3/20/2009	4:00 AM	25	3/21/2009	4:00 AM	12	3/22/2009	4:00 AM	5
3/19/2009	5:00 AM	61	3/20/2009	5:00 AM	76	3/21/2009	5:00 AM	30	3/22/2009	5:00 AM	18
3/19/2009	6:00 AM	122	3/20/2009	6:00 AM	110	3/21/2009	6:00 AM	45	3/22/2009	6:00 AM	41
3/19/2009	7:00 AM	390	3/20/2009	7:00 AM	371	3/21/2009	7:00 AM	104	3/22/2009	7:00 AM	60
3/19/2009	8:00 AM	506	3/20/2009	8:00 AM	458	3/21/2009	8:00 AM	148	3/22/2009	8:00 AM	85
3/19/2009	9:00 AM	430	3/20/2009	9:00 AM	430	3/21/2009	9:00 AM	227	3/22/2009	9:00 AM	143
3/19/2009	10:00 AM	425	3/20/2009	10:00 AM	426	3/21/2009	10:00 AM	242	3/22/2009	10:00 AM	155
3/19/2009	11:00 AM	487	3/20/2009	11:00 AM	543	3/21/2009	11:00 AM	318	3/22/2009	11:00 AM	216
3/19/2009	12:00 PM	501	3/20/2009	12:00 PM	499	3/21/2009	12:00 PM	284	3/22/2009	12:00 PM	292
3/19/2009	1:00 PM	528	3/20/2009	1:00 PM	564	3/21/2009	1:00 PM	330	3/22/2009	1:00 PM	312
3/19/2009	2:00 PM	484	3/20/2009	2:00 PM	534	3/21/2009	2:00 PM	298	3/22/2009	2:00 PM	249
3/19/2009	3:00 PM	471	3/20/2009	3:00 PM	551	3/21/2009	3:00 PM	291	3/22/2009	3:00 PM	200
3/19/2009	4:00 PM	382	3/20/2009	4:00 PM	485	3/21/2009	4:00 PM	230	3/22/2009	4:00 PM	151
3/19/2009	5:00 PM	331	3/20/2009	5:00 PM	402	3/21/2009	5:00 PM	202	3/22/2009	5:00 PM	152
3/19/2009	6:00 PM	193	3/20/2009	6:00 PM	283	3/21/2009	6:00 PM	182	3/22/2009	6:00 PM	101
3/19/2009	7:00 PM	150	3/20/2009	7:00 PM	196	3/21/2009	7:00 PM	177	3/22/2009	7:00 PM	91
3/19/2009	8:00 PM	115	3/20/2009	8:00 PM	222	3/21/2009	8:00 PM	135	3/22/2009	8:00 PM	61
3/19/2009	9:00 PM	88	3/20/2009	9:00 PM	238	3/21/2009	9:00 PM	192	3/22/2009	9:00 PM	60
3/19/2009	10:00 PM	91	3/20/2009	10:00 PM	179	3/21/2009	10:00 PM	168	3/22/2009	10:00 PM	30
3/19/2009	11:00 PM	64	3/20/2009	11:00 PM	132	3/21/2009	11:00 PM	125	3/22/2009	11:00 PM	17
		5,902			6,797			3,886			2,597

Data File: 'VanNess_NO_Inyo_SB_031809.rdf'
Site Code: '000000000000'
Start Date: 3/19/2009
Start Time: 12:00 AM
Sensor Layout: '11'

'LOCATION': 'Van Ness'
'CROSS ST': 'N/O Inyo'
'COUNT': 'Downtown Study'

Thursday			Friday			Saturday			Sunday		
Date	Time	SB	Date	Time	SB	Date	Time	SB	Date	Time	SB
3/19/2009	12:00 AM	20	3/20/2009	12:00 AM	28	3/21/2009	12:00 AM	53	3/22/2009	12:00 AM	53
3/19/2009	1:00 AM	34	3/20/2009	1:00 AM	44	3/21/2009	1:00 AM	62	3/22/2009	1:00 AM	105
3/19/2009	2:00 AM	7	3/20/2009	2:00 AM	16	3/21/2009	2:00 AM	33	3/22/2009	2:00 AM	37
3/19/2009	3:00 AM	4	3/20/2009	3:00 AM	4	3/21/2009	3:00 AM	5	3/22/2009	3:00 AM	8
3/19/2009	4:00 AM	8	3/20/2009	4:00 AM	13	3/21/2009	4:00 AM	8	3/22/2009	4:00 AM	4
3/19/2009	5:00 AM	13	3/20/2009	5:00 AM	11	3/21/2009	5:00 AM	9	3/22/2009	5:00 AM	7
3/19/2009	6:00 AM	43	3/20/2009	6:00 AM	34	3/21/2009	6:00 AM	23	3/22/2009	6:00 AM	8
3/19/2009	7:00 AM	112	3/20/2009	7:00 AM	105	3/21/2009	7:00 AM	42	3/22/2009	7:00 AM	27
3/19/2009	8:00 AM	176	3/20/2009	8:00 AM	146	3/21/2009	8:00 AM	88	3/22/2009	8:00 AM	42
3/19/2009	9:00 AM	219	3/20/2009	9:00 AM	175	3/21/2009	9:00 AM	123	3/22/2009	9:00 AM	61
3/19/2009	10:00 AM	217	3/20/2009	10:00 AM	221	3/21/2009	10:00 AM	153	3/22/2009	10:00 AM	83
3/19/2009	11:00 AM	293	3/20/2009	11:00 AM	293	3/21/2009	11:00 AM	194	3/22/2009	11:00 AM	106
3/19/2009	12:00 PM	287	3/20/2009	12:00 PM	327	3/21/2009	12:00 PM	203	3/22/2009	12:00 PM	150
3/19/2009	1:00 PM	288	3/20/2009	1:00 PM	306	3/21/2009	1:00 PM	188	3/22/2009	1:00 PM	174
3/19/2009	2:00 PM	262	3/20/2009	2:00 PM	305	3/21/2009	2:00 PM	180	3/22/2009	2:00 PM	140
3/19/2009	3:00 PM	285	3/20/2009	3:00 PM	313	3/21/2009	3:00 PM	193	3/22/2009	3:00 PM	160
3/19/2009	4:00 PM	258	3/20/2009	4:00 PM	287	3/21/2009	4:00 PM	148	3/22/2009	4:00 PM	94
3/19/2009	5:00 PM	197	3/20/2009	5:00 PM	269	3/21/2009	5:00 PM	120	3/22/2009	5:00 PM	72
3/19/2009	6:00 PM	147	3/20/2009	6:00 PM	188	3/21/2009	6:00 PM	89	3/22/2009	6:00 PM	67
3/19/2009	7:00 PM	72	3/20/2009	7:00 PM	126	3/21/2009	7:00 PM	97	3/22/2009	7:00 PM	60
3/19/2009	8:00 PM	77	3/20/2009	8:00 PM	124	3/21/2009	8:00 PM	95	3/22/2009	8:00 PM	63
3/19/2009	9:00 PM	53	3/20/2009	9:00 PM	93	3/21/2009	9:00 PM	77	3/22/2009	9:00 PM	33
3/19/2009	10:00 PM	49	3/20/2009	10:00 PM	83	3/21/2009	10:00 PM	90	3/22/2009	10:00 PM	30
3/19/2009	11:00 PM	29	3/20/2009	11:00 PM	78	3/21/2009	11:00 PM	76	3/22/2009	11:00 PM	19
		3,150			3,589			2,349			1,603

B A Y M E T R I C S

HST PROJECT - FRESNO

Date	15-Nov-09 Sunday				16-Nov-09 Monday				17-Nov-09 Tuesday				18-Nov-09 Wednesday				19-Nov-09 Thursday				20-Nov-09 Friday				21-Nov-09 Saturday			
Location	26. On Van Ness Avenue, between Inyo Street and Ventura Avenue																											
Direction	NB		SB		NB		SB		NB		SB		NB		SB		NB		SB		NB		SB		NB		SB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	7	0	5	0	3	0	1	0	5	0	6	0	6	0	6	0	5	0	1	0	1	0	3	0	1	0	2	0
1215	7	0	4	0	2	0	2	0	2	0	5	0	5	0	4	0	1	0	3	0	1	0	0	0	1	0	1	0
1230	6	0	6	0	0	0	2	0	1	0	4	0	5	0	2	0	1	0	4	0	4	0	2	0	2	0	8	0
1245	4	24	10	25	1	6	3	8	1	9	1	16	2	18	1	13	5	12	1	9	0	6	1	6	0	4	2	13
100	3	20	15	35	3	6	4	11	3	7	1	11	0	12	4	11	2	9	0	8	0	5	1	4	2	5	1	12
115	5	18	10	41	3	7	2	11	2	7	3	9	3	10	1	8	2	10	0	5	4	8	1	5	0	4	0	11
130	10	22	30	65	0	7	1	10	0	6	0	5	1	6	1	7	3	12	1	2	1	5	0	3	1	3	0	3
145	6	24	20	75	0	6	1	8	5	10	3	7	0	4	3	9	4	11	3	4	2	7	2	4	4	7	3	4
200	0	21	3	63	2	5	1	5	0	7	5	11	0	4	3	8	2	11	2	6	5	12	0	3	5	10	4	7
215	3	19	6	59	1	3	3	6	0	5	3	11	2	3	1	8	1	10	2	8	5	13	2	4	6	16	2	9
230	3	12	3	32	0	3	3	8	2	7	3	14	1	3	4	11	9	16	5	12	7	19	2	6	14	29	1	10
245	2	8	4	16	0	3	3	10	2	4	2	13	1	4	2	10	8	20	4	13	20	37	3	7	19	44	1	8
300	3	11	3	16	8	9	2	11	2	6	3	11	9	13	0	7	15	33	0	11	23	55	5	12	16	55	2	6
315	1	9	4	14	2	10	2	10	5	11	1	9	17	28	2	8	22	54	3	12	30	80	8	18	8	57	5	9
330	0	6	1	12	1	11	1	8	6	15	4	10	14	41	3	7	24	69	3	10	22	95	1	17	5	48	3	11
345	1	5	2	10	6	17	3	8	10	23	1	9	17	57	2	7	42	103	7	13	25	100	8	22	13	42	3	13
400	0	2	1	8	3	12	2	8	10	31	1	7	19	67	4	11	15	103	3	16	34	111	9	26	20	46	4	15
415	1	2	4	8	8	18	1	7	23	49	0	6	39	89	3	12	23	104	4	17	60	141	14	32	21	59	5	15
430	0	2	1	8	7	24	0	6	23	66	2	4	19	94	6	15	40	120	3	17	61	180	14	45	22	76	11	23
445	1	2	0	6	23	41	1	4	37	93	5	8	24	101	8	21	66	144	20	30	95	250	13	50	25	88	12	32
500	2	4	2	7	14	52	0	2	18	101	3	10	42	124	12	29	71	200	16	43	106	322	22	63	39	107	17	45
515	5	8	1	4	41	85	3	4	26	104	6	16	67	152	15	41	129	306	17	56	157	419	16	65	40	126	25	65
530	9	17	2	5	9	87	8	12	49	130	8	22	71	204	14	49	136	402	26	79	171	529	32	83	27	131	15	69
545	11	27	0	5	27	91	3	14	70	163	16	33	113	293	13	54	149	485	28	87	130	564	17	87	45	151	18	75
600	3	28	5	8	46	123	17	31	82	227	10	40	111	362	28	70	171	585	30	101	130	588	33	98	43	155	15	73
615	5	28	2	9	58	140	17	45	118	319	16	50	141	436	24	79	195	651	18	102	87	518	28	110	58	173	21	69
630	2	21	4	11	100	231	9	46	154	424	22	64	135	500	41	106	142	657	40	116	89	436	34	112	54	200	34	88
645	7	17	2	13	122	326	24	67	175	529	35	83	113	500	43	136	117	625	31	119	127	433	41	136	60	215	25	95
700	7	21	1	9	162	442	19	69	209	656	25	98	102	491	37	145	97	551	36	125	90	393	51	154	57	229	37	117
715	10	26	6	13	166	550	29	81	186	724	25	107	107	457	43	164	84	440	41	148	128	434	35	161	63	234	38	134
730	7	31	8	17	166	616	21	93	133	703	42	127	91	413	32	155	104	402	50	158	91	436	57	184	59	239	35	135
745	16	40	7	22	145	639	36	105	92	620	27	119	82	382	33	145	101	386	41	168	102	411	49	192	61	240	31	141
800	11	44	7	28	121	598	25	111	105	516	44	138	116	396	18	126	89	378	41	173	89	410	41	182	63	246	33	137
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830	17	60	11	29	91	465	43	140	94	386	43	166	88	393	53	139	94	376	49	167	94	396	51	196	67	259	42	144
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900	26	83	5	23	112	411	38	151	79	349	55	191	107	401	50	181	100	376	60	191	127	443	50	225	67	263	30	157
915	40	107	17	36	103	406	44	159	73	327	54	193	86	380	47	193	111	395	54	209	110	442	71	241	66	261	37	156
930	58	148	15	40	91	406	43	159	95	328	43	193	94	386	49	189	101	402	54	214	114	462	73	263	62	256	34	148
945	43	167	14	51	90	396	46	171	98	345	53	205	98	385	49	195	117	429	51	219	118	469	67	261	67	262	55	156
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1045	48	179	14	68	110	399	63	221	94	407	72	221	82	444	58	226	126	459	64	245	122	433	55	255	72	279	61	183
1100	31	172	25	78	125	422	62	237	95	394	74	241	87	401	52	229	110	464	70	250	125	432	81	265	63	274	30	162
1115	52	180	25	91	107	440	65	244	89	386	53	244	98	390	47	211	104	469	65	253	108	442	77	280	39	251	36	162
1130	62	193	33	97	115	457	75	265	109	387	65	264	103	370	55	212	90	430	46	245	95	450	62	275	71	245	38	165
1145	40	185	29	112	126	473	55	257	138	431	49	241	101	389	62	216	111	415	53	234	102	430	72	292	57	230	40	144
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1245	52	192	27	122	116	540	70	245	92	406	52	222	107	390	56	217	98	397	59	225	112	432	53	261	44	219	34	142
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1345	62	216	34	120	96	454	62	235	89	386	51	220	108	412	57	243	92	418	70	243	95	419	73	267	53	200	37	133
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1430	52	221	25	118	94	375	63	239	103	392	59	241	72	365	64	242	93	341	49	251	103	376	77	291	66	209	29	114
1445	63	222	33	117	108	387	73	250	86	389	58	248	85	342	67	252	63	312	86	267	77	358	55	273	55	211	22	99
1500	49	201	25	121	121	415	77	273	91	374	56	242	72	305	70	249	85	326	68	264	67	326	47	252	43	207	27	103
1515	53	217	29	112	96	419	72	285	80	360	60	233	78	307	67	268	54	295	43	246	47	294	37	216	32	196	17	95
1530	35	200	23	110	84	409	52	274	74	331	64	238	52	287	53	257	41	243	43	240	44	235	27	166	36	166	19	85
1545	30	167	28	105	92	393	75	276	74	319	85	265	56	258	50	240	43	223	24	178	53	211	23	134	36	147	9	72
1600	35	153	25	105	79	351	81	280	82	310	47	256	58	244	29	199	45	183	18	128	37	181	24	111	40	144	10	55
1615	47	147	19	95	77	332	82	290	46	276	52	248	49	215	29	161	34	163	18	103	40	174	15	89	26	138	10	48
1630	35	147	38	110	59	307	55	293	36	238	29	213	43	206	14	122	47	169	16	76	37	167	10	72	29	131	10	39
1645	35	152	22	104	57	272	49	267	33	197	27	155	25	175	23	95	30	156	23	75	36	150	5	54	26	121	9	39
1700	33	150	24	103	36	229	28	214	39	154	16	124	40	157	14	80	25	136	14	71	29	142	14	44	37	118	14	43
1715	29	132	30	114	40	192	23	155	40	148	15	87	37	145	16	67	23	125	9	62	25	127	19	48	19	111	8	41
1730	22	119	17	93	37	170	21	121	38	150	17	75	42	144	15	68	19	97	12	58	22	112	16	54	24	106	13	44
1745	24	108	9	80	34	147	18	90	29	146	13	61	16	135	8	53	23	90	8	43	33	109	7	56	22	102	13	48
1800	19	94	9	65	26	137	16	78	21	128	14	59	14	109	16	55	12	77	13	42	24	104	18	60	15	80	19	53
1815	20	85	8	43	26	123	14	69	27	115	12	56	18	90	10	49	15	69	6	39	23	102	17	58	13	74	10	55
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1900	24	76	11	35	18	76	15	45	11	72	7	41	21	73	12	63	13	54	15	40	27	97	6	53	37	102	20	51
1915	13	69	8	35	11	61	9	40	20	65	10	39	18	73	15	68	19	58	6	40	29	103	15	51	12	101	17	58
1930	14	66	14	44	19	64	6	39	17	61	10	35	14	71	10	56	17	64	9	37	8	86	10	39	28	108	15	66
1945	15	66	11	44	17	65	11	41	9	57	9	36	16	69	5	42	16	65	7	37	18	82	12	43	14	91	8	60
2000	12	54	6	39	15	62	7	33	8	54	7	36	12	60	3	33	11	63	9	31	16	71	13	50	22	76	10	50
2015	13	54	7	38	19	70	16	40	16	50	5	31	14	56	7	25	12	56	9	34	19	61	10	45	12	76	4	37
2030	9	49	8	32	11	62	5	39	14	47	8	29	10	52	1	16	14	53	12	37	10	63	9	44	11	59	12	34
2045	12	46	5	26	14	59	13	41	19	57	10	30	8	44	5	16	11	48	7	37	10	55	4	36	18	63	13	39
2100	15	49	2	22	7	51	1	35	12	61	6	29	10	42	2	15	4	41	7	35	7	46	11	34	14	55	5	34
2115	5	41	3	18	5	37	4	23	6	51	4	28	8	36	10	18	9	38	2	28	14	41	8	32	7	50	11	41
2130	6	38	2	12	8	34	8	26	8	45	6	26	6	32	0	17	6	30	3	19	13	44	11	34	6	45	8	37
2145	11	37	6	13	4	24	4	17	7	33	6	22	6	30	3	15	2	21	3	15	7	41	9	39	8	35	12	36
2200	6	28	7	18	4	21	1	17	6	27	2	18	3	23	4	17	8	25	3	11	8	42	6	34	4	25	9	40
2215	6	29	9	24	6	22	6	19	6	27	4	18	5	20	4	11	3	19	4	13	4	32	7	33	3	21	9	38
2230	5	28	6	28	11	25	1	12	5	24	2	14	5	19	10	21	3	16	3	13	5	24	15	37	7	22	9	39
2245	6	23	11	33	4	25	3	11	8	25	1	9	4	17	1	19	1	15	5	15	6	23	6	34	5	19	12	39
2300	3	20	4	30	2	23	4	14	5	24	5	12	7	21	3	18	2	9	7	19	6	21	6	34	1	16	4	34
2315	9	23	2	23	6	23	4	12	5	23	5	13	2	18	4	18	6	12	6	21	6	23	5	32	3	16	7	32
2330	3	21	2	19	2	14	3	14	1	19	4	15	1	14	6	14	6	15	2	20	3	21	1	18	4	13	5	28
2345	1	16	4	12	4	14	4	15	6	17	2	16	4	14	5	18	1	15	4	19	4	19	1	13	5	13	0	16
TOTAL	2,062	N/A	1,237	N/A	5,281	N/A	2,545	N/A	5,123	N/A	2,467	N/A	4,939	N/A	2,458	N/A	5,267	N/A	2,505	N/A	5,538	N/A	2,803	N/A	3,122	N/A	1,797	N/A
AM	167		51		639		171		724		205		500		195		657		219		588		263		263		160	
NOON	243		125		566		265		460		264		460		258		469		267		468		292		279		183	
PM	217		121		419		293		374		265		307		268		326		264		326		252		207		103	
EVEN	54		39		70		41		61		36		60		33		63		37		71		50		76		50	

Telephone: (510) 232-1271 *Fax: (510) 232-1272*

B A Y M E T R I C S

HST PROJECT - FRESNO

Date	15-Nov-09 Sunday				16-Nov-09 Monday				17-Nov-09 Tuesday				18-Nov-09 Wednesday				19-Nov-09 Thursday				20-Nov-09 Friday				21-Nov-09 Saturday			
Location	7. On Stanislaus Street, between Van Ness Avenue and O Street																											
Direction	EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	12	0	0	0	14	0	0	0	12	0	0	0	7	0	0	0	5	0	0	0	6	0	0	0	7	0
1215	0	0	13	0	0	0	7	0	0	0	1	0	0	0	6	0	0	0	8	0	0	0	8	0	0	0	5	0
1230	0	0	8	0	0	0	8	0	0	0	5	0	0	0	4	0	0	0	5	0	0	0	6	0	0	0	9	0
1245	0	0	9	42	0	0	4	33	0	0	2	20	0	0	3	20	0	0	4	22	0	0	6	26	0	0	5	26
100	0	0	9	39	0	0	3	22	0	0	6	14	0	0	5	18	0	0	7	24	0	0	2	22	0	0	3	22
115	0	0	6	32	0	0	1	16	0	0	5	18	0	0	6	18	0	0	4	20	0	0	2	16	0	0	9	26
130	0	0	3	27	0	0	2	10	0	0	0	13	0	0	3	17	0	0	3	18	0	0	3	13	0	0	4	21
145	0	0	1	19	0	0	2	8	0	0	3	14	0	0	2	16	0	0	5	19	0	0	1	8	0	0	5	21
200	0	0	5	15	0	0	1	6	0	0	3	11	0	0	1	12	0	0	3	15	0	0	0	6	0	0	9	27
215	0	0	4	13	0	0	3	8	0	0	5	11	0	0	4	10	0	0	1	12	0	0	4	8	0	0	6	24
230	0	0	6	16	0	0	3	9	0	0	1	12	0	0	0	7	0	0	0	9	0	0	2	7	0	0	4	24
245	0	0	3	18	0	0	2	9	0	0	4	13	0	0	3	8	0	0	3	7	0	0	3	9	0	0	7	26
300	0	0	3	16	0	0	2	10	0	0	2	12	0	0	3	10	0	0	5	9	0	0	1	10	0	0	3	20
315	0	0	5	17	0	0	0	7	0	0	0	7	0	0	2	8	0	0	4	12	0	0	1	7	0	0	4	18
330	0	0	0	11	0	0	2	6	0	0	3	9	0	0	3	11	0	0	1	13	0	0	1	6	0	0	3	17
345	0	0	5	13	0	0	4	8	0	0	3	8	0	0	4	12	0	0	5	15	0	0	6	9	0	0	0	10
400	0	0	4	14	0	0	8	14	0	0	7	13	0	0	7	16	0	0	6	16	0	0	5	13	0	0	4	11
415	0	0	3	12	0	0	6	20	0	0	7	20	0	0	7	21	0	0	10	22	0	0	7	19	0	0	3	10
430	0	0	3	15	0	0	11	29	0	0	10	27	0	0	13	31	0	0	9	30	0	0	8	26	0	0	4	11
445	0	0	4	14	0	0	12	37	0	0	13	37	0	0	14	41	0	0	12	37	0	0	13	33	0	0	2	13
500	0	0	3	13	0	0	7	36	0	0	8	38	0	0	9	43	0	0	10	41	0	0	9	37	0	0	4	13
515	0	0	3	13	0	0	11	41	0	0	10	41	0	0	8	44	0	0	12	43	0	0	9	39	0	0	6	16
530	0	0	10	20	0	0	17	47	0	0	15	46	0	0	17	48	0	0	13	47	0	0	13	44	0	0	7	19
545	0	0	12	28	0	0	10	45	0	0	11	44	0	0	14	48	0	0	15	50	0	0	14	45	0	0	6	23
600	0	0	2	27	0	0	17	55	0	0	19	55	0	0	15	54	0	0	14	54	0	0	18	54	0	0	6	25
615	0	0	3	27	0	0	20	64	0	0	18	63	0	0	19	65	0	0	21	63	0	0	19	64	0	0	3	22
630	0	0	4	21	0	0	26	73	0	0	25	73	0	0	23	71	0	0	24	74	0	0	28	79	0	0	5	20
645	0	0	12	21	0	0	32	95	0	0	29	91	0	0	29	86	0	0	34	93	0	0	27	92	0	0	7	21
700	0	0	12	31	0	0	49	127	0	0	46	118	0	0	39	110	0	0	35	114	0	0	34	108	0	0	12	27
715	0	0	13	41	0	0	38	145	0	0	41	141	0	0	41	132	0	0	47	140	0	0	47	136	0	0	11	35
730	0	0	7	44	0	0	55	174	0	0	53	169	0	0	57	166	0	0	53	169	0	0	53	161	0	0	13	43
745	0	0	16	48	0	0	73	215	0	0	67	207	0	0	69	206	0	0	71	206	0	0	67	201	0	0	14	50
800	0	0	15	51	0	0	90	256	0	0	87	248	0	0	87	254	0	0	77	248	0	0	88	255	0	0	15	53
815	0	0	14	52	0	0	88	306	0	0	91	298	0	0	91	304	0	0	89	290	0	0	93	301	0	0	17	59
830	0	0	16	61	0	0	80	331	0	0	89	334	0	0	87	334	0	0	76	313	0	0	87	335	0	0	14	60
845	0	0	17	62	0	0	67	325	0	0	76	343	0	0	73	338	0	0	69	311	0	0	79	347	0	0	16	62
900	0	0	30	77	0	0	70	305	0	0	68	324	0	0	68	319	0	0	63	297	0	0	73	332	0	0	24	71
915	0	0	22	85	0	0	51	268	0	0	54	287	0	0	56	284	0	0	62	270	0	0	64	303	0	0	27	81
930	0	0	25	94	0	0	66	254	0	0	52	250	0	0	63	260	0	0	68	262	0	0	59	275	0	0	21	88
945	0	0	17	94	0	0	48	235	0	0	61	235	0	0	57	244	0	0	66	259	0	0	59	255	0	0	23	95
1000	0	0	33	97	0	0	68	233	0	0	69	236	0	0	59	235	0	0	89	285	0	0	63	245	0	0	32	103
1015	0	0	31	106	0	0	71	253	0	0	73	255	0	0	77	256	0	0	64	287	0	0	74	255	0	0	32	108
1030	0	0	34	115	0	0	75	262	0	0	72	275	0	0	74	267	0	0	61	280	0	0	81	277	0	0	37	124
1045	0	0	23	121	0	0	68	282	0	0	71	285	0	0	72	282	0	0	71	285	0	0	77	295	0	0	34	135
1100	0	0	37	125	0	0	88	302	0	0	83	299	0	0	76	299	0	0	70	266	0	0	69	301	0	0	35	138
1115	0	0	29	123	0	0	77	308	0	0	87	313	0	0	90	312	0	0	75	277	0	0	83	310	0	0	36	142
1130	0	0	32	121	0	0	89	322	0	0	81	322	0	0	81	319	0	0	77	293	0	0	82	311	0	0	29	134
1145	0	0	31	129	0	0	88	342	0	0	88	339	0	0	82	329	0	0	79	301	0	0	93	327	0	0	33	133
1200	0	0	31	123	0	0	87	341	0	0	79	335	0	0	93	346	0	0	84	315	0	0	81	339	0	0	37	135
1215	0	0	45	139	0	0	105	369	0	0	82	330	0	0	76	332	0	0	81	321	0	0	89	345	0	0	38	137
1230	0	0	33	140	0	0	64	344	0	0	67	316	0	0	69	320	0	0	72	316	0	0	85	348	0	0	41	149
1245	0	0	45	154	0	0	100	356	0	0	69	297	0	0	73	311	0	0	70	307	0	0	91	346	0	0	39	155
1300	0	0	43	166	0	0	74	343	0	0	83	301	0	0	72	290	0	0	83	306	0	0	86	351	0	0	42	160
1315	0	0	38	159	0	0	98	336	0	0	81	300	0	0	93	307	0	0	84	309	0	0	99	361	0	0	38	160
1330	0	0	43	169	0	0	80	352	0	0	85	318	0	0	81	319	0	0	79	316	0	0	95	371	0	0	47	166
1345	0	0	54	178	0	0	86	338	0	0	94	343	0	0	90	336	0	0	83	329	0	0	83	363	0	0	52	179
1400	0	0	43	178	0	0	81	345	0	0	76	336	0	0	75	339	0	0	77	323	0	0	85	362	0	0	49	186
1415	0	0	33	173	0	0	74	321	0	0	67	322	0	0	64	310	0	0	73	312	0	0	81	344	0	0	38	186
1430	0	0	29	159	0	0	73	314	0	0	88	325	0	0	82	311	0	0	71	304	0	0	72	321	0	0	43	182
1445	0	0	34	139	0	0	92	320	0	0	87	318	0	0	87	308	0	0	90	311	0	0	79	317	0	0	45	175
1500	0	0	35	131	0	0	77	316	0	0	91	333	0	0	76	309	0	0	72	306	0	0	86	318	0	0	47	173
1515	0	0	39	137	0	0	101	343	0	0	97	363	0	0	106	351	0	0	89	322	0	0	97	334	0	0	37	172
1530	0	0	36	144	0	0	91	361	0	0	84	359	0	0	89	358	0	0	91	342	0	0	93	355	0	0	29	158
1545	0	0	20	130	0	0	98	367	0	0	83	355	0	0	83	354	0	0	86	338	0	0	97	373	0	0	42	155
1600	0	0	36	131	0	0	79	369	0	0	92	356	0	0	83	361	0	0	94	360	0	0	91	378	0	0	39	147
1615	0	0	38	130	0	0	101	369	0	0	91	350	0	0	102	357	0	0	97	368	0	0	107	388	0	0	43	153
1630	0	0	30	124	0	0	102	380	0	0	86	352	0	0	86	354	0	0	91	368	0	0	101	396	0	0	51	175
1645	0	0	38	142	0	0	107	389	0	0	94	363	0	0	95	366	0	0	99	381	0	0	98	397	0	0	42	175
1700	0	0	39	145	0	0	104	414	0	0	99	370	0	0	108	391	0	0	97	384	0	0	111	417	0	0	53	189
1715	0	0	35	142	0	0	131	444	0	0	113	392	0	0	129	418	0	0	101	388	0	0	123	433	0	0	39	185
1730	0	0	42	154	0	0	104	446	0	0	109	415	0	0	106	438	0	0	95	392	0	0	117	449	0	0	43	177
1745	0	0	27	143	0	0	90	429	0	0	74	395	0	0	55	398	0	0	86	379	0	0	94	445	0	0	28	163
1800	0	0	22	126	0	0	62	387	0	0	67	363	0	0	68	358	0	0	71	353	0	0	56	390	0	0	43	153
1815	0	0	26	117	0	0	59	315	0	0	65	315	0	0	65	294	0	0	61	313	0	0	64	331	0	0	34	148
1830	0	0	29	104	0	0	60	271	0	0	54	260	0	0	46	234	0	0	53	271	0	0	65	279	0	0	40	145
1845	0	0	28	105	0	0	47	228	0	0	67	253	0	0	62	241	0	0	59	244	0	0	63	248	0	0	49	166
1900	0	0	29	112	0	0	37	203	0	0	56	242	0	0	46	219	0	0	53	226	0	0	47	239	0	0	29	152
1915	0	0	20	106	0	0	33	177	0	0	29	206	0	0	36	190	0	0	48	213	0	0	41	216	0	0	23	141
1930	0	0	10	87	0	0	30	147	0	0	31	183	0	0	25	169	0	0	33	193	0	0	30	181	0	0	33	134
1945	0	0	22	81	0	0	38	138	0	0	30	146	0	0	30	137	0	0	31	165	0	0	29	147	0	0	23	108
2000	0	0	16	68	0	0	29	130	0	0	27	117	0	0	25	116	0	0	29	141	0	0	33	133	0	0	25	104
2015	0	0	25	73	0	0	30	127	0	0	28	116	0	0	35	115	0	0	42	135	0	0	40	132	0	0	30	111
2030	0	0	12	75	0	0	41	138	0	0	42	127	0	0	55	145	0	0	39	141	0	0	34	136	0	0	23	101
2045	0	0	12	65	0	0	39	139	0	0	39	136	0	0	41	156	0	0	37	147	0	0	35	142	0	0	14	92
2100	0	0	11	60	0	0	25	135	0	0	24	133	0	0	23	154	0	0	34	152	0	0	27	136	0	0	20	87
2115	0	0	16	51	0	0	17	122	0	0	24	129	0	0	25	144	0	0	21	131	0	0	29	125	0	0	20	77
2130	0	0	15	54	0	0	15	96	0	0	9	96	0	0	11	100	0	0	18	110	0	0	18	109	0	0	14	68
2145	0	0	6	48	0	0	18	75	0	0	12	69	0	0	10	69	0	0	12	85	0	0	21	95	0	0	24	78
2200	0	0	14	51	0	0	19	69	0	0	11	56	0	0	7	53	0	0	9	60	0	0	14	82	0	0	22	80
2215	0	0	14	49	0	0	5	57	0	0	6	38	0	0	12	40	0	0	10	49	0	0	7	60	0	0	21	81
2230	0	0	22	56	0	0	10	52	0	0	10	39	0	0	11	40	0	0	9	40	0	0	8	50	0	0	18	85
2245	0	0	6	56	0	0	7	41	0	0	7	34	0	0	8	38	0	0	7	35	0	0	9	38	0	0	16	77
2300	0	0	10	52	0	0	4	26	0	0	4	27	0	0	7	38	0	0	10	36	0	0	3	27	0	0	15	70
2315	0	0	12	50	0	0	11	32	0	0	11	32	0	0	6	32	0	0	7	33	0	0	8	28	0	0	12	61
2330	0	0	9	37	0	0	4	26	0	0	4	26	0	0	3	24	0	0	4	28	0	0	7	27	0	0	16	59
2345	0	0	8	39	0	0	3	22	0	0	3	22	0	0	4	20	0	0	3	24	0	0	2	20	0	0	10	53
TOTAL	0	N/A	1,889	N/A	0	N/A	4,476	N/A	0	N/A	4,367	N/A	0	N/A	4,364	N/A	0	N/A	4,350	N/A	0	N/A	4,578	N/A	0	N/A	2,191	N/A
AM	0		94		0		331		0		343		0		338		0		313		0		347		0		95	
NOON	0		178		0		369		0		343		0		346		0		329		0		371		0		186	
PM	0		154		0		446		0		415		0		438		0		392		0		449		0		189	
EVEN	0		75		0		139		0		136		0		156		0		152		0		142		0		111	

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B A Y M E T R I C S

HST PROJECT - FRESNO

Date	15-Nov-09 Sunday				16-Nov-09 Monday				17-Nov-09 Tuesday				18-Nov-09 Wednesday				19-Nov-09 Thursday				20-Nov-09 Friday				21-Nov-09 Saturday			
Location	11. On Stanislaus Street, between Broadway Street and E Street																											
Direction	EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	0	0	35	0	0	0	28	0	0	0	19	0	0	0	22	0	0	0	22	0	0	0	22	0	0	0	28	0
1215	0	0	25	0	0	0	11	0	0	0	27	0	0	0	17	0	0	0	28	0	0	0	19	0	0	0	44	0
1230	0	0	27	0	0	0	20	0	0	0	20	0	0	0	18	0	0	0	17	0	0	0	17	0	0	0	22	0
1245	0	0	20	107	0	0	2	61	0	0	35	101	0	0	33	90	0	0	31	98	0	0	38	96	0	0	45	139
100	0	0	29	101	0	0	9	42	0	0	19	101	0	0	15	83	0	0	15	91	0	0	18	92	0	0	32	143
115	0	0	50	126	0	0	2	33	0	0	49	123	0	0	61	127	0	0	65	128	0	0	61	134	0	0	63	162
130	0	0	30	129	0	0	6	19	0	0	18	121	0	0	20	129	0	0	27	138	0	0	28	145	0	0	55	195
145	0	0	73	182	0	0	17	34	0	0	11	97	0	0	14	110	0	0	16	123	0	0	17	124	0	0	15	165
200	0	0	38	191	0	0	9	34	0	0	12	90	0	0	19	114	0	0	11	119	0	0	8	114	0	0	22	155
215	0	0	20	161	0	0	7	39	0	0	9	50	0	0	10	63	0	0	18	72	0	0	10	63	0	0	26	118
230	0	0	15	146	0	0	10	43	0	0	10	42	0	0	7	50	0	0	9	54	0	0	9	44	0	0	16	79
245	0	0	11	84	0	0	10	36	0	0	4	35	0	0	11	47	0	0	12	50	0	0	13	40	0	0	22	86
300	0	0	12	58	0	0	10	37	0	0	10	33	0	0	2	30	0	0	11	50	0	0	13	45	0	0	5	69
315	0	0	5	43	0	0	13	43	0	0	11	35	0	0	13	33	0	0	7	39	0	0	14	49	0	0	10	53
330	0	0	7	35	0	0	12	45	0	0	10	35	0	0	18	44	0	0	4	34	0	0	21	61	0	0	6	43
345	0	0	5	29	0	0	10	45	0	0	8	39	0	0	11	44	0	0	11	33	0	0	8	56	0	0	8	29
400	0	0	11	28	0	0	9	44	0	0	12	41	0	0	12	54	0	0	12	34	0	0	11	54	0	0	8	32
415	0	0	8	31	0	0	14	45	0	0	15	45	0	0	5	46	0	0	8	35	0	0	10	50	0	0	16	38
430	0	0	3	27	0	0	12	45	0	0	17	52	0	0	14	42	0	0	18	49	0	0	14	43	0	0	10	42
445	0	0	3	25	0	0	12	47	0	0	17	61	0	0	14	45	0	0	16	54	0	0	12	47	0	0	21	55
500	0	0	8	22	0	0	8	46	0	0	21	70	0	0	16	49	0	0	26	68	0	0	20	56	0	0	13	60
515	0	0	3	17	0	0	10	42	0	0	22	77	0	0	19	63	0	0	25	85	0	0	17	63	0	0	11	55
530	0	0	8	22	0	0	14	44	0	0	15	75	0	0	15	64	0	0	24	91	0	0	15	64	0	0	11	56
545	0	0	7	26	0	0	26	58	0	0	21	79	0	0	32	82	0	0	21	96	0	0	19	71	0	0	27	62
600	0	0	7	25	0	0	20	70	0	0	15	73	0	0	20	86	0	0	25	95	0	0	22	73	0	0	15	64
615	0	0	15	37	0	0	39	99	0	0	30	81	0	0	41	108	0	0	36	106	0	0	37	93	0	0	26	79
630	0	0	8	37	0	0	23	108	0	0	27	93	0	0	21	114	0	0	27	109	0	0	24	102	0	0	15	83
645	0	0	13	43	0	0	33	115	0	0	39	111	0	0	26	108	0	0	29	117	0	0	31	114	0	0	21	77
700	0	0	11	47	0	0	46	141	0	0	49	145	0	0	51	139	0	0	38	130	0	0	48	140	0	0	22	84
715	0	0	15	47	0	0	47	149	0	0	58	173	0	0	56	154	0	0	56	150	0	0	51	154	0	0	22	80
730	0	0	9	48	0	0	56	182	0	0	72	218	0	0	55	188	0	0	68	191	0	0	62	192	0	0	15	80
745	0	0	23	58	0	0	60	209	0	0	81	260	0	0	83	245	0	0	76	238	0	0	77	238	0	0	19	78
800	0	0	14	61	0	0	87	250	0	0	83	294	0	0	86	280	0	0	86	286	0	0	77	267	0	0	26	82
815	0	0	20	66	0	0	76	279	0	0	78	314	0	0	87	311	0	0	93	323	0	0	86	302	0	0	29	89
830	0	0	20	77	0	0	79	302	0	0	88	330	0	0	69	325	0	0	84	339	0	0	73	313	0	0	22	96
845	0	0	17	71	0	0	57	299	0	0	80	329	0	0	72	314	0	0	72	335	0	0	84	320	0	0	32	109
900	0	0	25	82	0	0	67	279	0	0	94	340	0	0	79	307	0	0	74	323	0	0	72	315	0	0	36	119
915	0	0	21	83	0	0	88	291	0	0	92	354	0	0	94	314	0	0	91	321	0	0	88	317	0	0	47	137
930	0	0	31	94	0	0	91	303	0	0	75	341	0	0	86	331	0	0	70	307	0	0	92	336	0	0	38	153
945	0	0	26	103	0	0	78	324	0	0	62	323	0	0	76	335	0	0	85	320	0	0	93	345	0	0	31	152
1000	0	0	33	111	0	0	89	346	0	0	87	316	0	0	115	371	0	0	96	342	0	0	76	349	0	0	41	157
1015	0	0	30	120	0	0	85	343	0	0	86	310	0	0	76	353	0	0	73	324	0	0	99	360	0	0	38	148
1030	0	0	38	127	0	0	108	360	0	0	88	323	0	0	102	369	0	0	88	342	0	0	100	368	0	0	65	175
1045	0	0	79	180	0	0	86	368	0	0	95	356	0	0	83	376	0	0	103	360	0	0	100	375	0	0	70	214
1100	0	0	59	206	0	0	99	378	0	0	101	370	0	0	95	356	0	0	129	393	0	0	95	394	0	0	51	224
1115	0	0	35	211	0	0	117	410	0	0	134	418	0	0	102	382	0	0	124	444	0	0	128	423	0	0	61	247
1130	0	0	43	216	0	0	120	422	0	0	123	453	0	0	94	374	0	0	100	456	0	0	162	485	0	0	71	253
1145	0	0	43	180	0	0	125	461	0	0	128	486	0	0	115	406	0	0	118	471	0	0	117	502	0	0	59	242
1200	0	0	39	160	0	0	117	479	0	0	126	511	0	0	109	420	0	0	120	462	0	0	112	519	0	0	51	242
1215	0	0	46	171	0	0	153	515	0	0	156	533	0	0	133	451	0	0	160	498	0	0	142	533	0	0	57	238
1230	0	0	53	181	0	0	108	503	0	0	99	509	0	0	117	474	0	0	111	509	0	0	126	497	0	0	48	215
1245	0	0	112	250	0	0	124	502	0	0	110	491	0	0	96	455	0	0	124	515	0	0	131	511	0	0	55	211
1300	0	0	74	285	0	0	122	507	0	0	125	490	0	0	100	446	0	0	118	513	0	0	118	517	0	0	67	227
1315	0	0	71	310	0	0	121	475	0	0	97	431	0	0	127	440	0	0	144	497	0	0	126	501	0	0	60	230
1330	0	0	59	316	0	0	111	478	0	0	110	442	0	0	106	429	0	0	123	509	0	0	127	502	0	0	79	261
1345	0	0	70	274	0	0	141	495	0	0	146	478	0	0	141	474	0	0	145	530	0	0	150	521	0	0	57	263
1400	0	0	49	249	0	0	120	493	0	0	107	460	0	0	114	488	0	0	118	530	0	0	125	528	0	0	73	269
1415	0	0	62	240	0	0	130	502	0	0	118	481	0	0	122	483	0	0	130	516	0	0	131	533	0	0	72	281
1430	0	0	45	226	0	0	114	505	0	0	142	513	0	0	138	515	0	0	139	532	0	0	118	524	0	0	67	269
1445	0	0	57	213	0	0	158	522	0	0	159	526	0	0	140	514	0	0	168	555	0	0	175	549	0	0	62	274
1500	0	0	38	202	0	0	121	523	0	0	118	537	0	0	126	526	0	0	141	578	0	0	143	567	0	0	68	269
1515	0	0	55	195	0	0	157	550	0	0	154	573	0	0	149	553	0	0	162	610	0	0	138	574	0	0	70	267
1530	0	0	52	202	0	0	127	563	0	0	123	554	0	0	159	574	0	0	120	591	0	0	143	599	0	0	67	267
1545	0	0	53	198	0	0	184	589	0	0	193	588	0	0	184	618	0	0	199	622	0	0	165	589	0	0	59	264
1600	0	0	37	197	0	0	148	616	0	0	164	634	0	0	136	628	0	0	147	628	0	0	150	596	0	0	56	252
1615	0	0	50	192	0	0	181	640	0	0	192	672	0	0	159	638	0	0	172	638	0	0	192	650	0	0	58	240
1630	0	0	48	188	0	0	162	675	0	0	157	706	0	0	162	641	0	0	167	685	0	0	158	665	0	0	70	243
1645	0	0	47	182	0	0	196	687	0	0	202	715	0	0	187	644	0	0	179	665	0	0	187	687	0	0	35	219
1700	0	0	57	202	0	0	184	723	0	0	170	721	0	0	152	660	0	0	172	690	0	0	162	699	0	0	61	224
1715	0	0	50	202	0	0	283	825	0	0	297	826	0	0	261	762	0	0	272	790	0	0	239	746	0	0	61	227
1730	0	0	56	210	0	0	205	868	0	0	196	865	0	0	177	777	0	0	160	783	0	0	192	780	0	0	59	216
1745	0	0	43	206	0	0	142	814	0	0	147	810	0	0	122	712	0	0	141	745	0	0	129	722	0	0	48	229
1800	0	0	39	188	0	0	100	730	0	0	108	748	0	0	126	686	0	0	111	684	0	0	107	667	0	0	40	208
1815	0	0	62	200	0	0	90	537	0	0	106	557	0	0	113	538	0	0	90	502	0	0	102	530	0	0	44	191
1830	0	0	42	186	0	0	76	408	0	0	88	449	0	0	72	433	0	0	85	427	0	0	86	424	0	0	45	177
1845	0	0	51	194	0	0	66	332	0	0	70	372	0	0	63	374	0	0	73	359	0	0	81	376	0	0	46	175
1900	0	0	36	191	0	0	59	291	0	0	58	322	0	0	71	319	0	0	57	305	0	0	69	338	0	0	44	179
1915	0	0	31	160	0	0	72	273	0	0	62	278	0	0	68	274	0	0	65	280	0	0	69	305	0	0	33	168
1930	0	0	18	136	0	0	41	238	0	0	62	252	0	0	50	252	0	0	56	251	0	0	56	275	0	0	30	153
1945	0	0	41	126	0	0	52	224	0	0	45	227	0	0	47	236	0	0	50	228	0	0	41	235	0	0	29	136
2000	0	0	26	116	0	0	45	210	0	0	71	240	0	0	47	212	0	0	46	217	0	0	43	209	0	0	25	117
2015	0	0	31	116	0	0	67	205	0	0	65	243	0	0	80	224	0	0	41	193	0	0	46	186	0	0	25	109
2030	0	0	23	121	0	0	42	206	0	0	74	255	0	0	74	248	0	0	59	196	0	0	45	175	0	0	32	111
2045	0	0	16	96	0	0	61	215	0	0	54	264	0	0	78	279	0	0	51	197	0	0	42	176	0	0	25	107
2100	0	0	19	89	0	0	36	206	0	0	36	229	0	0	45	277	0	0	48	199	0	0	37	170	0	0	18	100
2115	0	0	19	77	0	0	42	181	0	0	40	204	0	0	48	245	0	0	37	195	0	0	45	169	0	0	23	98
2130	0	0	18	72	0	0	30	169	0	0	33	163	0	0	37	208	0	0	34	170	0	0	32	156	0	0	28	94
2145	0	0	15	71	0	0	35	143	0	0	18	127	0	0	19	149	0	0	19	138	0	0	25	139	0	0	30	99
2200	0	0	17	69	0	0	29	136	0	0	29	120	0	0	25	129	0	0	30	120	0	0	31	133	0	0	42	123
2215	0	0	22	72	0	0	13	107	0	0	36	116	0	0	34	115	0	0	28	111	0	0	34	122	0	0	33	133
2230	0	0	20	74	0	0	22	99	0	0	21	104	0	0	21	99	0	0	35	112	0	0	21	111	0	0	76	181
2245	0	0	13	72	0	0	13	77	0	0	20	106	0	0	24	104	0	0	33	126	0	0	21	107	0	0	46	197
2300	0	0	11	66	0	0	17	65	0	0	24	101	0	0	21	100	0	0	17	113	0	0	31	107	0	0	27	182
2315	0	0	26	70	0	0	23	75	0	0	26	91	0	0	23	89	0	0	22	107	0	0	24	97	0	0	22	171
2330	0	0	19	69	0	0	16	69	0	0	18	88	0	0	19	87	0	0	27	99	0	0	32	108	0	0	26	121
2345	0	0	20	76	0	0	18	74	0	0	23	91	0	0	26	89	0	0	26	92	0	0	31	118	0	0	38	113
TOTAL	0	N/A	3,046	N/A	0	N/A	6,731	N/A	0	N/A	7,072	N/A	0	N/A	6,850	N/A	0	N/A	7,067	N/A	0	N/A	7,058	N/A	0	N/A	3,695	N/A
AM	0		103		0		324		0		354		0		335		0		339		0		345		0		153	
NOON	0		316		0		522		0		533		0		515		0		555		0		549		0		281	
PM	0		210		0		868		0		865		0		777		0		790		0		780		0		269	
EVEN	0		121		0		215		0		264		0		279		0		217		0		209		0		197	

Telephone: (510) 232-1271 Fax: (510) 232-1272

B A Y M E T R I C S

HST PROJECT - FRESNO

Date	15-Nov-09 Sunday				16-Nov-09 Monday				17-Nov-09 Tuesday				18-Nov-09 Wednesday				19-Nov-09 Thursday				20-Nov-09 Friday				21-Nov-09 Saturday			
Location	12. On Tuolumne Street, between Broadway Street and E Street																											
Direction	EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	12	0	0	0	10	0	0	0	8	0	0	0	13	0	0	0	10	0	0	0	9	0	0	0	25	0	0	0
1215	11	0	0	0	13	0	0	0	9	0	0	0	12	0	0	0	9	0	0	0	8	0	0	0	9	0	0	0
1230	7	0	0	0	7	0	0	0	10	0	0	0	4	0	0	0	11	0	0	0	13	0	0	0	11	0	0	0
1245	19	49	0	0	10	40	0	0	9	36	0	0	4	33	0	0	7	37	0	0	7	37	0	0	18	63	0	0
100	7	44	0	0	6	36	0	0	2	30	0	0	10	30	0	0	4	31	0	0	10	38	0	0	14	52	0	0
115	8	41	0	0	1	24	0	0	5	26	0	0	2	20	0	0	7	29	0	0	6	36	0	0	8	51	0	0
130	12	46	0	0	12	29	0	0	6	22	0	0	5	21	0	0	10	28	0	0	4	27	0	0	14	54	0	0
145	16	43	0	0	8	27	0	0	11	24	0	0	6	23	0	0	5	26	0	0	10	30	0	0	8	44	0	0
200	10	46	0	0	8	29	0	0	7	29	0	0	7	20	0	0	6	28	0	0	6	26	0	0	10	40	0	0
215	12	50	0	0	5	33	0	0	8	32	0	0	9	27	0	0	10	31	0	0	5	25	0	0	9	41	0	0
230	4	42	0	0	3	24	0	0	9	35	0	0	4	26	0	0	4	25	0	0	9	30	0	0	3	30	0	0
245	13	39	0	0	4	20	0	0	8	32	0	0	4	24	0	0	5	25	0	0	12	32	0	0	6	28	0	0
300	5	34	0	0	7	19	0	0	6	31	0	0	5	22	0	0	3	22	0	0	9	35	0	0	5	23	0	0
315	6	28	0	0	9	23	0	0	5	28	0	0	8	21	0	0	1	13	0	0	6	36	0	0	5	19	0	0
330	7	31	0	0	7	27	0	0	6	25	0	0	4	21	0	0	4	13	0	0	6	33	0	0	7	23	0	0
345	6	24	0	0	8	31	0	0	13	30	0	0	10	27	0	0	10	18	0	0	15	36	0	0	8	25	0	0
400	6	25	0	0	9	33	0	0	9	33	0	0	8	30	0	0	8	23	0	0	12	39	0	0	9	29	0	0
415	0	19	0	0	5	29	0	0	7	35	0	0	8	30	0	0	8	30	0	0	6	39	0	0	7	31	0	0
430	1	13	0	0	14	36	0	0	10	39	0	0	13	39	0	0	7	33	0	0	4	37	0	0	4	28	0	0
445	3	10	0	0	16	44	0	0	26	52	0	0	33	62	0	0	24	47	0	0	21	43	0	0	7	27	0	0
500	5	9	0	0	31	66	0	0	43	86	0	0	47	101	0	0	53	92	0	0	44	75	0	0	12	30	0	0
515	4	13	0	0	25	86	0	0	33	112	0	0	27	120	0	0	30	114	0	0	28	97	0	0	9	32	0	0
530	20	32	0	0	43	115	0	0	38	140	0	0	44	151	0	0	34	141	0	0	35	128	0	0	20	48	0	0
545	8	37	0	0	41	140	0	0	31	145	0	0	38	156	0	0	42	159	0	0	47	154	0	0	9	50	0	0
600	7	39	0	0	49	158	0	0	67	169	0	0	72	181	0	0	56	162	0	0	68	178	0	0	13	51	0	0
615	3	38	0	0	40	173	0	0	50	186	0	0	41	195	0	0	39	171	0	0	42	192	0	0	19	61	0	0
630	9	27	0	0	58	188	0	0	63	211	0	0	65	216	0	0	74	211	0	0	80	237	0	0	21	62	0	0
645	13	32	0	0	72	219	0	0	68	248	0	0	75	253	0	0	69	238	0	0	59	249	0	0	28	81	0	0
700	26	51	0	0	109	279	0	0	127	308	0	0	114	295	0	0	110	292	0	0	112	293	0	0	44	112	0	0
715	25	73	0	0	92	331	0	0	122	380	0	0	95	349	0	0	85	338	0	0	88	339	0	0	21	114	0	0
730	17	81	0	0	140	413	0	0	172	489	0	0	137	421	0	0	149	413	0	0	152	411	0	0	34	127	0	0
745	18	86	0	0	169	510	0	0	189	610	0	0	174	520	0	0	198	542	0	0	180	532	0	0	45	144	0	0
800	21	81	0	0	191	592	0	0	203	686	0	0	174	580	0	0	208	640	0	0	195	615	0	0	38	138	0	0
815	31	87	0	0	144	644	0	0	146	710	0	0	124	609	0	0	157	712	0	0	132	659	0	0	33	150	0	0
830	35	105	0	0	149	653	0	0	161	699	0	0	137	609	0	0	155	718	0	0	123	630	0	0	32	148	0	0
845	32	119	0	0	91	575	0	0	122	632	0	0	83	518	0	0	131	651	0	0	107	557	0	0	37	140	0	0
900	57	155	0	0	99	483	0	0	103	532	0	0	88	432	0	0	109	552	0	0	105	467	0	0	33	135	0	0
915	39	163	0	0	74	413	0	0	88	474	0	0	88	396	0	0	94	489	0	0	80	415	0	0	45	147	0	0
930	39	167	0	0	87	351	0	0	84	397	0	0	76	335	0	0	84	418	0	0	97	389	0	0	38	153	0	0
945	41	176	0	0	88	348	0	0	89	364	0	0	86	338	0	0	83	370	0	0	82	364	0	0	41	157	0	0
1000	44	163	0	0	85	334	0	0	91	352	0	0	71	321	0	0	95	356	0	0	85	344	0	0	48	172	0	0
1015	43	167	0	0	94	354	0	0	86	350	0	0	65	298	0	0	73	335	0	0	83	347	0	0	57	184	0	0
1030	41	169	0	0	74	341	0	0	78	344	0	0	74	296	0	0	72	323	0	0	77	327	0	0	34	180	0	0
1045	53	181	0	0	65	318	0	0	80	335	0	0	83	293	0	0	85	325	0	0	81	326	0	0	54	193	0	0
1100	58	195	0	0	72	305	0	0	77	321	0	0	70	292	0	0	82	312	0	0	78	319	0	0	52	197	0	0
1115	42	194	0	0	80	291	0	0	120	355	0	0	71	298	0	0	107	346	0	0	87	323	0	0	59	199	0	0
1130	47	200	0	0	91	308	0	0	80	357	0	0	76	300	0	0	81	355	0	0	79	325	0	0	39	204	0	0
1145	40	187	0	0	89	332	0	0	67	344	0	0	95	312	0	0	93	363	0	0	77	321	0	0	56	206	0	0
1200	52	181	0	0	104	364	0	0	89	356	0	0	86	328	0	0	92	373	0	0	75	318	0	0	42	196	0	0
1215	42	181	0	0	94	378	0	0	109	345	0	0	108	365	0	0	106	372	0	0	104	335	0	0	43	180	0	0
1230	41	175	0	0	85	372	0	0	87	352	0	0	88	377	0	0	80	371	0	0	90	346	0	0	44	185	0	0
1245	53	188	0	0	91	374	0	0	80	365	0	0	94	376	0	0	90	368	0	0	107	376	0	0	51	180	0	0
1300	44	180	0	0	114	384	0	0	90	366	0	0	86	376	0	0	109	385	0	0	98	399	0	0	45	183	0	0
1315	38	176	0	0	90	380	0	0	95	352	0	0	85	353	0	0	115	394	0	0	108	403	0	0	45	185	0	0
1330	42	177	0	0	91	386	0	0	79	344	0	0	80	345	0	0	107	421	0	0	89	402	0	0	58	199	0	0
1345	45	169	0	0	103	398	0	0	112	376	0	0	82	333	0	0	98	429	0	0	118	413	0	0	58	206	0	0
1400	38	163	0	0	85	369	0	0	69	355	0	0	63	310	0	0	95	415	0	0	96	411	0	0	46	207	0	0
1415	38	163	0	0	74	353	0	0	78	338	0	0	88	313	0	0	89	389	0	0	83	386	0	0	48	210	0	0
1430	45	166	0	0	82	344	0	0	87	346	0	0	84	317	0	0	110	392	0	0	99	396	0	0	39	191	0	0
1445	51	172	0	0	103	344	0	0	108	342	0	0	99	334	0	0	98	392	0	0	111	389	0	0	57	190	0	0
1500	49	183	0	0	82	341	0	0	94	367	0	0	92	363	0	0	108	405	0	0	99	392	0	0	46	190	0	0
1515	47	192	0	0	106	373	0	0	111	400	0	0	98	373	0	0	93	409	0	0	105	414	0	0	48	190	0	0
1530	35	182	0	0	99	390	0	0	124	437	0	0	110	399	0	0	103	402	0	0	104	419	0	0	48	199	0	0
1545	33	164	0	0	97	384	0	0	88	417	0	0	109	409	0	0	87	391	0	0	103	411	0	0	43	185	0	0
1600	42	157	0	0	85	387	0	0	108	431	0	0	84	401	0	0	91	374	0	0	98	410	0	0	57	196	0	0
1615	38	148	0	0	113	394	0	0	89	409	0	0	99	402	0	0	87	368	0	0	93	398	0	0	33	181	0	0
1630	36	149	0	0	88	383	0	0	113	398	0	0	92	384	0	0	72	337	0	0	110	404	0	0	42	175	0	0
1645	33	149	0	0	67	353	0	0	126	436	0	0	90	365	0	0	80	330	0	0	87	388	0	0	55	187	0	0
1700	36	143	0	0	89	357	0	0	101	429	0	0	83	364	0	0	86	325	0	0	112	402	0	0	36	166	0	0
1715	35	140	0	0	95	339	0	0	91	431	0	0	78	343	0	0	82	320	0	0	105	414	0	0	41	174	0	0
1730	37	141	0	0	88	339	0	0	117	435	0	0	89	340	0	0	108	356	0	0	89	393	0	0	63	195	0	0
1745	41	149	0	0	70	342	0	0	85	394	0	0	62	312	0	0	94	370	0	0	66	372	0	0	45	185	0	0
1800	26	139	0	0	55	308	0	0	63	356	0	0	64	293	0	0	50	334	0	0	62	322	0	0	46	195	0	0
1815	26	130	0	0	52	265	0	0	35	300	0	0	37	252	0	0	37	289	0	0	51	268	0	0	46	200	0	0
1830	31	124	0	0	36	213	0	0	41	224	0	0	44	207	0	0	39	220	0	0	47	226	0	0	32	169	0	0
1845	23	106	0	0	42	185	0	0	36	175	0	0	64	209	0	0	41	167	0	0	48	208	0	0	41	165	0	0
1900	40	120	0	0	33	163	0	0	52	164	0	0	46	191	0	0	51	168	0	0	45	191	0	0	39	158	0	0
1915	34	128	0	0	27	138	0	0	28	157	0	0	30	184	0	0	38	169	0	0	26	166	0	0	25	137	0	0
1930	25	122	0	0	26	128	0	0	38	154	0	0	26	166	0	0	25	155	0	0	25	144	0	0	29	134	0	0
1945	19	118	0	0	20	106	0	0	20	138	0	0	30	132	0	0	27	141	0	0	25	121	0	0	30	123	0	0
2000	16	94	0	0	20	93	0	0	32	118	0	0	29	115	0	0	26	116	0	0	28	104	0	0	31	115	0	0
2015	14	74	0	0	22	88	0	0	27	117	0	0	28	113	0	0	23	101	0	0	24	102	0	0	34	124	0	0
2030	15	64	0	0	22	84	0	0	27	106	0	0	18	105	0	0	15	91	0	0	34	111	0	0	28	123	0	0
2045	15	60	0	0	30	94	0	0	18	104	0	0	16	91	0	0	22	86	0	0	29	115	0	0	28	121	0	0
2100	16	60	0	0	20	94	0	0	32	104	0	0	16	78	0	0	22	82	0	0	32	119	0	0	48	138	0	0
2115	23	69	0	0	17	89	0	0	16	93	0	0	21	71	0	0	17	76	0	0	19	114	0	0	34	138	0	0
2130	15	69	0	0	13	80	0	0	20	86	0	0	17	70	0	0	18	79	0	0	20	100	0	0	34	144	0	0
2145	16	70	0	0	30	80	0	0	18	86	0	0	18	72	0	0	37	94	0	0	26	97	0	0	23	139	0	0
2200	11	65	0	0	11	71	0	0	14	68	0	0	15	71	0	0	13	85	0	0	28	93	0	0	30	121	0	0
2215	11	53	0	0	17	71	0	0	12	64	0	0	19	69	0	0	12	80	0	0	24	98	0	0	20	107	0	0
2230	11	49	0	0	10	68	0	0	10	54	0	0	14	66	0	0	15	77	0	0	29	107	0	0	19	92	0	0
2245	14	47	0	0	11	49	0	0	19	55	0	0	11	59	0	0	26	66	0	0	21	102	0	0	25	94	0	0
2300	11	47	0	0	18	56	0	0	15	56	0	0	21	65	0	0	17	70	0	0	21	95	0	0	17	81	0	0
2315	2	38	0	0	10	49	0	0	14	58	0	0	7	53	0	0	7	65	0	0	22	93	0	0	14	75	0	0
2330	5	32	0	0	11	50	0	0	11	59	0	0	10	49	0	0	5	55	0	0	23	87	0	0	19	75	0	0
2345	5	23	0	0	10	49	0	0	8	48	0	0	10	48	0	0	8	37	0	0	21	87	0	0	20	70	0	0
TOTAL	2,398	N/A	0	N/A	5,362	N/A	0	N/A	5,788	N/A	0	N/A	5,299	N/A	0	N/A	5,672	N/A	0	N/A	5,760	N/A	0	N/A	3,003	N/A	0	N/A
AM	176		0		653		0		710		0		609		0		718		0		659		0		157		0	
NOON	200		0		398		0		376		0		377		0		429		0		413		0		210		0	
PM	192		0		394		0		437		0		409		0		409		0		419		0		200		0	
EVEN	94		0		94		0		118		0		115		0		116		0		119		0		144		0	

Telephone: (510) 232-1271 *Fax: (510) 232-1272*

B A Y M E T R I C S

HST PROJECT - FRESNO

Date	15-Nov-09 Sunday				16-Nov-09 Monday				17-Nov-09 Tuesday				18-Nov-09 Wednesday				19-Nov-09 Thursday				20-Nov-09 Friday				21-Nov-09 Saturday			
Location	13. On Tuolumne Street, between Van Ness Avenue and O Street																											
Direction	EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	12	0	0	0	8	0	0	0	9	0	0	0	7	0	0	0	6	0	0	0	13	0	0	0	17	0	0	0
1215	12	0	0	0	9	0	0	0	5	0	0	0	6	0	0	0	7	0	0	0	11	0	0	0	7	0	0	0
1230	9	0	0	0	7	0	0	0	9	0	0	0	7	0	0	0	5	0	0	0	10	0	0	0	15	0	0	0
1245	11	44	0	0	6	30	0	0	14	37	0	0	13	33	0	0	12	30	0	0	10	44	0	0	14	53	0	0
100	6	38	0	0	4	26	0	0	3	31	0	0	3	29	0	0	4	28	0	0	9	40	0	0	12	48	0	0
115	5	31	0	0	0	17	0	0	22	48	0	0	20	43	0	0	17	38	0	0	15	44	0	0	24	65	0	0
130	12	34	0	0	2	12	0	0	4	43	0	0	5	41	0	0	7	40	0	0	4	38	0	0	8	58	0	0
145	18	41	0	0	0	6	0	0	5	34	0	0	4	32	0	0	3	31	0	0	5	33	0	0	5	49	0	0
200	11	46	0	0	1	3	0	0	3	34	0	0	3	32	0	0	3	30	0	0	2	26	0	0	5	42	0	0
215	15	56	0	0	2	5	0	0	3	15	0	0	5	17	0	0	8	21	0	0	2	13	0	0	2	20	0	0
230	2	46	0	0	1	4	0	0	3	14	0	0	2	14	0	0	2	16	0	0	6	15	0	0	3	15	0	0
245	6	34	0	0	2	6	0	0	1	10	0	0	3	13	0	0	4	17	0	0	3	13	0	0	3	13	0	0
300	4	27	0	0	3	8	0	0	1	8	0	0	2	12	0	0	3	17	0	0	2	13	0	0	0	8	0	0
315	4	16	0	0	2	8	0	0	6	11	0	0	3	10	0	0	1	10	0	0	6	17	0	0	1	7	0	0
330	4	18	0	0	3	10	0	0	1	9	0	0	0	8	0	0	0	8	0	0	2	13	0	0	3	7	0	0
345	4	16	0	0	4	12	0	0	7	15	0	0	5	10	0	0	4	8	0	0	5	15	0	0	3	7	0	0
400	2	14	0	0	5	14	0	0	4	18	0	0	4	12	0	0	4	9	0	0	7	20	0	0	1	8	0	0
415	0	10	0	0	0	12	0	0	0	12	0	0	2	11	0	0	3	11	0	0	2	16	0	0	5	12	0	0
430	0	6	0	0	4	13	0	0	6	17	0	0	4	15	0	0	3	14	0	0	1	15	0	0	3	12	0	0
445	4	6	0	0	8	17	0	0	4	14	0	0	5	15	0	0	5	15	0	0	5	15	0	0	3	12	0	0
500	3	7	0	0	8	20	0	0	13	23	0	0	15	26	0	0	16	27	0	0	14	22	0	0	5	16	0	0
515	2	9	0	0	14	34	0	0	14	37	0	0	13	37	0	0	13	37	0	0	16	36	0	0	5	16	0	0
530	18	27	0	0	22	52	0	0	21	52	0	0	15	48	0	0	10	44	0	0	21	56	0	0	15	28	0	0
545	8	31	0	0	22	66	0	0	12	60	0	0	17	60	0	0	22	61	0	0	18	69	0	0	13	38	0	0
600	6	34	0	0	7	65	0	0	12	59	0	0	11	56	0	0	11	56	0	0	11	66	0	0	7	40	0	0
615	5	37	0	0	15	66	0	0	18	63	0	0	13	56	0	0	9	52	0	0	15	65	0	0	4	39	0	0
630	7	26	0	0	22	66	0	0	28	70	0	0	32	73	0	0	35	77	0	0	39	83	0	0	18	42	0	0
645	7	25	0	0	43	87	0	0	38	96	0	0	37	93	0	0	37	92	0	0	36	101	0	0	19	48	0	0
700	19	38	0	0	51	131	0	0	63	147	0	0	61	143	0	0	59	140	0	0	54	144	0	0	24	65	0	0
715	11	44	0	0	67	183	0	0	59	188	0	0	53	183	0	0	48	179	0	0	61	190	0	0	23	84	0	0
730	8	45	0	0	80	241	0	0	86	246	0	0	77	228	0	0	69	213	0	0	74	225	0	0	23	89	0	0
745	12	50	0	0	105	303	0	0	131	339	0	0	134	325	0	0	138	314	0	0	133	322	0	0	26	96	0	0
800	13	44	0	0	126	378	0	0	148	424	0	0	147	411	0	0	146	401	0	0	139	407	0	0	15	87	0	0
815	29	62	0	0	103	414	0	0	109	474	0	0	109	467	0	0	109	462	0	0	107	453	0	0	19	83	0	0
830	23	77	0	0	97	431	0	0	128	516	0	0	121	511	0	0	114	507	0	0	96	475	0	0	32	92	0	0
845	12	77	0	0	84	410	0	0	97	482	0	0	93	470	0	0	89	458	0	0	86	428	0	0	34	100	0	0
900	20	84	0	0	65	349	0	0	78	412	0	0	79	402	0	0	80	392	0	0	86	375	0	0	35	120	0	0
915	27	82	0	0	63	309	0	0	82	385	0	0	77	370	0	0	71	354	0	0	57	325	0	0	28	129	0	0
930	21	80	0	0	88	300	0	0	69	326	0	0	69	318	0	0	70	310	0	0	61	290	0	0	34	131	0	0
945	20	88	0	0	70	286	0	0	69	298	0	0	59	284	0	0	50	271	0	0	63	267	0	0	35	132	0	0
1000	17	85	0	0	71	292	0	0	59	279	0	0	58	263	0	0	59	250	0	0	65	246	0	0	41	138	0	0
1015	26	84	0	0	63	292	0	0	67	264	0	0	61	247	0	0	55	234	0	0	76	265	0	0	35	145	0	0
1030	26	89	0	0	67	271	0	0	78	273	0	0	72	250	0	0	67	231	0	0	75	279	0	0	29	140	0	0
1045	48	117	0	0	62	263	0	0	71	275	0	0	62	253	0	0	53	234	0	0	69	285	0	0	40	145	0	0
1100	30	130	0	0	70	262	0	0	74	290	0	0	63	258	0	0	53	228	0	0	59	279	0	0	52	156	0	0
1115	26	130	0	0	72	271	0	0	117	340	0	0	66	263	0	0	71	244	0	0	76	279	0	0	25	146	0	0
1130	27	131	0	0	64	268	0	0	83	345	0	0	67	258	0	0	80	257	0	0	77	281	0	0	43	160	0	0
1145	28	111	0	0	71	277	0	0	67	341	0	0	73	269	0	0	75	279	0	0	77	289	0	0	25	145	0	0
1200	34	115	0	0	85	292	0	0	89	356	0	0	75	281	0	0	76	302	0	0	72	302	0	0	37	130	0	0
1215	37	126	0	0	86	306	0	0	86	325	0	0	70	285	0	0	88	319	0	0	93	319	0	0	28	133	0	0
1230	38	137	0	0	75	317	0	0	74	316	0	0	69	287	0	0	68	307	0	0	83	325	0	0	47	137	0	0
1245	66	175	0	0	74	320	0	0	66	315	0	0	79	293	0	0	83	315	0	0	88	336	0	0	29	141	0	0
1300	36	177	0	0	77	312	0	0	73	299	0	0	59	277	0	0	108	347	0	0	76	340	0	0	45	149	0	0
1315	31	171	0	0	75	301	0	0	86	299	0	0	87	294	0	0	96	355	0	0	82	329	0	0	42	163	0	0
1330	34	167	0	0	86	312	0	0	75	300	0	0	62	287	0	0	88	375	0	0	104	350	0	0	34	150	0	0
1345	43	144	0	0	99	337	0	0	91	325	0	0	69	277	0	0	89	381	0	0	93	355	0	0	51	172	0	0
1400	31	139	0	0	79	339	0	0	70	322	0	0	54	272	0	0	80	353	0	0	72	351	0	0	37	164	0	0
1415	31	139	0	0	67	331	0	0	67	303	0	0	68	253	0	0	80	337	0	0	77	346	0	0	36	158	0	0
1430	35	140	0	0	82	327	0	0	73	301	0	0	62	253	0	0	76	325	0	0	86	328	0	0	33	157	0	0
1445	30	127	0	0	93	321	0	0	98	308	0	0	75	259	0	0	95	331	0	0	95	330	0	0	41	147	0	0
1500	36	132	0	0	81	323	0	0	83	321	0	0	77	282	0	0	89	340	0	0	76	334	0	0	41	151	0	0
1515	32	133	0	0	89	345	0	0	98	352	0	0	76	290	0	0	90	350	0	0	84	341	0	0	39	154	0	0
1530	32	130	0	0	88	351	0	0	86	365	0	0	65	293	0	0	86	360	0	0	90	345	0	0	33	154	0	0
1545	25	125	0	0	69	327	0	0	94	361	0	0	78	296	0	0	87	352	0	0	78	328	0	0	31	144	0	0
1600	28	117	0	0	61	307	0	0	81	359	0	0	69	288	0	0	77	340	0	0	81	333	0	0	26	129	0	0
1615	22	107	0	0	93	311	0	0	95	356	0	0	84	296	0	0	71	321	0	0	69	318	0	0	33	123	0	0
1630	24	99	0	0	57	280	0	0	84	354	0	0	73	304	0	0	63	298	0	0	61	289	0	0	25	115	0	0
1645	33	107	0	0	53	264	0	0	106	366	0	0	68	294	0	0	86	297	0	0	74	285	0	0	31	115	0	0
1700	25	104	0	0	68	271	0	0	76	361	0	0	79	304	0	0	72	292	0	0	82	286	0	0	25	114	0	0
1715	25	107	0	0	108	286	0	0	103	369	0	0	97	317	0	0	96	317	0	0	98	315	0	0	41	122	0	0
1730	42	125	0	0	77	306	0	0	106	391	0	0	75	319	0	0	79	333	0	0	81	335	0	0	31	128	0	0
1745	28	120	0	0	77	330	0	0	74	359	0	0	70	321	0	0	80	327	0	0	66	327	0	0	32	129	0	0
1800	21	116	0	0	48	310	0	0	45	328	0	0	48	290	0	0	46	301	0	0	51	296	0	0	42	146	0	0
1815	21	112	0	0	48	250	0	0	37	262	0	0	31	224	0	0	34	239	0	0	30	228	0	0	28	133	0	0
1830	24	94	0	0	24	197	0	0	28	184	0	0	39	188	0	0	32	192	0	0	41	188	0	0	18	120	0	0
1845	22	88	0	0	36	156	0	0	36	146	0	0	35	153	0	0	30	142	0	0	29	151	0	0	23	111	0	0
1900	31	98	0	0	30	138	0	0	49	150	0	0	25	130	0	0	45	141	0	0	33	133	0	0	16	85	0	0
1915	21	98	0	0	20	110	0	0	26	139	0	0	25	124	0	0	24	131	0	0	21	124	0	0	25	82	0	0
1930	15	89	0	0	26	112	0	0	28	139	0	0	26	111	0	0	27	126	0	0	19	102	0	0	22	86	0	0
1945	19	86	0	0	28	104	0	0	20	123	0	0	33	109	0	0	23	119	0	0	15	88	0	0	25	88	0	0
2000	15	70	0	0	21	95	0	0	28	102	0	0	28	112	0	0	24	98	0	0	27	82	0	0	19	91	0	0
2015	14	63	0	0	18	93	0	0	18	94	0	0	31	118	0	0	18	92	0	0	17	78	0	0	20	86	0	0
2030	11	59	0	0	14	81	0	0	21	87	0	0	15	107	0	0	15	80	0	0	15	74	0	0	13	77	0	0
2045	12	52	0	0	17	70	0	0	21	88	0	0	17	91	0	0	17	74	0	0	24	83	0	0	9	61	0	0
2100	15	52	0	0	13	62	0	0	21	81	0	0	12	75	0	0	11	61	0	0	16	72	0	0	20	62	0	0
2115	13	51	0	0	17	61	0	0	16	79	0	0	15	59	0	0	18	61	0	0	16	71	0	0	23	65	0	0
2130	18	58	0	0	14	61	0	0	16	74	0	0	18	62	0	0	10	56	0	0	23	79	0	0	22	74	0	0
2145	7	53	0	0	21	65	0	0	17	70	0	0	9	54	0	0	27	66	0	0	21	76	0	0	14	79	0	0
2200	9	47	0	0	12	64	0	0	10	59	0	0	10	52	0	0	11	66	0	0	14	74	0	0	11	70	0	0
2215	11	45	0	0	10	57	0	0	13	56	0	0	11	48	0	0	12	60	0	0	13	71	0	0	14	61	0	0
2230	9	36	0	0	9	52	0	0	4	44	0	0	13	43	0	0	11	61	0	0	10	58	0	0	17	56	0	0
2245	9	38	0	0	14	45	0	0	18	45	0	0	7	41	0	0	16	50	0	0	12	49	0	0	16	58	0	0
2300	8	37	0	0	11	44	0	0	6	41	0	0	12	43	0	0	16	55	0	0	10	45	0	0	9	56	0	0
2315	4	30	0	0	5	39	0	0	10	38	0	0	4	36	0	0	4	47	0	0	7	39	0	0	15	57	0	0
2330	4	25	0	0	8	38	0	0	3	37	0	0	5	28	0	0	1	37	0	0	14	43	0	0	16	56	0	0
2345	3	19	0	0	4	28	0	0	8	27	0	0	6	27	0	0	5	26	0	0	9	40	0	0	7	47	0	0
TOTAL	1,774	N/A	0	N/A	4,130	N/A	0	N/A	4,534	N/A	0	N/A	4,072	N/A	0	N/A	4,290	N/A	0	N/A	4,329	N/A	0	N/A	2,130	N/A	0	N/A
AM	88		0		431		0		516		0		511		0		507		0		475		0		132		0	
NOON	177		0		339		0		356		0		294		0		381		0		355		0		172		0	
PM	133		0		351		0		391		0		321		0		360		0		345		0		154		0	
EVEN	70		0		95		0		102		0		118		0		98		0		83		0		91		0	

Telephone: (510) 232-1271 *Fax: (510) 232-1272*

Data File: 'Fresno_WO_Fulton_EB_032509.rdf'
Site Code: '000000000000'
Start Date: 3/26/2009
Start Time: 12:00 AM
Sensor Layout: '11'

'LOCATION': 'Fresno'
'CROSS ST': 'W/O Fulton'
'COUNT': 'Downtown Study'

thursday			Friday			Saturday			Sunday		
Date	Time	EB									
3/26/2009	12:00 AM	43	3/27/2009	12:00 AM	43	3/28/2009	12:00 AM	90	3/29/2009	12:00 AM	101
3/26/2009	1:00 AM	36	3/27/2009	1:00 AM	36	3/28/2009	1:00 AM	64	3/29/2009	1:00 AM	62
3/26/2009	2:00 AM	34	3/27/2009	2:00 AM	17	3/28/2009	2:00 AM	31	3/29/2009	2:00 AM	47
3/26/2009	3:00 AM	22	3/27/2009	3:00 AM	19	3/28/2009	3:00 AM	25	3/29/2009	3:00 AM	21
3/26/2009	4:00 AM	18	3/27/2009	4:00 AM	23	3/28/2009	4:00 AM	20	3/29/2009	4:00 AM	15
3/26/2009	5:00 AM	71	3/27/2009	5:00 AM	76	3/28/2009	5:00 AM	30	3/29/2009	5:00 AM	37
3/26/2009	6:00 AM	180	3/27/2009	6:00 AM	177	3/28/2009	6:00 AM	76	3/29/2009	6:00 AM	61
3/26/2009	7:00 AM	417	3/27/2009	7:00 AM	418	3/28/2009	7:00 AM	110	3/29/2009	7:00 AM	74
3/26/2009	8:00 AM	533	3/27/2009	8:00 AM	554	3/28/2009	8:00 AM	158	3/29/2009	8:00 AM	98
3/26/2009	9:00 AM	540	3/27/2009	9:00 AM	566	3/28/2009	9:00 AM	218	3/29/2009	9:00 AM	134
3/26/2009	10:00 AM	525	3/27/2009	10:00 AM	523	3/28/2009	10:00 AM	273	3/29/2009	10:00 AM	198
3/26/2009	11:00 AM	549	3/27/2009	11:00 AM	608	3/28/2009	11:00 AM	291	3/29/2009	11:00 AM	269
3/26/2009	12:00 PM	611	3/27/2009	12:00 PM	674	3/28/2009	12:00 PM	297	3/29/2009	12:00 PM	295
3/26/2009	1:00 PM	582	3/27/2009	1:00 PM	613	3/28/2009	1:00 PM	321	3/29/2009	1:00 PM	315
3/26/2009	2:00 PM	545	3/27/2009	2:00 PM	635	3/28/2009	2:00 PM	280	3/29/2009	2:00 PM	266
3/26/2009	3:00 PM	526	3/27/2009	3:00 PM	558	3/28/2009	3:00 PM	259	3/29/2009	3:00 PM	235
3/26/2009	4:00 PM	536	3/27/2009	4:00 PM	503	3/28/2009	4:00 PM	218	3/29/2009	4:00 PM	175
3/26/2009	5:00 PM	414	3/27/2009	5:00 PM	477	3/28/2009	5:00 PM	212	3/29/2009	5:00 PM	191
3/26/2009	6:00 PM	257	3/27/2009	6:00 PM	248	3/28/2009	6:00 PM	215	3/29/2009	6:00 PM	168
3/26/2009	7:00 PM	193	3/27/2009	7:00 PM	272	3/28/2009	7:00 PM	168	3/29/2009	7:00 PM	117
3/26/2009	8:00 PM	136	3/27/2009	8:00 PM	186	3/28/2009	8:00 PM	132	3/29/2009	8:00 PM	108
3/26/2009	9:00 PM	102	3/27/2009	9:00 PM	139	3/28/2009	9:00 PM	129	3/29/2009	9:00 PM	100
3/26/2009	10:00 PM	99	3/27/2009	10:00 PM	153	3/28/2009	10:00 PM	151	3/29/2009	10:00 PM	67
3/26/2009	11:00 PM	64	3/27/2009	11:00 PM	121	3/28/2009	11:00 PM	126	3/29/2009	11:00 PM	55
		7,033			7,639			3,894			3,209

Data File: 'Fresno_WO_Fulton_WB_031809.rdf'
Site Code: '000000000000'
Start Date: 3/19/2009
Start Time: 12:00 AM
Sensor Layout: '21'

'LOCATION': 'Fresno'
'CROSS ST': 'W/O Fulton'
'COUNT': 'Downtown Study'

Thursday			Friday			Saturday			Sunday		
Date	Time	WB	Date	Time	WB	Date	Time	WB	Date	Time	WB
3/19/2009	12:00 AM	58	3/20/2009	12:00 AM	55	3/21/2009	12:00 AM	102	3/22/2009	12:00 AM	90
3/19/2009	1:00 AM	80	3/20/2009	1:00 AM	102	3/21/2009	1:00 AM	139	3/22/2009	1:00 AM	124
3/19/2009	2:00 AM	26	3/20/2009	2:00 AM	30	3/21/2009	2:00 AM	37	3/22/2009	2:00 AM	61
3/19/2009	3:00 AM	13	3/20/2009	3:00 AM	15	3/21/2009	3:00 AM	29	3/22/2009	3:00 AM	27
3/19/2009	4:00 AM	21	3/20/2009	4:00 AM	9	3/21/2009	4:00 AM	17	3/22/2009	4:00 AM	28
3/19/2009	5:00 AM	54	3/20/2009	5:00 AM	59	3/21/2009	5:00 AM	36	3/22/2009	5:00 AM	21
3/19/2009	6:00 AM	106	3/20/2009	6:00 AM	92	3/21/2009	6:00 AM	64	3/22/2009	6:00 AM	43
3/19/2009	7:00 AM	232	3/20/2009	7:00 AM	256	3/21/2009	7:00 AM	108	3/22/2009	7:00 AM	66
3/19/2009	8:00 AM	373	3/20/2009	8:00 AM	342	3/21/2009	8:00 AM	151	3/22/2009	8:00 AM	92
3/19/2009	9:00 AM	414	3/20/2009	9:00 AM	434	3/21/2009	9:00 AM	252	3/22/2009	9:00 AM	157
3/19/2009	10:00 AM	487	3/20/2009	10:00 AM	507	3/21/2009	10:00 AM	309	3/22/2009	10:00 AM	176
3/19/2009	11:00 AM	553	3/20/2009	11:00 AM	566	3/21/2009	11:00 AM	317	3/22/2009	11:00 AM	218
3/19/2009	12:00 PM	572	3/20/2009	12:00 PM	587	3/21/2009	12:00 PM	350	3/22/2009	12:00 PM	293
3/19/2009	1:00 PM	617	3/20/2009	1:00 PM	631	3/21/2009	1:00 PM	303	3/22/2009	1:00 PM	289
3/19/2009	2:00 PM	603	3/20/2009	2:00 PM	676	3/21/2009	2:00 PM	344	3/22/2009	2:00 PM	259
3/19/2009	3:00 PM	557	3/20/2009	3:00 PM	654	3/21/2009	3:00 PM	324	3/22/2009	3:00 PM	301
3/19/2009	4:00 PM	580	3/20/2009	4:00 PM	624	3/21/2009	4:00 PM	271	3/22/2009	4:00 PM	250
3/19/2009	5:00 PM	516	3/20/2009	5:00 PM	560	3/21/2009	5:00 PM	233	3/22/2009	5:00 PM	224
3/19/2009	6:00 PM	241	3/20/2009	6:00 PM	328	3/21/2009	6:00 PM	177	3/22/2009	6:00 PM	189
3/19/2009	7:00 PM	187	3/20/2009	7:00 PM	221	3/21/2009	7:00 PM	175	3/22/2009	7:00 PM	158
3/19/2009	8:00 PM	166	3/20/2009	8:00 PM	205	3/21/2009	8:00 PM	175	3/22/2009	8:00 PM	156
3/19/2009	9:00 PM	136	3/20/2009	9:00 PM	166	3/21/2009	9:00 PM	146	3/22/2009	9:00 PM	89
3/19/2009	10:00 PM	114	3/20/2009	10:00 PM	141	3/21/2009	10:00 PM	126	3/22/2009	10:00 PM	84
3/19/2009	11:00 PM	96	3/20/2009	11:00 PM	128	3/21/2009	11:00 PM	108	3/22/2009	11:00 PM	59
		6,802			7,388			4,293			3,454

B A Y M E T R I C S

HST PROJECT - FRESNO

Date	15-Nov-09 Sunday				16-Nov-09 Monday				17-Nov-09 Tuesday				18-Nov-09 Wednesday				19-Nov-09 Thursday				20-Nov-09 Friday				21-Nov-09 Saturday			
Location	15. On Fresno Street, between M Street and Van Ness Avenue																											
Direction	EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	19	0	14	0	18	0	12	0	10	0	7	0	14	0	15	0	10	0	11	0	11	0	13	0	15	0	21	0
1215	20	0	19	0	13	0	8	0	17	0	9	0	18	0	9	0	13	0	3	0	18	0	8	0	24	0	13	0
1230	16	0	15	0	10	0	7	0	17	0	6	0	9	0	7	0	10	0	6	0	7	0	3	0	22	0	21	0
1245	16	71	14	62	12	53	7	34	7	51	6	28	10	51	6	37	6	39	9	29	7	43	5	29	18	79	16	71
100	10	62	13	61	12	47	9	31	11	52	6	27	6	43	6	28	9	38	4	22	8	40	5	21	18	82	10	60
115	9	51	8	50	5	39	8	31	11	46	6	24	11	36	10	29	15	40	9	28	14	36	5	18	18	76	16	63
130	11	46	7	42	6	35	9	33	3	32	2	20	7	34	3	25	8	38	3	25	15	44	9	24	17	71	9	51
145	24	54	13	41	9	32	6	32	7	32	9	23	7	31	5	24	13	45	6	22	12	49	3	22	12	65	9	44
200	18	62	9	37	3	23	6	29	8	29	5	22	6	31	6	24	9	45	6	24	6	47	4	21	15	62	7	41
215	22	75	7	36	14	32	7	28	10	28	6	22	11	31	12	26	8	38	6	21	10	43	5	21	11	55	8	33
230	32	96	9	38	9	35	5	24	5	30	8	28	7	31	7	30	9	39	8	26	7	35	4	16	8	46	9	33
245	17	89	6	31	2	28	6	24	7	30	7	26	5	29	6	31	5	31	5	25	8	31	3	16	13	47	2	26
300	15	86	9	31	6	31	4	22	10	32	4	25	2	25	2	27	3	25	7	26	9	34	8	20	8	40	4	23
315	7	71	6	30	6	23	2	17	8	30	7	26	5	19	3	18	6	23	3	23	19	43	3	18	5	34	1	16
330	8	47	7	28	1	15	8	20	3	28	6	24	7	19	7	18	6	20	9	24	4	40	7	21	10	36	5	12
345	9	39	6	28	5	18	4	18	4	25	7	24	2	16	6	18	3	18	4	23	4	36	3	21	18	41	4	14
400	7	31	10	29	3	15	8	22	4	19	5	25	2	16	7	23	5	20	2	18	0	27	6	19	6	39	6	16
415	6	30	3	26	5	14	7	27	3	14	5	23	8	19	5	25	6	20	2	17	7	15	1	17	11	45	3	18
430	2	24	4	23	3	16	10	29	5	16	8	25	5	17	7	25	5	19	4	12	6	17	4	14	6	41	3	16
445	2	17	5	22	9	20	6	31	6	18	12	30	13	28	9	28	8	24	5	13	7	20	5	16	10	33	7	19
500	6	16	4	16	7	24	6	29	9	23	10	35	3	29	8	29	3	22	16	27	5	25	13	23	11	38	4	17
515	3	13	5	18	4	23	15	37	4	24	5	35	9	30	5	29	6	22	5	30	4	22	9	31	7	34	4	18
530	7	18	5	19	12	32	14	41	6	25	11	38	5	30	9	31	7	24	10	36	7	23	8	35	6	34	4	19
545	7	23	13	27	13	36	22	57	18	37	16	42	11	28	20	42	8	24	20	51	13	29	14	44	11	35	16	28
600	15	32	11	34	19	48	18	69	16	44	13	45	19	44	13	47	19	40	17	52	18	42	13	44	9	33	10	34
615	12	41	7	36	30	74	18	72	25	65	25	65	25	60	30	72	20	54	21	68	21	59	21	56	17	43	8	38
630	12	46	7	38	18	80	24	82	23	82	18	72	27	82	21	84	27	74	24	82	27	79	23	71	17	54	11	45
645	20	59	8	33	58	125	36	96	38	102	27	83	46	117	35	99	35	101	30	92	41	107	26	83	13	56	17	46
700	22	66	18	40	51	157	37	115	42	128	41	111	44	142	55	141	56	138	47	122	56	145	36	106	32	79	18	54
715	19	73	17	50	58	185	54	151	61	164	53	139	66	183	54	165	51	169	37	138	54	178	35	120	22	84	21	67
730	19	80	22	65	82	249	55	182	71	212	61	182	71	227	53	197	98	240	68	182	68	219	64	161	23	90	22	78
745	16	76	19	76	118	309	83	229	104	278	64	219	92	273	73	235	79	284	68	220	81	259	78	213	38	115	45	106
800	14	68	13	71	111	369	97	289	109	345	90	268	105	334	83	263	103	331	101	274	105	308	86	263	41	124	25	113
815	20	69	15	69	124	435	60	295	123	407	93	308	90	358	93	302	102	382	90	327	107	361	93	321	26	128	38	130
830	19	69	17	64	146	499	107	347	132	468	98	345	101	388	64	313	117	401	67	326	108	401	92	349	25	130	45	153
845	26	79	23	68	130	511	111	375	138	502	96	377	104	400	80	320	135	457	114	372	100	420	94	365	36	128	41	149
900	33	98	40	95	137	537	91	369	141	534	117	404	116	411	80	317	131	485	99	370	127	442	88	367	31	118	45	169
915	37	115	20	100	135	548	97	406	151	562	96	407	97	418	70	294	156	539	116	396	117	452	82	356	34	126	44	175
930	45	141	35	118	132	534	102	401	120	550	103	412	110	427	93	323	136	558	97	426	97	441	118	382	38	139	74	204
945	33	148	28	123	130	534	133	423	142	554	101	417	106	429	102	345	121	544	102	414	117	458	82	370	47	150	62	225
1000	37	152	42	125	122	519	128	460	121	534	124	424	93	406	110	375	126	539	115	430	115	446	102	384	45	164	50	230
1015	44	159	29	134	150	534	92	455	138	521	86	414	88	397	83	388	164	547	130	444	115	444	114	416	51	181	54	240
1030	33	147	49	148	144	546	119	472	146	547	136	447	91	378	94	389	134	545	101	448	139	486	107	405	58	201	59	225
1045	38	152	42	162	132	548	100	439	167	572	125	471	109	381	93	380	135	559	116	462	122	491	101	424	57	211	65	228
1100	38	153	58	178	142	568	106	417	135	586	125	472	106	394	101	371	158	591	108	455	128	504	133	455	57	223	48	226
1115	42	151	44	193	143	561	132	457	135	583	132	518	109	415	109	397	156	583	123	448	121	510	115	456	64	236	68	240
1130	66	184	37	181	141	558	131	469	152	589	135	517	98	422	93	396	156	605	118	465	137	508	135	484	53	231	69	250
1145	53	199	66	205	179	605	116	485	153	575	115	507	116	429	121	424	146	616	133	482	116	502	147	530	74	248	76	261
1200	43	204	62	209	157	620	132	511	132	572	139	521	133	456	108	431	123	581	146	520	135	509	131	528	45	236	73	286
1215	58	220	56	221	153	630	146	525	156	593	126	515	132	479	114	436	133	558	122	519	135	523	132	545	56	228	68	286
1230	42	196	53	237	147	636	117	511	147	588	96	476	131	512	115	458	144	546	107	508	138	524	135	545	55	230	71	288
1245	48	191	61	232	132	589	110	505	120	555	147	508	127	523	101	438	139	539	111	486	133	541	103	501	60	216	61	273
1300	68	216	58	228	146	578	174	547	134	557	121	490	115	505	116	446	154	570	133	473	128	534	161	531	66	237	61	261
1315	54	212	58	230	152	577	122	523	147	548	130	494	120	493	90	422	160	597	114	465	128	527	104	503	60	241	73	266
1330	82	252	73	250	166	596	140	546	149	550	121	519	103	465	120	427	126	579	118	476	112	501	151	519	63	249	76	271
1345	58	262	64	253	150	614	130	566	128	558	129	501	117	455	112	438	134	574	140	505	138	506	121	537	63	252	65	275
1400	67	261	59	254	137	605	133	525	128	552	118	498	162	502	108	430	122	542	89	461	142	520	108	484	66	252	83	297
1415	60	267	55	251	158	611	122	525	127	532	114	482	150	532	111	451	130	512	118	465	134	526	117	497	66	258	75	299
1430	50	235	65	243	152	597	141	526	134	517	144	505	155	584	91	422	128	514	96	443	132	546	118	464	70	265	61	284
1445	67	244	65	244	157	604	126	522	160	549	124	500	123	590	127	437	158	538	129	432	117	525	112	455	67	269	44	263
1500	77	254	75	260	143	610	132	521	142	563	117	499	109	537	115	444	142	558	128	471	115	498	124	471	65	268	57	237
1515	65	259	56	261	139	591	126	525	130	566	140	525	113	500	120	453	126	554	141	494	122	486	133	487	51	253	87	249
1530	55	264	58	254	159	598	141	525	131	563	108	489	119	464	113	475	154	580	132	530	121	475	121	490	51	234	52	240
1545	42	239	45	234	129	570	151	550	122	525	141	506	114	455	113	461	138	560	116	517	113	471	134	512	51	218	65	261
1600	48	210	41	200	153	580	124	542	119	502	114	503	110	456	105	451	144	562	113	502	125	481	145	533	51	204	56	260
1615	57	202	67	211	149	590	130	546	127	499	94	457	110	453	113	444	125	561	98	459	104	463	136	536	64	217	48	221
1630	53	200	45	198	120	551	97	502	125	493	104	453	110	444	95	426	127	534	102	429	101	443	114	529	62	228	52	221
1645	60	218	41	194	142	564	106	457	181	552	106	418	138	468	120	433	148	544	116	429	136	466	100	495	51	228	39	195
1700	44	214	41	194	129	540	111	444	120	553	102	406	109	467	103	431	106	506	117	433	113	454	102	452	48	225	51	190
1715	47	204	42	169	150	541	120	434	143	569	104	416	120	477	113	431	155	536	129	464	161	511	134	450	43	204	43	185
1730	32	183	50	174	105	526	101	438	128	572	96	408	126	493	104	440	105	514	75	437	134	544	88	424	57	199	40	173
1745	27	150	35	168	97	481	101	433	69	460	77	379	96	451	74	394	107	473	91	412	77	485	78	402	48	196	35	169
1800	26	132	35	162	60	412	70	392	70	410	72	349	85	427	70	361	77	444	58	353	90	462	84	384	46	194	42	160
1815	39	124	36	156	51	313	55	327	52	319	88	333	73	380	53	301	75	364	95	319	74	375	48	298	47	198	45	162
1830	30	122	46	152	49	257	44	270	61	252	56	293	50	304	53	250	46	305	62	306	46	287	47	257	42	183	39	161
1845	39	134	34	151	35	195	51	220	47	230	53	269	45	253	53	229	57	255	54	269	55	265	65	244	44	179	51	177
1900	32	140	42	158	39	174	54	204	47	207	66	263	41	209	46	205	63	241	46	257	59	234	69	229	55	188	34	169
1915	25	126	40	162	39	162	48	197	47	202	51	226	48	184	44	196	28	194	45	207	43	203	56	237	33	174	46	170
1930	22	118	42	158	35	148	46	199	37	178	56	226	39	173	32	175	28	176	48	193	46	203	49	239	30	162	37	168
1945	22	101	45	169	22	135	37	185	36	167	44	217	26	154	33	155	31	150	52	191	44	192	44	218	29	147	35	152
2000	19	88	40	167	28	124	37	168	26	146	42	193	37	150	32	141	42	129	38	183	29	162	45	194	29	121	49	167
2015	26	89	44	171	37	122	34	154	29	128	39	181	25	127	35	132	32	133	34	172	32	151	47	185	36	124	35	156
2030	23	90	39	168	34	121	34	142	32	123	31	156	31	119	43	143	27	132	36	160	30	135	41	177	25	119	19	138
2045	26	94	24	147	24	123	31	136	39	126	30	142	30	123	43	153	24	125	28	136	37	128	31	164	41	131	32	135
2100	24	99	25	132	28	123	28	127	23	123	28	128	27	113	29	150	27	110	31	129	25	124	30	149	36	138	42	128
2115	16	89	18	106	34	120	22	115	17	111	33	122	29	117	25	140	22	100	26	121	31	123	18	120	25	127	35	128
2130	20	86	28	95	27	113	27	108	24	103	30	121	22	108	28	125	27	100	30	115	37	130	39	118	25	127	27	136
2145	22	82	15	86	28	117	13	90	10	74	25	116	28	106	30	112	26	102	16	103	18	111	31	118	25	111	26	130
2200	16	74	17	78	17	106	18	80	20	71	21	109	23	102	17	100	8	83	17	89	23	109	32	120	47	122	21	109
2215	24	82	13	73	20	92	17	75	18	72	16	92	22	95	18	93	17	78	20	83	30	108	19	121	32	129	26	100
2230	11	73	17	62	15	80	15	63	13	61	13	75	13	86	15	80	16	67	20	73	28	99	18	100	39	143	26	99
2245	24	75	11	58	15	67	8	58	16	67	11	61	21	79	22	72	12	53	19	76	26	107	26	95	21	139	17	90
2300	16	75	9	50	19	69	18	58	13	60	17	57	14	70	19	74	14	59	20	79	18	102	27	90	25	117	17	86
2315	28	79	12	49	11	60	18	59	11	53	13	54	13	61	15	71	20	62	14	73	28	100	18	89	33	118	20	80
2330	31	99	16	48	20	65	15	59	14	54	18	59	18	66	16	72	13	59	14	67	25	97	18	89	34	113	12	66
2345	18	93	19	56	16	66	13	64	13	51	15	63	12	57	19	69	9	56	12	60	25	96	15	78	28	120	23	72
TOTAL	2,889	N/A	2,870	N/A	6,944	N/A	6,029	N/A	6,690	N/A	5,927	N/A	5,926	N/A	5,374	N/A	6,711	N/A	5,821	N/A	6,338	N/A	5,952	N/A	3,414	N/A	3,409	N/A
AM	148		123		548		423		562		417		429		345		558		426		458		382		150		225	
NOON	267		254		636		566		593		521		590		458		616		520		546		545		269		299	
PM	264		261		610		550		572		525		537		475		580		530		544		536		268		261	
EVEN	99		171		124		168		146		193		150		153		133		183		162		194		143		167	

Telephone: (510) 232-1271 *Fax: (510) 232-1272*

Data File: 'Tulare_WO_Fulton_031809.rdf'
Site Code: '000000000000'
Start Date: 3/19/2009
Start Time: 12:00 AM
Sensor Layout: '21'

'LOCATION': 'Tulare'
'CROSS ST': 'W/O Fulton'
'COUNT': 'Downtown Study'

Thursday					Friday					Saturday					Sunday				
Date	Time	Total	**EB**	**WB**	Date	Time	Total	**EB**	**WB**	Date	Time	Total	**EB**	**WB**	Date	Time	Total	**EB**	**WB**
3/19/2009	12:00 AM	54	24	30	3/20/2009	12:00 AM	38	20	18	3/21/2009	12:00 AM	72	37	35	3/22/2009	12:00 AM	63	32	31
3/19/2009	1:00 AM	34	19	15	3/20/2009	1:00 AM	46	22	24	3/21/2009	1:00 AM	67	32	35	3/22/2009	1:00 AM	57	32	25
3/19/2009	2:00 AM	20	9	11	3/20/2009	2:00 AM	16	8	8	3/21/2009	2:00 AM	38	25	13	3/22/2009	2:00 AM	40	23	17
3/19/2009	3:00 AM	18	7	11	3/20/2009	3:00 AM	14	9	5	3/21/2009	3:00 AM	24	10	14	3/22/2009	3:00 AM	21	10	11
3/19/2009	4:00 AM	19	9	10	3/20/2009	4:00 AM	23	13	10	3/21/2009	4:00 AM	22	9	13	3/22/2009	4:00 AM	13	5	8
3/19/2009	5:00 AM	105	58	47	3/20/2009	5:00 AM	94	56	38	3/21/2009	5:00 AM	58	35	23	3/22/2009	5:00 AM	24	11	13
3/19/2009	6:00 AM	156	101	55	3/20/2009	6:00 AM	162	103	59	3/21/2009	6:00 AM	93	56	37	3/22/2009	6:00 AM	47	27	20
3/19/2009	7:00 AM	448	296	152	3/20/2009	7:00 AM	483	321	162	3/21/2009	7:00 AM	148	94	54	3/22/2009	7:00 AM	108	71	37
3/19/2009	8:00 AM	589	331	258	3/20/2009	8:00 AM	535	335	200	3/21/2009	8:00 AM	213	121	92	3/22/2009	8:00 AM	127	58	69
3/19/2009	9:00 AM	518	297	221	3/20/2009	9:00 AM	564	314	250	3/21/2009	9:00 AM	335	194	141	3/22/2009	9:00 AM	207	114	93
3/19/2009	10:00 AM	655	357	298	3/20/2009	10:00 AM	761	407	354	3/21/2009	10:00 AM	400	230	170	3/22/2009	10:00 AM	240	140	100
3/19/2009	11:00 AM	776	433	343	3/20/2009	11:00 AM	825	430	395	3/21/2009	11:00 AM	483	271	212	3/22/2009	11:00 AM	357	183	174
3/19/2009	12:00 PM	810	434	376	3/20/2009	12:00 PM	826	420	406	3/21/2009	12:00 PM	535	325	210	3/22/2009	12:00 PM	389	210	179
3/19/2009	1:00 PM	769	423	346	3/20/2009	1:00 PM	819	453	366	3/21/2009	1:00 PM	538	309	229	3/22/2009	1:00 PM	422	227	195
3/19/2009	2:00 PM	755	408	347	3/20/2009	2:00 PM	854	456	398	3/21/2009	2:00 PM	455	244	211	3/22/2009	2:00 PM	396	211	185
3/19/2009	3:00 PM	726	383	343	3/20/2009	3:00 PM	789	410	379	3/21/2009	3:00 PM	431	260	171	3/22/2009	3:00 PM	354	183	171
3/19/2009	4:00 PM	839	454	385	3/20/2009	4:00 PM	777	391	386	3/21/2009	4:00 PM	466	266	200	3/22/2009	4:00 PM	317	158	159
3/19/2009	5:00 PM	654	345	309	3/20/2009	5:00 PM	727	411	316	3/21/2009	5:00 PM	365	195	170	3/22/2009	5:00 PM	263	136	127
3/19/2009	6:00 PM	300	159	141	3/20/2009	6:00 PM	408	230	178	3/21/2009	6:00 PM	294	170	124	3/22/2009	6:00 PM	209	103	106
3/19/2009	7:00 PM	213	112	101	3/20/2009	7:00 PM	258	139	119	3/21/2009	7:00 PM	200	107	93	3/22/2009	7:00 PM	190	104	86
3/19/2009	8:00 PM	199	109	90	3/20/2009	8:00 PM	230	127	103	3/21/2009	8:00 PM	180	91	89	3/22/2009	8:00 PM	190	102	88
3/19/2009	9:00 PM	97	53	44	3/20/2009	9:00 PM	177	81	96	3/21/2009	9:00 PM	175	96	79	3/22/2009	9:00 PM	121	62	59
3/19/2009	10:00 PM	102	54	48	3/20/2009	10:00 PM	128	63	65	3/21/2009	10:00 PM	134	71	63	3/22/2009	10:00 PM	75	41	34
3/19/2009	11:00 PM	62	32	30	3/20/2009	11:00 PM	116	52	64	3/21/2009	11:00 PM	76	47	29	3/22/2009	11:00 PM	50	26	24
		8,918	**4,907**	**4,011**			9,670	**5,271**	**4,399**			5,802	**3,295**	**2,507**			4,280	**2,269**	**2,011**

B A Y M E T R I C S

HST PROJECT - FRESNO

Date	15-Nov-09 Sunday				16-Nov-09 Monday				17-Nov-09 Tuesday				18-Nov-09 Wednesday				19-Nov-09 Thursday				20-Nov-09 Friday				21-Nov-09 Saturday			
Location	25. On Inyo Street, between Broadway Street and Van Ness Avenue																											
Direction	EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	7	0	5	0	0	0	0	0	3	0	2	0	1	0	0	0	3	0	1	0	1	0	1	0	4	0	2	0
1215	5	0	5	0	1	0	0	0	3	0	2	0	7	0	6	0	6	0	3	0	1	0	1	0	4	0	3	0
1230	4	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	0	2	0	2	0	3	0	3	0
1245	1	17	0	12	0	1	0	0	4	10	4	8	8	17	8	14	3	15	2	10	7	11	5	9	4	15	4	12
100	3	13	2	9	2	3	1	1	5	12	3	9	6	22	4	18	5	17	4	13	1	11	1	9	2	13	1	11
115	3	11	2	6	0	2	0	1	4	13	1	8	2	17	0	12	2	13	3	13	2	12	2	10	0	9	0	8
130	5	12	1	5	4	6	2	3	3	16	2	10	3	19	1	13	2	12	2	11	0	10	0	8	0	6	0	5
145	2	13	2	7	1	7	0	3	4	16	2	8	3	14	3	8	0	9	0	9	2	5	2	5	3	5	0	1
200	3	13	1	6	3	8	0	2	0	11	0	5	3	11	0	4	0	4	0	5	2	6	1	5	1	4	0	0
215	2	12	1	5	0	8	0	2	1	8	1	5	3	12	1	5	3	5	1	3	0	4	0	3	2	6	2	2
230	0	7	0	4	0	4	0	0	1	6	1	4	1	10	0	4	0	3	0	1	0	4	0	3	1	7	1	3
245	0	5	0	2	0	3	0	0	1	3	0	2	0	7	0	1	0	3	0	1	0	2	0	1	1	5	1	4
300	2	4	1	2	0	0	0	0	1	4	0	2	0	4	0	1	0	3	0	1	0	0	0	0	1	5	1	5
315	1	3	0	1	0	0	0	0	1	4	1	2	1	2	0	0	1	1	1	1	1	1	1	1	0	3	0	3
330	0	3	0	1	0	0	0	0	0	3	0	1	0	1	0	0	1	2	0	1	0	1	0	1	2	4	0	2
345	0	3	0	1	1	1	0	0	0	2	0	1	1	2	0	0	0	2	0	1	0	1	0	1	0	3	0	1
400	1	2	0	0	0	1	0	0	1	2	0	1	0	2	0	0	0	2	0	1	0	1	0	1	0	2	0	0
415	0	1	0	0	1	2	0	0	0	1	0	0	1	2	0	0	0	1	0	0	0	0	0	0	1	3	0	0
430	3	4	1	1	0	2	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0
445	0	4	0	1	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	2	1	1	2	3	0	0
500	0	3	0	1	1	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	1	1	4	0	0
515	0	3	0	1	1	2	0	0	3	3	1	1	0	0	0	0	2	2	0	0	3	5	1	2	1	4	1	1
530	0	0	0	0	5	7	1	1	8	11	3	4	5	5	2	2	10	12	2	2	5	10	0	2	0	4	0	1
545	0	0	0	0	4	11	2	3	6	17	4	8	8	13	4	6	8	20	3	5	6	14	3	4	3	5	0	1
600	0	0	0	0	14	24	3	6	13	30	3	11	12	25	2	8	10	30	3	8	11	25	4	8	3	7	0	1
615	0	0	0	0	10	33	4	10	7	34	3	13	6	31	1	9	7	35	3	11	4	26	1	8	4	10	1	1
630	1	1	0	0	3	31	0	9	2	28	1	11	3	29	0	7	7	32	3	12	3	24	1	9	4	14	1	2
645	0	1	0	0	7	34	3	10	8	30	3	10	6	27	3	6	11	35	4	13	7	25	3	9	4	15	2	4
700	7	8	1	1	15	35	3	10	24	41	9	16	28	43	9	13	19	44	7	17	21	35	10	15	4	16	0	4
715	1	9	0	1	20	45	12	18	14	48	3	16	13	50	5	17	26	63	10	24	16	47	8	22	1	13	0	3
730	2	10	1	2	31	73	11	29	33	79	11	26	22	69	8	25	29	85	9	30	28	72	12	33	2	11	1	3
745	2	12	0	2	47	113	18	44	44	115	20	43	43	106	22	44	48	122	25	51	44	109	22	52	5	12	2	3
800	4	9	3	4	68	166	23	64	66	157	28	62	59	137	16	51	66	169	20	64	61	149	26	68	11	19	4	7
815	4	12	2	6	51	197	34	86	56	199	38	97	57	181	26	72	62	205	35	89	51	184	29	89	12	30	7	14
830	2	12	1	6	57	223	38	113	67	233	46	132	33	192	17	81	41	217	23	103	51	207	23	100	7	35	4	17
845	7	17	0	6	41	217	22	117	50	239	29	141	38	187	11	70	34	203	18	96	37	200	21	99	7	37	0	15
900	8	21	3	6	28	177	12	106	36	209	17	130	29	157	16	70	37	174	19	95	33	172	18	91	9	35	4	15
915	9	26	2	6	29	155	19	91	27	180	20	112	29	129	16	60	38	150	21	81	25	146	15	77	11	34	4	12
930	11	35	6	11	43	141	23	76	26	139	13	79	20	116	8	51	30	139	14	72	41	136	20	74	10	37	3	11
945	13	41	5	16	31	131	18	72	30	119	14	64	39	117	18	58	37	142	18	72	27	126	15	68	16	46	7	18
1000	13	46	6	19	38	141	21	81	38	121	15	62	31	119	14	56	28	133	17	70	36	129	13	63	27	64	11	25
1015	17	54	8	25	38	150	18	80	46	140	18	60	50	140	18	58	34	129	18	67	34	138	14	62	28	81	15	36
1030	15	58	10	29	30	137	17	74	39	153	22	69	49	169	21	71	31	130	17	70	38	135	17	59	23	94	10	43
1045	26	71	13	37	36	142	15	71	31	154	16	71	49	179	25	78	42	135	23	75	37	145	20	64	33	111	13	49
1100	18	76	10	41	45	149	21	71	45	161	25	81	40	188	20	84	41	148	20	78	43	152	21	72	32	116	20	58
1115	19	78	7	40	46	157	22	75	41	156	23	86	34	172	17	83	37	151	20	80	45	163	25	83	23	111	12	55
1130	37	100	21	51	54	181	35	93	57	174	32	96	34	157	16	78	42	162	22	85	48	173	29	95	35	123	17	62
1145	36	110	20	58	67	212	28	106	41	184	17	97	42	150	21	74	48	168	27	89	55	191	26	101	52	142	24	73
1200	29	121	14	62	52	219	24	109	38	177	22	94	46	156	23	77	52	179	29	98	56	204	22	102	30	140	19	72
1215	23	125	9	64	71	244	38	125	61	197	21	92	49	171	30	90	52	194	31	109	66	225	39	116	37	154	22	82
1230	17	105	7	50	48	238	29	119	52	192	25	85	43	180	22	96	42	194	24	111	58	235	34	121	23	142	15	80
1245	30	99	19	49	55	226	25	116	62	213	32	100	48	186	26	101	60	206	33	117	55	235	29	124	33	123	18	74
1300	22	92	12	47	54	228	22	114	42	217	20	98	35	175	15	93	56	210	29	117	51	230	26	128	39	132	17	72
1315	23	92	9	47	58	215	33	109	55	211	23	100	57	183	29	92	60	218	26	112	61	225	38	127	41	136	19	69
1330	32	107	14	54	69	236	41	121	29	188	33	108	56	196	19	89	73	249	39	127	55	222	31	124	44	157	22	76
1345	42	119	22	57	62	243	33	129	0	126	28	104	52	200	30	93	49	238	18	112	60	227	29	124	28	152	13	71
1400	28	125	16	61	68	257	33	140	0	84	25	109	39	204	17	95	35	217	23	106	57	233	25	123	35	148	12	66
1415	33	135	14	66	55	254	25	132	64	93	31	117	45	192	28	94	45	202	27	107	58	230	28	113	33	140	16	63
1430	31	134	15	67	45	230	24	115	50	114	23	107	46	182	20	95	43	172	21	89	39	214	21	103	36	132	20	61
1445	32	124	13	58	39	207	20	102	54	168	29	108	38	168	18	83	45	168	17	88	55	209	33	107	46	150	33	81
1500	34	130	19	61	39	178	21	90	38	206	26	109	50	179	26	92	30	163	20	85	40	192	19	101	40	155	14	83
1515	34	131	20	67	43	166	27	92	38	180	21	99	36	170	17	81	48	166	24	82	50	184	29	102	32	154	15	82
1530	34	134	17	69	50	171	22	90	41	171	18	94	41	165	25	86	46	169	28	89	56	201	29	110	35	153	17	79
1545	28	130	12	68	79	211	55	125	66	183	36	101	45	172	28	96	34	158	17	89	64	210	36	113	43	150	22	68
1600	25	121	12	61	44	216	24	128	60	205	28	103	53	175	29	99	64	192	35	104	63	233	26	120	35	145	16	70
1615	21	108	9	50	55	228	36	137	38	205	25	107	59	198	41	123	59	203	33	113	47	230	25	116	26	139	12	67
1630	18	92	13	46	52	230	31	146	61	225	36	125	54	211	31	129	55	212	28	113	59	233	35	122	28	132	14	64
1645	19	83	7	41	44	195	24	115	58	217	27	116	60	226	37	138	65	243	35	131	46	215	29	115	35	124	15	57
1700	19	77	10	39	57	208	31	122	36	193	19	107	41	214	17	126	41	220	28	124	41	193	22	111	24	113	7	48
1715	12	68	3	33	67	220	42	128	73	228	51	133	65	220	43	128	67	228	45	136	61	207	34	120	30	117	10	46
1730	23	73	13	33	49	217	30	127	45	212	21	118	50	216	27	124	48	221	25	133	35	183	25	110	13	102	5	37
1745	24	78	11	37	43	216	24	127	37	191	17	108	42	198	22	109	41	197	27	125	30	167	19	100	27	94	13	35
1800	11	70	7	34	18	177	11	107	32	187	22	111	23	180	9	101	15	171	7	104	22	148	12	90	18	88	10	38
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1830	5	44	1	23	10	88	6	50	13	102	7	54	15	94	6	46	9	87	6	52	12	85	9	52	18	75	8	38
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1915	9	25	3	9	7	26	3	14	7	37	5	24	10	36	5	18	5	38	2	19	4	32	2	19	7	42	4	19
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2130	1	18	1	13	5	17	0	8	6	17	4	9	10	27	5	14	7	22	4	7	5	26	0	10	3	24	1	12
2145	3	15	1	8	5	17	3	9	2	12	1	7	5	26	1	13	6	21	2	8	4	24	0	8	2	20	0	10
2200	5	16	4	10	2	17	1	9	7	16	4	9	3	21	0	6	3	23	2	9	3	20	3	5	3	12	2	5
2215	3	12	0	6	3	15	2	6	7	22	6	15	7	25	4	10	2	18	0	8	7	19	5	8	10	18	4	7
2230	2	13	1	6	4	14	1	7	7	23	4	15	0	15	0	5	4	15	2	6	6	20	4	12	4	19	2	8
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2300	5	13	4	7	1	13	0	6	0	21	0	14	1	10	1	6	8	18	6	10	1	18	0	10	5	28	3	14
2315	1	11	0	7	3	13	1	5	4	18	2	10	2	5	1	3	5	21	1	11	8	19	5	10	5	23	5	15
2330	0	9	0	6	2	11	2	6	4	15	3	9	3	8	3	6	4	21	3	12	2	15	1	7	4	23	1	14
2345	4	10	3	7	2	8	1	4	0	8	0	5	2	8	1	6	2	19	2	12	5	16	1	7	4	18	3	12
TOTAL	1,036	N/A	515	N/A	2,301	N/A	1,207	N/A	2,156	N/A	1,188	N/A	2,121	N/A	1,054	N/A	2,223	N/A	1,160	N/A	2,272	N/A	1,188	N/A	1,369	N/A	657	N/A
AM	41		16		223		117		239		141		192		81		217		103		207		100		46		18	
NOON	135		67		257		140		217		117		204		101		249		127		235		128		157		82	
PM	134		69		230		146		228		133		226		138		243		136		233		122		155		83	
EVEN	29		14		27		12		28		18		27		14		23		12		34		17		33		16	

Telephone: (510) 232-1271 *Fax: (510) 232-1272*

B A Y M E T R I C S

HST PROJECT - FRESNO

Date	15-Nov-09 Sunday				16-Nov-09 Monday				17-Nov-09 Tuesday				18-Nov-09 Wednesday				19-Nov-09 Thursday				20-Nov-09 Friday				21-Nov-09 Saturday			
Location	32. On Ventura Avenue, between M Street and Van Ness Avenue																											
Direction	EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB		EB		WB	
TIME	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN	15 MIN	60 MIN
1200	15	0	24	0	6	0	9	0	7	0	8	0	9	0	9	0	9	0	10	0	12	0	5	0	21	0	9	0
1215	27	0	18	0	15	0	8	0	9	0	8	0	8	0	9	0	15	0	6	0	6	0	6	0	11	0	16	0
1230	18	0	15	0	1	0	4	0	14	0	5	0	11	0	8	0	23	0	6	0	19	0	5	0	24	0	12	0
1245	19	79	7	64	1	23	6	27	22	52	2	23	34	62	4	30	23	70	9	31	34	71	6	22	25	81	11	48
100	14	78	5	45	6	23	7	25	11	56	0	15	9	62	1	22	13	74	9	30	10	69	6	23	9	69	6	45
115	20	71	12	39	1	9	2	19	9	56	7	14	5	59	8	21	10	69	8	32	9	72	10	27	12	70	11	40
130	15	68	9	33	6	14	5	20	3	45	4	13	6	54	5	18	8	54	0	26	10	63	2	24	14	60	11	39
145	38	87	9	35	8	21	2	16	4	27	4	15	6	26	2	16	9	40	5	22	7	36	4	22	8	43	8	36
200	23	96	7	37	1	16	5	14	0	16	0	15	2	19	5	20	2	29	2	15	4	30	5	21	8	42	8	38
215	11	87	12	37	7	22	2	14	1	8	2	10	0	14	1	13	4	23	2	9	3	24	1	12	14	44	5	32
230	6	78	22	50	0	16	2	11	5	10	1	7	6	14	1	9	2	17	4	13	3	17	6	16	6	36	1	22
245	3	43	8	49	6	14	2	11	3	9	1	4	3	11	3	10	4	12	3	11	2	12	2	14	4	32	8	22
300	5	25	10	52	2	15	1	7	2	11	0	4	2	11	1	6	0	10	0	9	3	11	6	15	5	29	6	20
315	2	16	9	49	3	11	1	6	1	11	0	2	2	13	1	6	2	8	1	8	3	11	1	15	1	16	4	19
330	2	12	6	33	3	14	1	5	2	8	1	2	5	12	1	6	0	6	2	6	2	10	0	9	5	15	0	18
345	4	13	3	28	5	13	2	5	8	13	1	2	5	14	0	3	3	5	1	4	5	13	2	9	2	13	0	10
400	3	11	3	21	5	16	3	7	6	17	6	8	1	13	3	5	3	8	5	9	3	13	4	7	0	8	2	6
415	2	11	1	13	3	16	5	11	4	20	2	10	4	15	2	6	4	10	0	8	3	13	2	8	2	9	4	6
430	1	10	0	7	3	16	5	15	3	21	2	11	3	13	0	5	4	14	5	11	3	14	3	11	3	7	2	8
445	3	9	2	6	1	12	9	22	4	17	6	16	3	11	12	17	3	14	8	18	3	12	9	18	3	8	2	10
500	4	10	1	4	10	17	9	28	6	17	10	20	2	12	18	32	7	18	9	22	5	14	11	25	3	11	8	16
515	6	14	3	6	7	21	16	39	2	15	15	33	15	23	18	48	5	19	11	33	10	21	12	35	5	14	5	17
530	3	16	7	13	13	31	35	69	10	22	29	60	8	28	27	75	14	29	27	55	5	23	32	64	8	19	13	28
545	7	20	5	16	10	40	32	92	12	30	32	86	13	38	24	87	15	41	30	77	13	33	25	80	2	18	18	44
600	2	18	14	29	18	48	45	128	29	53	36	112	21	57	43	112	21	55	44	112	17	45	24	93	9	24	29	65
615	12	24	2	28	15	56	23	135	17	68	23	120	19	61	24	118	17	67	27	128	15	50	34	115	11	30	8	68
630	20	41	6	27	14	57	24	124	28	86	27	118	20	73	27	118	18	71	29	130	18	63	23	106	9	31	14	69
645	15	49	5	27	38	85	54	146	54	128	46	132	46	106	56	150	43	99	46	146	45	95	43	124	16	45	12	63
700	21	68	11	24	49	116	62	163	59	158	83	179	54	139	52	159	65	143	72	174	55	133	57	157	24	60	24	58
715	18	74	11	33	48	149	58	198	61	202	67	223	56	176	76	211	60	186	59	206	49	167	54	177	24	73	22	72
730	23	77	14	41	88	223	86	260	96	270	85	281	75	231	94	278	103	271	98	275	85	234	84	238	30	94	21	79
745	22	84	15	51	100	285	114	320	121	337	127	362	120	305	126	348	106	334	118	347	121	310	118	313	40	118	26	93
800	20	83	21	61	127	363	102	360	122	400	126	405	148	399	114	410	132	401	130	405	130	385	94	350	62	156	38	107
815	32	97	15	65	92	407	94	396	119	458	113	451	96	439	100	434	92	433	124	470	88	424	102	398	71	203	44	129
830	29	103	35	86	82	401	82	392	87	449	99	465	88	452	100	440	93	423	89	461	84	423	98	412	68	241	41	149
845	43	124	40	111	74	375	94	372	89	417	83	421	96	428	93	407	93	410	111	454	95	397	93	387	59	260	41	164
900	51	155	42	132	94	342	80	350	77	372	103	398	86	366	88	381	98	376	100	424	99	366	81	374	79	277	59	185
915	71	194	36	153	96	346	100	356	93	346	92	377	74	344	84	365	81	365	74	374	76	354	90	362	57	263	56	197
930	61	226	47	165	96	360	79	353	91	350	69	347	72	328	90	355	87	359	74	359	118	388	83	347	67	262	62	218
945	83	266	58	183	98	384	83	342	93	354	82	346	108	340	92	354	75	341	69	317	126	419	104	358	80	283	67	244
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1015	92	318	47	218	97	394	92	359	97	378	72	327	104	394	117	403	95	355	92	330	115	479	106	409	78	316	48	261
1030	81	338	73	244	100	398	80	360	95	382	91	349	103	425	109	422	87	355	87	343	120	481	96	422	76	325	66	265
1045	84	339	64	250	87	387	89	366	85	374	87	354	112	429	90	420	93	373	107	381	103	458	109	427	73	318	78	276
1100	115	372	67	251	106	390	108	369	95	372	107	357	89	408	102	418	124	399	99	385	108	446	107	418	92	319	88	280
1115	72	352	69	273	132	425	101	378	101	376	114	399	87	391	95	396	117	421	97	390	128	459	105	417	97	338	63	295
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1145	81	360	84	289	109	448	131	439	121	429	108	436	126	401	150	421	123	485	86	397	105	495	132	437	73	347	97	335
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1215	84	350	79	300	143	476	132	477	110	466	99	404	117	484	138	476	105	481	126	448	145	523	124	459	95	339	99	327
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1600	75	310	87	378	123	534	128	600	116	468	111	444	131	462	117	484	125	482	127	503	130	531	121	508	83	328	96	358
1615	92	326	73	336	143	556	144	610	111	469	131	477	116	478	141	492	141	509	129	505	126	504	136	521	92	336	80	343
1630	79	328	71	320	127	557	117	574	139	509	112	483	114	489	115	506	131	531	119	504	118	511	116	517	83	341	87	352
1645	77	323	82	313	165	558	180	569	139	505	168	522	156	517	167	540	146	543	189	564	140	514	176	549	70	328	94	357
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1715	69	306	69	302	140	532	138	560	153	557	157	541	146	542	175	582	156	539	135	566	156	534	151	562	78	311	68	334
1730	63	290	93	324	118	523	106	549	135	553	111	540	110	538	115	582	132	540	103	550	130	546	109	555	60	288	64	311
1745	83	296	69	311	97	455	78	447	102	516	109	481	102	484	95	510	106	500	89	450	103	509	93	472	70	288	82	299
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1815	66	273	67	298	71	355	57	321	73	382	63	365	78	369	75	363	68	392	70	329	85	402	79	358	69	268	60	287
1830	38	248	63	268	51	288	57	272	50	297	54	308	47	306	47	295	54	314	70	296	70	342	87	336	60	268	55	278
1845	42	207	57	256	42	233	64	258	53	248	55	254	59	263	56	256	49	257	58	265	81	320	63	306	54	252	76	272
1900	31	177	54	241	55	219	45	223	67	243	60	232	80	264	60	238	57	228	62	260	61	297	57	286	49	232	93	284
1915	37	148	45	219	28	176	37	203	60	230	55	224	52	238	52	215	44	204	44	234	54	266	54	261	40	203	63	287
1930	55	165	121	277	42	167	46	192	48	228	64	234	38	229	49	217	38	188	42	206	38	234	45	219	46	189	61	293
1945	33	156	73	293	38	163	59	187	50	225	46	225	44	214	60	221	42	181	55	203	36	189	62	218	42	177	77	294
2000	33	158	28	267	32	140	46	188	42	200	41	206	20	154	36	197	26	150	17	158	33	161	36	197	31	159	78	279
2015	29	150	49	271	28	140	29	180	40	180	21	172	33	135	35	180	28	134	40	154	43	150	32	175	30	149	53	269
2030	20	115	25	175	27	125	36	170	13	145	32	140	33	130	39	170	25	121	17	129	30	142	42	172	31	134	29	237
2045	29	111	30	132	33	120	24	135	32	127	24	118	35	121	38	148	24	103	34	108	29	135	38	148	29	121	30	190
2100	22	100	31	135	24	112	25	114	19	104	26	103	20	121	33	145	28	105	34	125	24	126	39	151	34	124	35	147
2115	24	95	36	122	18	102	27	112	22	86	33	115	28	116	32	142	22	99	24	109	28	111	33	152	38	132	46	140
2130	19	94	34	131	18	93	20	96	24	97	21	104	27	110	28	131	22	96	27	119	31	112	35	145	25	126	24	135
2145	20	85	38	139	20	80	27	99	14	79	23	103	23	98	22	115	18	90	23	108	28	111	28	135	32	129	31	136
2200	18	81	21	129	10	66	13	87	18	78	19	96	20	98	21	103	19	81	27	101	20	107	44	140	56	151	53	154
2215	18	75	10	103	21	69	18	78	57	113	45	108	49	119	61	132	26	85	20	97	27	106	60	167	62	175	67	175
2230	10	66	15	84	9	60	19	77	22	111	19	106	17	109	11	115	16	79	23	93	23	98	23	155	27	177	51	202
2245	16	62	9	55	18	58	14	64	17	114	15	98	17	103	15	108	12	73	15	85	25	95	21	148	24	169	34	205
2300	11	55	10	44	7	55	8	59	9	105	10	89	11	94	9	96	21	75	8	66	14	89	21	125	21	134	29	181
2315	11	48	11	45	14	48	10	51	15	63	14	58	14	59	10	45	22	71	15	61	33	95	16	81	23	95	17	131
2330	9	47	14	44	10	49	7	39	13	54	9	48	6	48	11	45	11	66	16	54	15	87	15	73	23	91	24	104
2345	7	38	13	48	15	46	5	30	8	45	6	39	8	39	7	37	11	65	11	50	15	77	5	57	21	88	33	103
TOTAL	4,230	N/A	4,201	N/A	5,890	N/A	6,154	N/A	5,969	N/A	5,866	N/A	5,827	N/A	6,028	N/A	5,886	N/A	5,939	N/A	6,354	N/A	6,189	N/A	4,574	N/A	4,596	N/A
AM	266		183		407		396		458		465		452		440		433		470		424		412		283		244	
NOON	418		431		557		610		484		512		497		501		493		501		523		511		415		374	
PM	359		494		558		610		557		541		542		582		543		566		557		562		365		382	
EVEN	158		271		140		188		200		206		154		197		150		158		161		197		177		279	

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APPENDIX C:
TECHNICAL CALCULATIONS – BASELINE CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	81	194	7	75	238	0	0	132	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.2	4.2	4.2	4.2			4.2	
Lane Util. Factor					0.95	1.00	1.00	1.00			1.00	
Frt					1.00	0.85	1.00	1.00			0.99	
Flt Protected					0.99	1.00	0.95	1.00			1.00	
Satd. Flow (prot)					3488	1583	1770	1863			1853	
Flt Permitted					0.99	1.00	0.66	1.00			1.00	
Satd. Flow (perm)					3488	1583	1222	1863			1853	
Peak-hour factor, PHF	0.92	0.92	0.92	0.81	0.81	0.81	0.93	0.93	0.93	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	100	240	9	81	256	0	0	153	6
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	340	3	81	256	0	0	156	0
Turn Type				Perm		Perm	Perm					
Protected Phases					4			6			2	
Permitted Phases				4		4	6					
Actuated Green, G (s)					22.0	22.0	28.0	28.0			28.0	
Effective Green, g (s)					22.0	22.0	28.0	28.0			28.0	
Actuated g/C Ratio					0.38	0.38	0.48	0.48			0.48	
Clearance Time (s)					4.2	4.2	4.2	4.2			4.2	
Lane Grp Cap (vph)					1314	596	586	893			888	
v/s Ratio Prot								c0.14			0.08	
v/s Ratio Perm					0.10	0.00	0.07					
v/c Ratio					0.26	0.01	0.14	0.29			0.18	
Uniform Delay, d1					12.6	11.4	8.5	9.2			8.6	
Progression Factor					1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2					0.5	0.0	0.5	0.8			0.4	
Delay (s)					13.0	11.4	9.0	10.0			9.1	
Level of Service					B	B	A	A			A	
Approach Delay (s)		0.0			13.0			9.7			9.1	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	58.4	Sum of lost time (s)	8.4
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	10	230	8	6	12	0	0	77	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.4		5.4	5.4			5.4	
Lane Util. Factor					0.95		1.00	1.00			1.00	
Frt					1.00		1.00	1.00			0.96	
Flt Protected					1.00		0.95	1.00			1.00	
Satd. Flow (prot)					3443		1805	1900			1777	
Flt Permitted					1.00		0.68	1.00			1.00	
Satd. Flow (perm)					3443		1286	1900			1777	
Peak-hour factor, PHF	0.85	0.85	0.85	1.00	1.00	1.00	0.64	0.64	0.64	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	10	230	8	9	19	0	0	91	34
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	22	0
Lane Group Flow (vph)	0	0	0	0	244	0	9	19	0	0	103	0
Heavy Vehicles (%)	2%	2%	2%	0%	4%	13%	0%	0%	0%	0%	3%	3%
Turn Type				Perm			Perm					
Protected Phases					8			2			2	
Permitted Phases				8			2					
Actuated Green, G (s)					30.6		18.6	18.6			18.6	
Effective Green, g (s)					30.6		18.6	18.6			18.6	
Actuated g/C Ratio					0.51		0.31	0.31			0.31	
Clearance Time (s)					5.4		5.4	5.4			5.4	
Lane Grp Cap (vph)					1756		399	589			551	
v/s Ratio Prot								0.01			c0.06	
v/s Ratio Perm					0.07		0.01					
v/c Ratio					0.14		0.02	0.03			0.19	
Uniform Delay, d1					7.8		14.4	14.4			15.2	
Progression Factor					1.00		1.00	1.00			1.00	
Incremental Delay, d2					0.2		0.1	0.1			0.7	
Delay (s)					7.9		14.5	14.5			15.9	
Level of Service					A		B	B			B	
Approach Delay (s)		0.0			7.9			14.5			15.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	115	236	3	5	37	0	0	112	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.2	4.2	4.2	4.2	4.2			4.2	
Lane Util. Factor				1.00	0.95	1.00	1.00	1.00			0.95	
Frt				1.00	1.00	0.85	1.00	1.00			0.96	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1770	3539	1583	1770	1863			3389	
Flt Permitted				0.95	1.00	1.00	0.64	1.00			1.00	
Satd. Flow (perm)				1770	3539	1583	1184	1863			3389	
Peak-hour factor, PHF	0.92	0.92	0.92	0.96	0.96	0.96	0.58	0.58	0.58	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	120	246	3	9	64	0	0	132	52
RTOR Reduction (vph)	0	0	0	0	0	1	0	0	0	0	35	0
Lane Group Flow (vph)	0	0	0	120	246	2	9	64	0	0	149	0
Turn Type				Perm		Perm	Perm					
Protected Phases					4			2			2	
Permitted Phases				4		4	2					
Actuated Green, G (s)				31.0	31.0	31.0	19.0	19.0			19.0	
Effective Green, g (s)				31.0	31.0	31.0	19.0	19.0			19.0	
Actuated g/C Ratio				0.53	0.53	0.53	0.33	0.33			0.33	
Clearance Time (s)				4.2	4.2	4.2	4.2	4.2			4.2	
Lane Grp Cap (vph)				940	1879	840	385	606			1103	
v/s Ratio Prot					c0.07			0.03			c0.04	
v/s Ratio Perm				0.07		0.00	0.01					
v/c Ratio				0.13	0.13	0.00	0.02	0.11			0.14	
Uniform Delay, d1				6.9	6.9	6.4	13.4	13.8			13.9	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				0.3	0.1	0.0	0.1	0.4			0.3	
Delay (s)				7.2	7.1	6.4	13.5	14.1			14.2	
Level of Service				A	A	A	B	B			B	
Approach Delay (s)		0.0			7.1			14.0			14.2	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.13		
Actuated Cycle Length (s)	58.4	Sum of lost time (s)	8.4
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	493	51	0	0	0	0	13	8	108	97	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2					4.2	4.2	4.6	4.6	
Lane Util. Factor	1.00	0.95	1.00					1.00	1.00	0.95	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	3539	1583					1863	1583	1681	1760	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.75	0.97	
Satd. Flow (perm)	1770	3539	1583					1863	1583	1321	1724	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.75	0.75	0.75	0.80	0.80	0.80
Adj. Flow (vph)	54	514	53	0	0	0	0	17	11	135	121	0
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	9	0	0	0
Lane Group Flow (vph)	54	514	17	0	0	0	0	17	2	121	135	0
Turn Type	Perm		Perm						Perm	Perm		
Protected Phases		8						1			2	
Permitted Phases	8		8						1	2		
Actuated Green, G (s)	19.0	19.0	19.0					13.0	13.0	13.0	13.0	
Effective Green, g (s)	19.0	19.0	19.0					13.0	13.0	13.0	13.0	
Actuated g/C Ratio	0.33	0.33	0.33					0.22	0.22	0.22	0.22	
Clearance Time (s)	4.2	4.2	4.2					4.2	4.2	4.6	4.6	
Lane Grp Cap (vph)	580	1159	519					418	355	296	386	
v/s Ratio Prot		c0.15						c0.01				
v/s Ratio Perm	0.03		0.01						0.00	c0.09	0.08	
v/c Ratio	0.09	0.44	0.03					0.04	0.01	0.41	0.35	
Uniform Delay, d1	13.5	15.3	13.3					17.6	17.5	19.2	18.9	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	1.2	0.1					0.2	0.0	4.1	2.5	
Delay (s)	13.8	16.6	13.4					17.8	17.5	23.4	21.4	
Level of Service	B	B	B					B	B	C	C	
Approach Delay (s)		16.1			0.0			17.7			22.3	
Approach LOS		B			A			B			C	

Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	58.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	16	529	0	0	64	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.0	
Lane Util. Factor		0.95			0.97	
Frt		1.00			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		3503			3335	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		3503			3335	
Peak-hour factor, PHF	0.77	0.77	0.25	0.25	1.00	1.00
Adj. Flow (vph)	21	687	0	0	64	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	708	0	0	64	0
Heavy Vehicles (%)	0%	3%	0%	0%	5%	0%
Turn Type	Perm					
Protected Phases		8				
Permitted Phases	8				2	
Actuated Green, G (s)		30.0			26.0	
Effective Green, g (s)		30.0			26.0	
Actuated g/C Ratio		0.47			0.40	
Clearance Time (s)		4.2			4.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1637			1351	
v/s Ratio Prot						
v/s Ratio Perm		0.20			c0.02	
v/c Ratio		0.43			0.05	
Uniform Delay, d1		11.4			11.6	
Progression Factor		1.00			1.00	
Incremental Delay, d2		0.2			0.0	
Delay (s)		11.6			11.6	
Level of Service		B			B	
Approach Delay (s)		11.6	0.0		11.6	
Approach LOS		B	A		B	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	64.2	Sum of lost time (s)	8.2
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	426	100	0	0	0	0	273	44	18	195	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2						4.2		4.2	4.2	
Lane Util. Factor		0.95						1.00		1.00	1.00	
Frt		0.97						0.98		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3433						1828		1770	1863	
Flt Permitted		1.00						1.00		0.49	1.00	
Satd. Flow (perm)		3433						1828		911	1863	
Peak-hour factor, PHF	0.85	0.85	0.85	0.92	0.92	0.92	0.91	0.91	0.91	0.87	0.87	0.87
Adj. Flow (vph)	49	501	118	0	0	0	0	300	48	21	224	0
RTOR Reduction (vph)	0	23	0	0	0	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	645	0	0	0	0	0	340	0	21	224	0
Turn Type	Perm									Perm		
Protected Phases		8						6			2	
Permitted Phases	8									2		
Actuated Green, G (s)		22.0						27.0		27.0	27.0	
Effective Green, g (s)		22.0						27.0		27.0	27.0	
Actuated g/C Ratio		0.38						0.47		0.47	0.47	
Clearance Time (s)		4.2						4.2		4.2	4.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		1316						860		429	876	
v/s Ratio Prot								c0.19			0.12	
v/s Ratio Perm		0.19								0.02		
v/c Ratio		0.49						0.40		0.05	0.26	
Uniform Delay, d1		13.4						9.9		8.2	9.2	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.3						0.3		0.0	0.2	
Delay (s)		13.7						10.2		8.3	9.3	
Level of Service		B						B		A	A	
Approach Delay (s)		13.7			0.0			10.2			9.2	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	57.4	Sum of lost time (s)	8.4
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	122	406	92	63	205	58	99	254	183	69	152	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.1	4.2		4.1	4.2		4.1	4.2		4.1	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.94		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3441		1770	3449		1770	3317		1770	1786	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3441		1770	3449		1770	3317		1770	1786	
Peak-hour factor, PHF	0.96	0.96	0.96	0.80	0.80	0.80	0.85	0.85	0.85	0.84	0.84	0.84
Adj. Flow (vph)	127	423	96	79	256	72	116	299	215	82	181	68
RTOR Reduction (vph)	0	18	0	0	24	0	0	92	0	0	10	0
Lane Group Flow (vph)	127	501	0	79	304	0	116	422	0	82	239	0
Heavy Vehicles (%)	2%	2%	2%	2%	1%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	13.3	29.2		9.1	25.0		12.6	47.9		9.2	44.5	
Effective Green, g (s)	13.3	29.2		9.1	25.0		12.6	47.9		9.2	44.5	
Actuated g/C Ratio	0.12	0.26		0.08	0.22		0.11	0.43		0.08	0.40	
Clearance Time (s)	4.1	4.2		4.1	4.2		4.1	4.2		4.1	4.2	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	210	897		144	770		199	1419		145	710	
v/s Ratio Prot	c0.07	c0.15		0.04	0.09		c0.07	c0.13		0.05	c0.13	
v/s Ratio Perm												
v/c Ratio	0.60	0.56		0.55	0.39		0.58	0.30		0.57	0.34	
Uniform Delay, d1	46.9	35.8		49.5	37.1		47.2	21.0		49.5	23.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.9	1.3		4.2	0.7		4.3	0.5		5.0	1.3	
Delay (s)	51.7	37.1		53.7	37.8		51.5	21.6		54.5	24.8	
Level of Service	D	D		D	D		D	C		D	C	
Approach Delay (s)		40.0			40.8			27.1			32.1	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	34.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	112.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	98	12	39	110	75	15	134	24	200	194	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.94		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3480		1770	3324		1770	1820		1770	1863	1583
Flt Permitted	0.61	1.00		0.67	1.00		0.57	1.00		0.64	1.00	1.00
Satd. Flow (perm)	1144	3480		1241	3324		1053	1820		1197	1863	1583
Peak-hour factor, PHF	0.82	0.82	0.82	0.84	0.84	0.84	0.87	0.87	0.87	0.74	0.74	0.74
Adj. Flow (vph)	38	120	15	46	131	89	17	154	28	270	262	23
RTOR Reduction (vph)	0	8	0	0	50	0	0	11	0	0	0	14
Lane Group Flow (vph)	38	127	0	46	170	0	17	171	0	270	262	9
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	25.0	25.0		25.0	25.0		23.0	23.0		23.0	23.0	23.0
Effective Green, g (s)	25.0	25.0		25.0	25.0		23.0	23.0		23.0	23.0	23.0
Actuated g/C Ratio	0.44	0.44		0.44	0.44		0.41	0.41		0.41	0.41	0.41
Clearance Time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	504	1534		547	1466		427	738		486	756	642
v/s Ratio Prot		0.04			c0.05			0.09			0.14	
v/s Ratio Perm	0.03			0.04			0.02			c0.23		0.01
v/c Ratio	0.08	0.08		0.08	0.12		0.04	0.23		0.56	0.35	0.01
Uniform Delay, d1	9.2	9.2		9.2	9.3		10.2	11.1		12.9	11.7	10.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1		0.3	0.2		0.2	0.7		4.5	1.3	0.0
Delay (s)	9.5	9.3		9.5	9.5		10.4	11.8		17.5	12.9	10.1
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		9.3			9.5			11.7			15.0	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	56.7	Sum of lost time (s)	8.7
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	71	215	21	37	164	156	49	377	54	85	108	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00	
Frt	1.00	0.99		1.00	0.93		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3493		1770	3297		1770	3472		1770	1772	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3493		1770	3297		1770	3472		1770	1772	
Peak-hour factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74	0.89	0.89	0.89	0.96	0.96	0.96
Adj. Flow (vph)	96	291	28	50	222	211	55	424	61	89	112	54
RTOR Reduction (vph)	0	6	0	0	145	0	0	11	0	0	16	0
Lane Group Flow (vph)	96	313	0	50	288	0	55	474	0	89	150	0
Heavy Vehicles (%)	2%	2%	2%	2%	1%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	7.0	26.4		4.3	23.7		4.4	21.5		6.8	23.9	
Effective Green, g (s)	7.0	26.4		4.3	23.7		4.4	21.5		6.8	23.9	
Actuated g/C Ratio	0.09	0.35		0.06	0.31		0.06	0.29		0.09	0.32	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	5.0		2.0	5.0	
Lane Grp Cap (vph)	164	1223		101	1036		103	990		160	562	
v/s Ratio Prot	c0.05	c0.09		0.03	0.09		0.03	c0.14		c0.05	0.08	
v/s Ratio Perm												
v/c Ratio	0.59	0.26		0.50	0.28		0.53	0.48		0.56	0.27	
Uniform Delay, d1	32.8	17.5		34.5	19.4		34.5	22.3		32.9	19.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	0.2		1.4	0.3		2.6	0.8		2.4	0.5	
Delay (s)	36.2	17.7		35.9	19.7		37.2	23.1		35.2	19.7	
Level of Service	D	B		D	B		D	C		D	B	
Approach Delay (s)		22.0			21.4			24.5			25.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	75.4	Sum of lost time (s)	16.4
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	5	0	146	0	174	14	84	102	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.2		4.2	4.2	4.0	4.2	
Lane Util. Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Frt					1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1770	1583		1863	1583	1770	1863	
Flt Permitted					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)					1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.85	0.85	0.85	0.59	0.85	0.59	0.85	0.80	0.80	0.80	0.80	0.85
Adj. Flow (vph)	0	0	0	8	0	247	0	218	18	105	128	0
RTOR Reduction (vph)	0	0	0	0	0	177	0	0	12	0	0	0
Lane Group Flow (vph)	0	0	0	0	8	70	0	218	6	105	128	0
Turn Type				Prot		custom	Perm		Perm	Prot		
Protected Phases				4	8			6		5	2	
Permitted Phases						4	6		6			
Actuated Green, G (s)					13.4	13.2		16.3	16.3	4.9	25.2	
Effective Green, g (s)					13.4	13.2		16.3	16.3	4.9	25.2	
Actuated g/C Ratio					0.29	0.28		0.35	0.35	0.10	0.54	
Clearance Time (s)					4.0	4.2		4.2	4.2	4.0	4.2	
Vehicle Extension (s)					3.0	2.0		4.8	4.8	3.0	4.8	
Lane Grp Cap (vph)					507	446		649	551	185	1003	
v/s Ratio Prot					0.00			c0.12		c0.06	0.07	
v/s Ratio Perm					0.00	c0.04			0.00			
v/c Ratio					0.02	0.16		0.34	0.01	0.57	0.13	
Uniform Delay, d1					12.0	12.6		11.3	10.0	19.9	5.4	
Progression Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2					0.0	0.1		0.6	0.0	4.0	0.1	
Delay (s)					12.0	12.7		11.9	10.0	23.9	5.5	
Level of Service					B	B		B	A	C	A	
Approach Delay (s)		0.0			12.7			11.7			13.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	46.8	Sum of lost time (s)	12.4
Intersection Capacity Utilization	28.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	87	8	7	37	7	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.2	4.2
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1829		1805	1900	1583	1615
Flt Permitted	1.00		0.66	1.00	0.95	1.00
Satd. Flow (perm)	1829		1262	1900	1583	1615
Peak-hour factor, PHF	0.65	0.65	1.00	1.00	1.00	1.00
Adj. Flow (vph)	134	12	7	37	7	13
RTOR Reduction (vph)	6	0	0	0	0	8
Lane Group Flow (vph)	141	0	7	37	7	5
Heavy Vehicles (%)	3%	0%	0%	0%	14%	0%
Turn Type			Perm			custom
Protected Phases	8			4		
Permitted Phases			4		6	6
Actuated Green, G (s)	30.0		30.0	30.0	21.8	21.8
Effective Green, g (s)	30.0		30.0	30.0	21.8	21.8
Actuated g/C Ratio	0.50		0.50	0.50	0.36	0.36
Clearance Time (s)	4.0		4.0	4.0	4.2	4.2
Lane Grp Cap (vph)	915		631	950	575	587
v/s Ratio Prot	c0.08			0.02		
v/s Ratio Perm			0.01		c0.00	0.00
v/c Ratio	0.15		0.01	0.04	0.01	0.01
Uniform Delay, d1	8.1		7.5	7.6	12.2	12.2
Progression Factor	1.00		1.58	1.58	1.00	1.00
Incremental Delay, d2	0.4		0.0	0.1	0.0	0.0
Delay (s)	8.5		11.9	12.2	12.3	12.2
Level of Service	A		B	B	B	B
Approach Delay (s)	8.5			12.1	12.2	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	9.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.09		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.2
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	53	5	6	28	16	31	455	54	5	102	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.95		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1838		1770	1762		1770	1833		1770	1863	1583
Flt Permitted	0.72	1.00		0.70	1.00		0.67	1.00		0.29	1.00	1.00
Satd. Flow (perm)	1332	1838		1313	1762		1253	1833		537	1863	1583
Peak-hour factor, PHF	0.73	0.73	0.73	0.69	0.69	0.69	0.89	0.89	0.89	0.77	0.77	0.77
Adj. Flow (vph)	29	73	7	9	41	23	35	511	61	6	132	17
RTOR Reduction (vph)	0	4	0	0	14	0	0	7	0	0	0	9
Lane Group Flow (vph)	29	76	0	9	50	0	35	565	0	6	132	8
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	22.8	22.8		22.8	22.8		28.8	28.8		28.8	28.8	28.8
Effective Green, g (s)	22.8	22.8		22.8	22.8		28.8	28.8		28.8	28.8	28.8
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.48	0.48		0.48	0.48	0.48
Clearance Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Grp Cap (vph)	506	698		499	670		601	880		258	894	760
v/s Ratio Prot		c0.04			0.03			c0.31			0.07	
v/s Ratio Perm	0.02			0.01			0.03			0.01		0.01
v/c Ratio	0.06	0.11		0.02	0.07		0.06	0.64		0.02	0.15	0.01
Uniform Delay, d1	11.8	12.0		11.6	11.9		8.3	11.7		8.2	8.7	8.2
Progression Factor	0.83	0.81		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.3		0.1	0.2		0.2	3.6		0.2	0.3	0.0
Delay (s)	10.0	10.1		11.7	12.1		8.5	15.3		8.4	9.1	8.2
Level of Service	A	B		B	B		A	B		A	A	A
Approach Delay (s)		10.0			12.0			14.9			9.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	71	563	10	3	381	104	17	9	2	30	16	29
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.92	0.92	0.92	0.78	0.78	0.78	0.89	0.89	0.89
Hourly flow rate (vph)	86	678	12	3	414	113	22	12	3	34	18	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					400							
pX, platoon unblocked	0.93						0.93	0.93		0.93	0.93	0.93
vC, conflicting volume	527			690			1111	1389	345	996	1339	264
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	351			690			976	1274	345	853	1220	68
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			100			86	92	100	84	88	96
cM capacity (veh/h)	1125			900			158	143	651	207	154	916

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	86	452	238	3	276	251	36	84
Volume Left	86	0	0	3	0	0	22	34
Volume Right	0	0	12	0	0	113	3	33
cSH	1125	1700	1700	900	1700	1700	161	267
Volume to Capacity	0.08	0.27	0.14	0.00	0.16	0.15	0.22	0.32
Queue Length 95th (ft)	6	0	0	0	0	0	20	33
Control Delay (s)	8.5	0.0	0.0	9.0	0.0	0.0	33.6	24.6
Lane LOS	A			A			D	C
Approach Delay (s)	0.9			0.1			33.6	24.6
Approach LOS							D	C

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	449	107	14	417	13	60	38	5	17	17	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	0.95	
Frt	1.00	0.97		1.00	1.00		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3437		1770	3523		1770	1828		1770	3441	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00		0.72	1.00	
Satd. Flow (perm)	1770	3437		1770	3523		1376	1828		1341	3441	
Peak-hour factor, PHF	0.79	0.79	0.79	0.95	0.95	0.95	0.76	0.76	0.76	0.79	0.79	0.79
Adj. Flow (vph)	9	568	135	15	439	14	79	50	7	22	22	5
RTOR Reduction (vph)	0	23	0	0	2	0	0	5	0	0	4	0
Lane Group Flow (vph)	9	680	0	15	451	0	79	52	0	22	23	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	10.0	36.8		13.0	39.8		26.4	26.4		26.4	26.4	
Effective Green, g (s)	10.0	36.8		13.0	39.8		26.4	26.4		26.4	26.4	
Actuated g/C Ratio	0.11	0.41		0.14	0.44		0.29	0.29		0.29	0.29	
Clearance Time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Lane Grp Cap (vph)	197	1405		256	1558		404	536		393	1009	
v/s Ratio Prot	0.01	c0.20		c0.01	c0.13			0.03			0.01	
v/s Ratio Perm							c0.06			0.02		
v/c Ratio	0.05	0.48		0.06	0.29		0.20	0.10		0.06	0.02	
Uniform Delay, d1	35.7	19.6		33.2	16.1		23.8	23.1		22.8	22.6	
Progression Factor	1.00	1.00		0.81	1.02		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.2		0.4	0.5		1.1	0.4		0.3	0.0	
Delay (s)	36.2	20.8		27.4	16.9		24.9	23.5		23.1	22.7	
Level of Service	D	C		C	B		C	C		C	C	
Approach Delay (s)		21.0			17.2			24.3			22.9	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	377	42	38	246	71	199	465	137	17	50	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3486		1770	3420		1770	1863	1583	1770	1752	
Flt Permitted	0.95	1.00		0.95	1.00		0.69	1.00	1.00	0.18	1.00	
Satd. Flow (perm)	1770	3486		1770	3420		1283	1863	1583	332	1752	
Peak-hour factor, PHF	0.80	0.80	0.80	0.83	0.83	0.83	0.87	0.87	0.87	0.78	0.78	0.78
Adj. Flow (vph)	69	471	52	46	296	86	229	534	157	22	64	42
RTOR Reduction (vph)	0	8	0	0	27	0	0	0	39	0	27	0
Lane Group Flow (vph)	69	515	0	46	355	0	229	534	118	22	79	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	8.7	40.3		4.8	36.4		32.5	32.5	32.5	32.5	32.5	
Effective Green, g (s)	8.7	40.3		4.8	36.4		32.5	32.5	32.5	32.5	32.5	
Actuated g/C Ratio	0.10	0.45		0.05	0.40		0.36	0.36	0.36	0.36	0.36	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Vehicle Extension (s)	2.0	4.8		2.0	4.8		4.8	4.8	4.8	4.8	4.8	
Lane Grp Cap (vph)	171	1561		94	1383		463	673	572	120	633	
v/s Ratio Prot	0.04	c0.15		c0.03	0.10			c0.29			0.05	
v/s Ratio Perm							0.18		0.07	0.07		
v/c Ratio	0.40	0.33		0.49	0.26		0.49	0.79	0.21	0.18	0.13	
Uniform Delay, d1	38.2	16.1		41.4	17.8		22.4	25.7	19.8	19.7	19.2	
Progression Factor	1.23	1.28		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	0.5		1.5	0.4		1.6	7.2	0.3	1.4	0.2	
Delay (s)	47.6	21.2		42.9	18.3		24.0	33.0	20.2	21.1	19.4	
Level of Service	D	C		D	B		C	C	C	C	B	
Approach Delay (s)		24.2			20.9			28.6			19.7	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	25.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.4
Intersection Capacity Utilization	51.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	50	409	38	119	418	0	0	61	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.2	4.2	4.2	4.2			4.2	
Lane Util. Factor					0.95	1.00	1.00	1.00			1.00	
Frt					1.00	0.85	1.00	1.00			0.99	
Flt Protected					0.99	1.00	0.95	1.00			1.00	
Satd. Flow (prot)					3520	1583	1770	1863			1845	
Flt Permitted					0.99	1.00	0.71	1.00			1.00	
Satd. Flow (perm)					3520	1583	1324	1863			1845	
Peak-hour factor, PHF	0.92	0.92	0.92	0.80	0.80	0.80	0.81	0.81	0.81	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	62	511	48	147	516	0	0	66	5
RTOR Reduction (vph)	0	0	0	0	0	30	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	573	18	147	516	0	0	68	0
Turn Type				Perm		Perm	Perm					
Protected Phases					4			6			2	
Permitted Phases				4		4	6					
Actuated Green, G (s)					22.0	22.0	28.0	28.0			28.0	
Effective Green, g (s)					22.0	22.0	28.0	28.0			28.0	
Actuated g/C Ratio					0.38	0.38	0.48	0.48			0.48	
Clearance Time (s)					4.2	4.2	4.2	4.2			4.2	
Lane Grp Cap (vph)					1326	596	635	893			885	
v/s Ratio Prot								c0.28			0.04	
v/s Ratio Perm					0.16	0.01	0.11					
v/c Ratio					0.43	0.03	0.23	0.58			0.08	
Uniform Delay, d1					13.5	11.5	8.9	10.9			8.2	
Progression Factor					1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2					1.0	0.1	0.9	2.7			0.2	
Delay (s)					14.6	11.6	9.8	13.7			8.4	
Level of Service					B	B	A	B			A	
Approach Delay (s)		0.0			14.3			12.8			8.4	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	58.4	Sum of lost time (s)	8.4
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	6	553	9	26	15	0	0	57	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.4		5.4	5.4			5.4	
Lane Util. Factor					0.95		1.00	1.00			1.00	
Frt					1.00		1.00	1.00			0.97	
Flt Protected					1.00		0.95	1.00			1.00	
Satd. Flow (prot)					3565		1805	1900			1722	
Flt Permitted					1.00		0.71	1.00			1.00	
Satd. Flow (perm)					3565		1346	1900			1722	
Peak-hour factor, PHF	0.85	0.85	0.85	0.86	0.86	0.86	0.34	0.34	0.34	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	7	643	10	76	44	0	0	57	18
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	0	0	0	658	0	76	44	0	0	63	0
Heavy Vehicles (%)	2%	2%	2%	0%	1%	0%	0%	0%	0%	0%	7%	6%
Turn Type				Perm			Perm					
Protected Phases					8			2			2	
Permitted Phases				8			2					
Actuated Green, G (s)					30.6		18.6	18.6			18.6	
Effective Green, g (s)					30.6		18.6	18.6			18.6	
Actuated g/C Ratio					0.51		0.31	0.31			0.31	
Clearance Time (s)					5.4		5.4	5.4			5.4	
Lane Grp Cap (vph)					1818		417	589			534	
v/s Ratio Prot								0.02			0.04	
v/s Ratio Perm					0.18		c0.06					
v/c Ratio					0.36		0.18	0.07			0.12	
Uniform Delay, d1					8.8		15.1	14.6			14.8	
Progression Factor					1.00		1.00	1.00			1.00	
Incremental Delay, d2					0.6		1.0	0.2			0.4	
Delay (s)					9.4		16.1	14.9			15.3	
Level of Service					A		B	B			B	
Approach Delay (s)		0.0			9.4			15.6			15.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	30	531	36	75	46	0	0	44	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.2	4.2	4.2	4.2	4.2			4.2	
Lane Util. Factor				1.00	0.95	1.00	1.00	1.00			0.95	
Frt				1.00	1.00	0.85	1.00	1.00			0.90	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1770	3539	1583	1770	1863			3201	
Flt Permitted				0.95	1.00	1.00	0.67	1.00			1.00	
Satd. Flow (perm)				1770	3539	1583	1245	1863			3201	
Peak-hour factor, PHF	0.92	0.92	0.92	0.78	0.78	0.78	0.69	0.69	0.69	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	38	681	46	109	67	0	0	48	84
RTOR Reduction (vph)	0	0	0	0	0	22	0	0	0	0	57	0
Lane Group Flow (vph)	0	0	0	38	681	24	109	67	0	0	75	0
Turn Type				Perm		Perm	Perm					
Protected Phases					4			2			2	
Permitted Phases				4		4	2					
Actuated Green, G (s)				31.0	31.0	31.0	19.0	19.0			19.0	
Effective Green, g (s)				31.0	31.0	31.0	19.0	19.0			19.0	
Actuated g/C Ratio				0.53	0.53	0.53	0.33	0.33			0.33	
Clearance Time (s)				4.2	4.2	4.2	4.2	4.2			4.2	
Lane Grp Cap (vph)				940	1879	840	405	606			1041	
v/s Ratio Prot					c0.19			0.04			0.02	
v/s Ratio Perm				0.02		0.02	c0.09					
v/c Ratio				0.04	0.36	0.03	0.27	0.11			0.07	
Uniform Delay, d1				6.6	8.0	6.5	14.6	13.8			13.6	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				0.1	0.5	0.1	1.6	0.4			0.1	
Delay (s)				6.6	8.5	6.6	16.2	14.2			13.7	
Level of Service				A	A	A	B	B			B	
Approach Delay (s)		0.0			8.3			15.4			13.7	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	58.4	Sum of lost time (s)	8.4
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	29	237	29	0	0	0	0	62	37	63	29	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2					4.2	4.2	4.6	4.6	
Lane Util. Factor	1.00	0.95	1.00					1.00	1.00	0.95	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	0.98	
Satd. Flow (prot)	1770	3539	1583					1863	1583	1681	1735	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.68	0.87	
Satd. Flow (perm)	1770	3539	1583					1863	1583	1204	1534	
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.52	0.52	0.52	0.85	0.85	0.85
Adj. Flow (vph)	31	249	31	0	0	0	0	119	71	74	34	0
RTOR Reduction (vph)	0	0	21	0	0	0	0	0	55	0	0	0
Lane Group Flow (vph)	31	249	10	0	0	0	0	119	16	51	57	0
Turn Type	Perm		Perm						Perm	Perm		
Protected Phases		8						1			2	
Permitted Phases	8		8						1	2		
Actuated Green, G (s)	19.0	19.0	19.0					13.0	13.0	13.0	13.0	
Effective Green, g (s)	19.0	19.0	19.0					13.0	13.0	13.0	13.0	
Actuated g/C Ratio	0.33	0.33	0.33					0.22	0.22	0.22	0.22	
Clearance Time (s)	4.2	4.2	4.2					4.2	4.2	4.6	4.6	
Lane Grp Cap (vph)	580	1159	519					418	355	270	344	
v/s Ratio Prot		c0.07						c0.06				
v/s Ratio Perm	0.02		0.01						0.01	c0.04	0.04	
v/c Ratio	0.05	0.21	0.02					0.28	0.04	0.19	0.17	
Uniform Delay, d1	13.3	14.1	13.2					18.6	17.6	18.2	18.1	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.4	0.1					1.7	0.2	1.5	1.0	
Delay (s)	13.5	14.5	13.3					20.4	17.9	19.8	19.2	
Level of Service	B	B	B					C	B	B	B	
Approach Delay (s)		14.3			0.0			19.4			19.5	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	58.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	34	329	0	0	66	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.0	
Lane Util. Factor		0.95			0.97	
Frt		1.00			1.00	
Flt Protected		1.00			0.95	
Satd. Flow (prot)		3529			3303	
Flt Permitted		1.00			0.95	
Satd. Flow (perm)		3529			3303	
Peak-hour factor, PHF	0.86	0.86	0.85	0.85	0.83	0.83
Adj. Flow (vph)	40	383	0	0	80	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	423	0	0	80	0
Heavy Vehicles (%)	0%	2%	0%	0%	6%	0%
Turn Type	Perm					
Protected Phases		8			2	
Permitted Phases	8					
Actuated Green, G (s)		30.0			26.0	
Effective Green, g (s)		30.0			26.0	
Actuated g/C Ratio		0.47			0.40	
Clearance Time (s)		4.2			4.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1649			1338	
v/s Ratio Prot					c0.02	
v/s Ratio Perm		0.12				
v/c Ratio		0.26			0.06	
Uniform Delay, d1		10.3			11.6	
Progression Factor		1.00			1.00	
Incremental Delay, d2		0.1			0.0	
Delay (s)		10.4			11.7	
Level of Service		B			B	
Approach Delay (s)		10.4	0.0		11.7	
Approach LOS		B	A		B	

Intersection Summary			
HCM Average Control Delay	10.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	64.2	Sum of lost time (s)	8.2
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	44	263	78	0	0	0	0	491	42	9	102	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2						4.2		4.2	4.2	
Lane Util. Factor		0.95						1.00		1.00	1.00	
Frt		0.97						0.99		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3412						1843		1770	1863	
Flt Permitted		0.99						1.00		0.25	1.00	
Satd. Flow (perm)		3412						1843		472	1863	
Peak-hour factor, PHF	0.76	0.76	0.76	0.92	0.92	0.92	0.86	0.86	0.86	0.87	0.87	0.87
Adj. Flow (vph)	58	346	103	0	0	0	0	571	49	10	117	0
RTOR Reduction (vph)	0	29	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	478	0	0	0	0	0	616	0	10	117	0
Turn Type	Perm									Perm		
Protected Phases		8						6			2	
Permitted Phases	8									2		
Actuated Green, G (s)		22.1						28.8		28.8	28.8	
Effective Green, g (s)		22.1						28.8		28.8	28.8	
Actuated g/C Ratio		0.37						0.49		0.49	0.49	
Clearance Time (s)		4.2						4.2		4.2	4.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		1272						895		229	905	
v/s Ratio Prot								c0.33			0.06	
v/s Ratio Perm		0.14								0.02		
v/c Ratio		0.38						0.69		0.04	0.13	
Uniform Delay, d1		13.6						11.8		8.0	8.4	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.2						2.2		0.1	0.1	
Delay (s)		13.8						14.0		8.1	8.4	
Level of Service		B						B		A	A	
Approach Delay (s)		13.8			0.0			14.0			8.4	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	59.3	Sum of lost time (s)	8.4
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	276	64	61	317	48	126	359	90	62	176	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.1	4.2		4.1	4.2		4.1	4.2		4.1	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.97		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3439		1770	3499		1770	3433		1770	1755	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3439		1770	3499		1770	3433		1770	1755	
Peak-hour factor, PHF	0.99	0.99	0.99	0.83	0.83	0.83	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	121	279	65	73	382	58	137	390	98	71	202	126
RTOR Reduction (vph)	0	18	0	0	12	0	0	15	0	0	16	0
Lane Group Flow (vph)	121	326	0	73	428	0	137	473	0	71	312	0
Heavy Vehicles (%)	2%	2%	2%	2%	1%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	12.9	29.5		8.7	25.3		13.9	48.6		8.6	43.3	
Effective Green, g (s)	12.9	29.5		8.7	25.3		13.9	48.6		8.6	43.3	
Actuated g/C Ratio	0.12	0.26		0.08	0.23		0.12	0.43		0.08	0.39	
Clearance Time (s)	4.1	4.2		4.1	4.2		4.1	4.2		4.1	4.2	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	204	906		137	790		220	1490		136	678	
v/s Ratio Prot	c0.07	0.09		0.04	c0.12		c0.08	0.14		0.04	c0.18	
v/s Ratio Perm												
v/c Ratio	0.59	0.36		0.53	0.54		0.62	0.32		0.52	0.46	
Uniform Delay, d1	47.1	33.6		49.7	38.2		46.6	20.8		49.7	25.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.6	0.5		3.9	1.3		5.4	0.6		3.6	2.2	
Delay (s)	51.6	34.1		53.6	39.6		52.0	21.4		53.3	27.9	
Level of Service	D	C		D	D		D	C		D	C	
Approach Delay (s)		38.6			41.6			28.1			32.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	34.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	112.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	16	90	11	37	191	102	22	149	43	99	160	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.95		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3481		1770	3354		1770	1800		1770	1863	1583
Flt Permitted	0.55	1.00		0.68	1.00		0.64	1.00		0.58	1.00	1.00
Satd. Flow (perm)	1029	3481		1262	3354		1193	1800		1073	1863	1583
Peak-hour factor, PHF	0.86	0.86	0.86	0.89	0.89	0.89	0.76	0.76	0.76	0.86	0.86	0.86
Adj. Flow (vph)	19	105	13	42	215	115	29	196	57	115	186	48
RTOR Reduction (vph)	0	7	0	0	64	0	0	18	0	0	0	29
Lane Group Flow (vph)	19	111	0	42	266	0	29	235	0	115	186	19
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	25.0	25.0		25.0	25.0		23.0	23.0		23.0	23.0	23.0
Effective Green, g (s)	25.0	25.0		25.0	25.0		23.0	23.0		23.0	23.0	23.0
Actuated g/C Ratio	0.44	0.44		0.44	0.44		0.41	0.41		0.41	0.41	0.41
Clearance Time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	454	1535		556	1479		484	730		435	756	642
v/s Ratio Prot		0.03			c0.08			c0.13			0.10	
v/s Ratio Perm	0.02			0.03			0.02			0.11		0.01
v/c Ratio	0.04	0.07		0.08	0.18		0.06	0.32		0.26	0.25	0.03
Uniform Delay, d1	9.0	9.2		9.2	9.6		10.3	11.5		11.2	11.1	10.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.1		0.3	0.3		0.2	1.2		1.5	0.8	0.1
Delay (s)	9.2	9.2		9.4	9.9		10.5	12.7		12.7	11.9	10.2
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		9.2			9.8			12.5			11.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	56.7	Sum of lost time (s)	8.7
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	47	187	21	38	208	159	58	345	45	82	178	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00	
Frt	1.00	0.99		1.00	0.94		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3486		1770	3328		1770	3478		1770	1803	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3486		1770	3328		1770	3478		1770	1803	
Peak-hour factor, PHF	0.86	0.86	0.86	0.78	0.78	0.78	0.87	0.87	0.87	0.94	0.94	0.94
Adj. Flow (vph)	55	217	24	49	267	204	67	397	52	87	189	51
RTOR Reduction (vph)	0	7	0	0	120	0	0	10	0	0	9	0
Lane Group Flow (vph)	55	234	0	49	351	0	67	439	0	87	231	0
Heavy Vehicles (%)	2%	2%	2%	2%	1%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	4.3	22.9		4.1	22.7		5.9	20.1		6.6	20.8	
Effective Green, g (s)	4.3	22.9		4.1	22.7		5.9	20.1		6.6	20.8	
Actuated g/C Ratio	0.06	0.33		0.06	0.32		0.08	0.29		0.09	0.30	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	5.0		2.0	5.0	
Lane Grp Cap (vph)	109	1139		104	1078		149	997		167	535	
v/s Ratio Prot	c0.03	0.07		0.03	c0.11		0.04	0.13		c0.05	c0.13	
v/s Ratio Perm												
v/c Ratio	0.50	0.21		0.47	0.33		0.45	0.44		0.52	0.43	
Uniform Delay, d1	31.9	17.0		32.0	17.9		30.6	20.4		30.2	19.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.2		1.2	0.4		0.8	0.7		1.4	1.2	
Delay (s)	33.2	17.2		33.2	18.3		31.3	21.1		31.6	21.1	
Level of Service	C	B		C	B		C	C		C	C	
Approach Delay (s)		20.2			19.7			22.4			23.9	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	70.1	Sum of lost time (s)	12.2
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	10	0	113	0	75	5	65	164	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.2		4.2	4.2	4.0	4.2	
Lane Util. Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Frt					1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1770	1583		1863	1583	1770	1863	
Flt Permitted					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)					1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.85	0.85	0.85	0.57	0.85	0.57	0.85	0.83	0.83	0.88	0.88	0.85
Adj. Flow (vph)	0	0	0	18	0	198	0	90	6	74	186	0
RTOR Reduction (vph)	0	0	0	0	0	135	0	0	4	0	0	0
Lane Group Flow (vph)	0	0	0	0	18	63	0	90	2	74	186	0
Turn Type				Prot		custom	Perm		Perm	Prot		
Protected Phases				4	8			6		5	2	
Permitted Phases						4	6		6			
Actuated Green, G (s)					15.6	15.4		16.0	16.0	4.6	24.6	
Effective Green, g (s)					15.6	15.4		16.0	16.0	4.6	24.6	
Actuated g/C Ratio					0.32	0.32		0.33	0.33	0.10	0.51	
Clearance Time (s)					4.0	4.2		4.2	4.2	4.0	4.2	
Vehicle Extension (s)					3.0	2.0		4.8	4.8	3.0	4.8	
Lane Grp Cap (vph)					570	504		616	523	168	947	
v/s Ratio Prot					0.01			0.05		c0.04	c0.10	
v/s Ratio Perm					0.00	c0.04			0.00			
v/c Ratio					0.03	0.12		0.15	0.00	0.44	0.20	
Uniform Delay, d1					11.2	11.7		11.4	10.9	20.7	6.5	
Progression Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2					0.0	0.0		0.2	0.0	1.8	0.2	
Delay (s)					11.3	11.8		11.6	10.9	22.5	6.7	
Level of Service					B	B		B	B	C	A	
Approach Delay (s)		0.0			11.7			11.6			11.2	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	48.4	Sum of lost time (s)	8.2
Intersection Capacity Utilization	21.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	64	6	8	113	6	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.2	4.2
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1795		1805	1900	1805	1615
Flt Permitted	1.00		0.71	1.00	0.95	1.00
Satd. Flow (perm)	1795		1343	1900	1805	1615
Peak-hour factor, PHF	0.92	0.92	0.66	0.66	1.00	1.00
Adj. Flow (vph)	70	7	12	171	6	11
RTOR Reduction (vph)	4	0	0	0	0	7
Lane Group Flow (vph)	74	0	12	171	6	4
Heavy Vehicles (%)	5%	0%	0%	0%	0%	0%
Turn Type			Perm			Perm
Protected Phases	8			4	6	
Permitted Phases			4			6
Actuated Green, G (s)	30.0		30.0	30.0	21.8	21.8
Effective Green, g (s)	30.0		30.0	30.0	21.8	21.8
Actuated g/C Ratio	0.50		0.50	0.50	0.36	0.36
Clearance Time (s)	4.0		4.0	4.0	4.2	4.2
Lane Grp Cap (vph)	898		672	950	656	587
v/s Ratio Prot	0.04			c0.09	c0.00	
v/s Ratio Perm			0.01			0.00
v/c Ratio	0.08		0.02	0.18	0.01	0.01
Uniform Delay, d1	7.8		7.6	8.2	12.2	12.2
Progression Factor	1.00		1.34	1.28	1.00	1.00
Incremental Delay, d2	0.2		0.0	0.4	0.0	0.0
Delay (s)	8.0		10.2	11.0	12.2	12.2
Level of Service	A		B	B	B	B
Approach Delay (s)	8.0			10.9	12.2	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.11		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.2
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	47	39	32	20	60	37	40	300	22	9	197	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.93		1.00	0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1736		1770	1756		1770	1844		1770	1863	1583
Flt Permitted	0.67	1.00		0.70	1.00		0.62	1.00		0.47	1.00	1.00
Satd. Flow (perm)	1252	1736		1308	1756		1158	1844		880	1863	1583
Peak-hour factor, PHF	0.84	0.84	0.84	0.73	0.73	0.73	0.88	0.88	0.88	0.91	0.91	0.91
Adj. Flow (vph)	56	46	38	27	82	51	45	341	25	10	216	42
RTOR Reduction (vph)	0	24	0	0	32	0	0	4	0	0	0	22
Lane Group Flow (vph)	56	60	0	27	101	0	45	362	0	10	216	20
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	22.8	22.8		22.8	22.8		28.8	28.8		28.8	28.8	28.8
Effective Green, g (s)	22.8	22.8		22.8	22.8		28.8	28.8		28.8	28.8	28.8
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.48	0.48		0.48	0.48	0.48
Clearance Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Grp Cap (vph)	476	660		497	667		556	885		422	894	760
v/s Ratio Prot		0.03			c0.06			c0.20			0.12	
v/s Ratio Perm	0.04			0.02			0.04			0.01		0.01
v/c Ratio	0.12	0.09		0.05	0.15		0.08	0.41		0.02	0.24	0.03
Uniform Delay, d1	12.1	11.9		11.8	12.2		8.4	10.1		8.2	9.2	8.2
Progression Factor	0.90	0.86		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	0.3		0.2	0.5		0.3	1.4		0.1	0.6	0.1
Delay (s)	11.4	10.5		12.0	12.7		8.7	11.5		8.3	9.8	8.3
Level of Service	B	B		B	B		A	B		A	A	A
Approach Delay (s)		10.9			12.6			11.2			9.5	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	42	539	14	2	747	43	14	8	10	68	8	71
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.77	0.77	0.77	0.73	0.73	0.73	0.82	0.82	0.82
Hourly flow rate (vph)	46	592	15	3	970	56	19	11	14	83	10	87
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (ft)					400							
pX, platoon unblocked	0.84						0.84	0.84		0.84	0.84	0.84
vC, conflicting volume	1026			608			1274	1723	304	1411	1703	513
vC1, stage 1 conf vol							692	692		1003	1003	
vC2, stage 2 conf vol							582	1031		408	700	
vCu, unblocked vol	644			608			940	1477	304	1104	1453	32
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			100			94	96	98	74	97	90
cM capacity (veh/h)	785			967			336	274	692	317	297	867

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	46	395	213	3	647	379	44	179
Volume Left	46	0	0	3	0	0	19	83
Volume Right	0	0	15	0	0	56	14	87
cSH	785	1700	1700	967	1700	1700	375	455
Volume to Capacity	0.06	0.23	0.13	0.00	0.38	0.22	0.12	0.39
Queue Length 95th (ft)	5	0	0	0	0	0	10	46
Control Delay (s)	9.9	0.0	0.0	8.7	0.0	0.0	15.9	18.0
Lane LOS	A			A			C	C
Approach Delay (s)	0.7			0.0			15.9	18.0
Approach LOS							C	C

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	430	140	54	719	17	69	18	11	28	89	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	0.95	
Frt	1.00	0.96		1.00	1.00		1.00	0.94		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3409		1770	3527		1770	1756		1770	3463	
Flt Permitted	0.95	1.00		0.95	1.00		0.65	1.00		0.73	1.00	
Satd. Flow (perm)	1770	3409		1770	3527		1203	1756		1369	3463	
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.84	0.84	0.84	0.62	0.62	0.62
Adj. Flow (vph)	21	473	154	57	765	18	82	21	13	45	144	24
RTOR Reduction (vph)	0	35	0	0	2	0	0	9	0	0	15	0
Lane Group Flow (vph)	21	592	0	57	781	0	82	25	0	45	153	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	12.0	32.8		17.0	37.8		26.4	26.4		26.4	26.4	
Effective Green, g (s)	12.0	32.8		17.0	37.8		26.4	26.4		26.4	26.4	
Actuated g/C Ratio	0.13	0.36		0.19	0.42		0.29	0.29		0.29	0.29	
Clearance Time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Lane Grp Cap (vph)	236	1242		334	1481		353	515		402	1016	
v/s Ratio Prot	0.01	c0.17		0.03	c0.22			0.01			0.04	
v/s Ratio Perm							c0.07			0.03		
v/c Ratio	0.09	0.48		0.17	0.53		0.23	0.05		0.11	0.15	
Uniform Delay, d1	34.2	22.0		30.6	19.4		24.1	22.8		23.2	23.5	
Progression Factor	1.00	1.00		1.15	1.26		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	1.3		1.0	1.2		1.5	0.2		0.6	0.3	
Delay (s)	34.9	23.3		36.3	25.8		25.7	23.0		23.8	23.8	
Level of Service	C	C		D	C		C	C		C	C	
Approach Delay (s)		23.7			26.5			24.9			23.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	371	40	34	532	84	198	257	62	74	118	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3488		1770	3467		1770	1863	1583	1770	1770	
Flt Permitted	0.95	1.00		0.95	1.00		0.53	1.00	1.00	0.40	1.00	
Satd. Flow (perm)	1770	3488		1770	3467		986	1863	1583	740	1770	
Peak-hour factor, PHF	0.91	0.91	0.91	0.80	0.80	0.80	0.87	0.87	0.87	0.85	0.85	0.85
Adj. Flow (vph)	42	408	44	42	665	105	228	295	71	87	139	69
RTOR Reduction (vph)	0	6	0	0	10	0	0	0	37	0	25	0
Lane Group Flow (vph)	42	446	0	42	760	0	228	295	34	87	183	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	6.1	46.6		4.7	45.2		26.3	26.3	26.3	26.3	26.3	
Effective Green, g (s)	6.1	46.6		4.7	45.2		26.3	26.3	26.3	26.3	26.3	
Actuated g/C Ratio	0.07	0.52		0.05	0.50		0.29	0.29	0.29	0.29	0.29	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Vehicle Extension (s)	2.0	4.8		2.0	4.8		4.8	4.8	4.8	4.8	4.8	
Lane Grp Cap (vph)	120	1806		92	1741		288	544	463	216	517	
v/s Ratio Prot	c0.02	0.13		0.02	c0.22			0.16			0.10	
v/s Ratio Perm							c0.23		0.02	0.12		
v/c Ratio	0.35	0.25		0.46	0.44		0.79	0.54	0.07	0.40	0.35	
Uniform Delay, d1	40.1	12.0		41.4	14.3		29.3	26.8	23.0	25.5	25.1	
Progression Factor	0.56	0.62		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	0.3		1.3	0.8		15.5	1.8	0.1	2.4	0.8	
Delay (s)	23.2	7.7		42.7	15.1		44.8	28.6	23.2	27.9	25.9	
Level of Service	C	A		D	B		D	C	C	C	C	
Approach Delay (s)		9.1			16.5			34.2			26.5	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	21.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.4
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX D:
TECHNICAL CALCULATIONS –
BASELINE PLUS PROJECT CONDITIONS –
MALL OPEN TO TRAFFIC ALTERNATIVES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	80	195	10	75	240	0	0	130	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.2	4.2	4.2	4.2			4.2	
Lane Util. Factor					0.95	1.00	1.00	1.00			1.00	
Frt					1.00	0.85	1.00	1.00			0.99	
Flt Protected					0.99	1.00	0.95	1.00			1.00	
Satd. Flow (prot)					3488	1583	1770	1863			1853	
Flt Permitted					0.99	1.00	0.66	1.00			1.00	
Satd. Flow (perm)					3488	1583	1225	1863			1853	
Peak-hour factor, PHF	0.92	0.92	0.92	0.81	0.81	0.81	0.93	0.93	0.93	0.86	0.86	0.86
Adj. Flow (vph)	0	0	0	99	241	12	81	258	0	0	151	6
RTOR Reduction (vph)	0	0	0	0	0	7	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	340	5	81	258	0	0	154	0
Turn Type				Perm		Perm	Perm					
Protected Phases					4			6			2	
Permitted Phases				4		4	6					
Actuated Green, G (s)					22.0	22.0	28.0	28.0			28.0	
Effective Green, g (s)					22.0	22.0	28.0	28.0			28.0	
Actuated g/C Ratio					0.38	0.38	0.48	0.48			0.48	
Clearance Time (s)					4.2	4.2	4.2	4.2			4.2	
Lane Grp Cap (vph)					1314	596	587	893			888	
v/s Ratio Prot								c0.14			0.08	
v/s Ratio Perm					0.10	0.00	0.07					
v/c Ratio					0.26	0.01	0.14	0.29			0.17	
Uniform Delay, d1					12.6	11.4	8.5	9.2			8.6	
Progression Factor					1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2					0.5	0.0	0.5	0.8			0.4	
Delay (s)					13.0	11.4	9.0	10.0			9.1	
Level of Service					B	B	A	B			A	
Approach Delay (s)		0.0			13.0			9.8			9.1	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	58.4	Sum of lost time (s)	8.4
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	10	230	10	10	20	0	0	100	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.4		5.4	5.4			5.4	
Lane Util. Factor					0.95		1.00	1.00			1.00	
Frt					0.99		1.00	1.00			0.97	
Flt Protected					1.00		0.95	1.00			1.00	
Satd. Flow (prot)					3437		1805	1900			1788	
Flt Permitted					1.00		0.66	1.00			1.00	
Satd. Flow (perm)					3437		1254	1900			1788	
Peak-hour factor, PHF	0.85	0.85	0.85	1.00	1.00	1.00	0.64	0.64	0.64	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	10	230	10	16	31	0	0	118	35
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	0	0	18	0
Lane Group Flow (vph)	0	0	0	0	245	0	16	31	0	0	135	0
Heavy Vehicles (%)	2%	2%	2%	0%	4%	13%	0%	0%	0%	0%	3%	3%
Turn Type				Perm			Perm					
Protected Phases					8			2			2	
Permitted Phases				8			2					
Actuated Green, G (s)					30.6		18.6	18.6			18.6	
Effective Green, g (s)					30.6		18.6	18.6			18.6	
Actuated g/C Ratio					0.51		0.31	0.31			0.31	
Clearance Time (s)					5.4		5.4	5.4			5.4	
Lane Grp Cap (vph)					1753		389	589			554	
v/s Ratio Prot								0.02			c0.08	
v/s Ratio Perm					0.07		0.01					
v/c Ratio					0.14		0.04	0.05			0.24	
Uniform Delay, d1					7.8		14.5	14.5			15.5	
Progression Factor					1.00		1.00	1.00			1.00	
Incremental Delay, d2					0.2		0.2	0.2			1.0	
Delay (s)					7.9		14.7	14.7			16.5	
Level of Service					A		B	B			B	
Approach Delay (s)		0.0			7.9			14.7			16.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	115	235	5	5	40	0	0	100	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.2	4.2	4.2	4.2	4.2			4.2	
Lane Util. Factor				1.00	0.95	1.00	1.00	1.00			0.95	
Frt				1.00	1.00	0.85	1.00	1.00			0.95	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1770	3539	1583	1770	1863			3375	
Flt Permitted				0.95	1.00	1.00	0.64	1.00			1.00	
Satd. Flow (perm)				1770	3539	1583	1199	1863			3375	
Peak-hour factor, PHF	0.92	0.92	0.92	0.96	0.96	0.96	0.58	0.58	0.58	0.85	0.85	0.85
Adj. Flow (vph)	0	0	0	120	245	5	9	69	0	0	118	53
RTOR Reduction (vph)	0	0	0	0	0	2	0	0	0	0	36	0
Lane Group Flow (vph)	0	0	0	120	245	3	9	69	0	0	135	0
Turn Type				Perm		Perm	Perm					
Protected Phases					4			2			2	
Permitted Phases				4		4	2					
Actuated Green, G (s)				31.0	31.0	31.0	19.0	19.0			19.0	
Effective Green, g (s)				31.0	31.0	31.0	19.0	19.0			19.0	
Actuated g/C Ratio				0.53	0.53	0.53	0.33	0.33			0.33	
Clearance Time (s)				4.2	4.2	4.2	4.2	4.2			4.2	
Lane Grp Cap (vph)				940	1879	840	390	606			1098	
v/s Ratio Prot					c0.07			0.04			c0.04	
v/s Ratio Perm				0.07		0.00	0.01					
v/c Ratio				0.13	0.13	0.00	0.02	0.11			0.12	
Uniform Delay, d1				6.9	6.9	6.4	13.4	13.8			13.8	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				0.3	0.1	0.0	0.1	0.4			0.2	
Delay (s)				7.2	7.0	6.4	13.5	14.2			14.1	
Level of Service				A	A	A	B	B			B	
Approach Delay (s)		0.0			7.1			14.1			14.1	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.13		
Actuated Cycle Length (s)	58.4	Sum of lost time (s)	8.4
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	510	50	0	0	0	0	15	10	100	100	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2					4.2	4.2	4.6	4.6	
Lane Util. Factor	1.00	0.95	1.00					1.00	1.00	0.95	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1583					1863	1583	1681	1761	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.74	0.98	
Satd. Flow (perm)	1770	3539	1583					1863	1583	1317	1729	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.75	0.75	0.75	0.80	0.80	0.80
Adj. Flow (vph)	52	531	52	0	0	0	0	20	13	125	125	0
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	10	0	0	0
Lane Group Flow (vph)	52	531	17	0	0	0	0	20	3	112	138	0
Turn Type	Perm		Perm						Perm	Perm		
Protected Phases		8						1			2	
Permitted Phases	8		8						1	2		
Actuated Green, G (s)	19.0	19.0	19.0					13.0	13.0	13.0	13.0	
Effective Green, g (s)	19.0	19.0	19.0					13.0	13.0	13.0	13.0	
Actuated g/C Ratio	0.33	0.33	0.33					0.22	0.22	0.22	0.22	
Clearance Time (s)	4.2	4.2	4.2					4.2	4.2	4.6	4.6	
Lane Grp Cap (vph)	580	1159	519					418	355	295	388	
v/s Ratio Prot		c0.15						c0.01				
v/s Ratio Perm	0.03		0.01						0.00	c0.09	0.08	
v/c Ratio	0.09	0.46	0.03					0.05	0.01	0.38	0.36	
Uniform Delay, d1	13.5	15.4	13.3					17.6	17.5	19.1	19.0	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	1.3	0.1					0.2	0.0	3.7	2.5	
Delay (s)	13.8	16.7	13.4					17.9	17.5	22.8	21.5	
Level of Service	B	B	B					B	B	C	C	
Approach Delay (s)		16.2			0.0			17.7			22.1	
Approach LOS		B			A			B			C	

Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	58.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	530	10	0	0	0	0	10	10	65	20	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2						4.0		4.0	4.0	
Lane Util. Factor		0.95						1.00		1.00	1.00	
Frt		1.00						0.93		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3495						1737		1719	1863	
Flt Permitted		1.00						1.00		0.74	1.00	
Satd. Flow (perm)		3495						1737		1342	1863	
Peak-hour factor, PHF	0.77	0.77	0.85	0.85	0.25	0.25	0.85	0.85	0.85	1.00	0.85	1.00
Adj. Flow (vph)	19	688	12	0	0	0	0	12	12	65	24	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	718	0	0	0	0	0	17	0	65	24	0
Heavy Vehicles (%)	0%	3%	2%	2%	0%	0%	2%	2%	2%	5%	2%	0%
Turn Type	Perm									Perm		
Protected Phases		8						2			6	
Permitted Phases	8									6		
Actuated Green, G (s)		30.0						26.0		26.0	26.0	
Effective Green, g (s)		30.0						26.0		26.0	26.0	
Actuated g/C Ratio		0.47						0.40		0.40	0.40	
Clearance Time (s)		4.2						4.0		4.0	4.0	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		1633						703		543	754	
v/s Ratio Prot								0.01			0.01	
v/s Ratio Perm		0.21								c0.05		
v/c Ratio		0.44						0.02		0.12	0.03	
Uniform Delay, d1		11.5						11.5		11.9	11.5	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.2						0.0		0.1	0.0	
Delay (s)		11.7						11.5		12.0	11.5	
Level of Service		B						B		B	B	
Approach Delay (s)		11.7			0.0			11.5			11.9	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	64.2	Sum of lost time (s)	8.2
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	425	100	0	0	0	0	275	45	20	190	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2						4.2		4.2	4.2	
Lane Util. Factor		0.95						1.00		1.00	1.00	
Frt		0.97						0.98		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3432						1828		1770	1863	
Flt Permitted		1.00						1.00		0.49	1.00	
Satd. Flow (perm)		3432						1828		905	1863	
Peak-hour factor, PHF	0.85	0.85	0.85	0.92	0.92	0.92	0.91	0.91	0.91	0.87	0.87	0.87
Adj. Flow (vph)	53	500	118	0	0	0	0	302	49	23	218	0
RTOR Reduction (vph)	0	23	0	0	0	0	0	8	0	0	0	0
Lane Group Flow (vph)	0	648	0	0	0	0	0	343	0	23	218	0
Turn Type	Perm									Perm		
Protected Phases		8						6			2	
Permitted Phases	8									2		
Actuated Green, G (s)		22.1						27.0		27.0	27.0	
Effective Green, g (s)		22.1						27.0		27.0	27.0	
Actuated g/C Ratio		0.38						0.47		0.47	0.47	
Clearance Time (s)		4.2						4.2		4.2	4.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		1319						858		425	875	
v/s Ratio Prot								c0.19			0.12	
v/s Ratio Perm		0.19								0.03		
v/c Ratio		0.49						0.40		0.05	0.25	
Uniform Delay, d1		13.4						10.0		8.3	9.2	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.3						0.3		0.1	0.2	
Delay (s)		13.7						10.3		8.4	9.3	
Level of Service		B						B		A	A	
Approach Delay (s)		13.7			0.0			10.3			9.2	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	57.5	Sum of lost time (s)	8.4
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	600	10	10	350	10	10	10	10	10	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.95			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3530		1770	3524			1750			1716	
Flt Permitted	0.50	1.00		0.38	1.00			0.87			0.90	
Satd. Flow (perm)	940	3530		705	3524			1548			1569	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	12	706	12	12	412	12	12	12	12	12	12	24
RTOR Reduction (vph)	0	1	0	0	2	0	0	10	0	0	21	0
Lane Group Flow (vph)	12	717	0	12	422	0	0	26	0	0	27	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	14.1	14.1		14.1	14.1			3.6			3.6	
Effective Green, g (s)	14.1	14.1		14.1	14.1			3.6			3.6	
Actuated g/C Ratio	0.55	0.55		0.55	0.55			0.14			0.14	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	516	1937		387	1933			217			220	
v/s Ratio Prot		c0.20			0.12							
v/s Ratio Perm	0.01			0.02				0.02			c0.02	
v/c Ratio	0.02	0.37		0.03	0.22			0.12			0.12	
Uniform Delay, d1	2.7	3.3		2.7	3.0			9.7			9.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	0.1		0.0	0.1			0.2			0.3	
Delay (s)	2.7	3.4		2.7	3.0			9.9			9.9	
Level of Service	A	A		A	A			A			A	
Approach Delay (s)		3.4			3.0			9.9			9.9	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	3.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	25.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	410	90	60	220	60	100	250	180	70	150	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.1	4.2		4.1	4.2		4.1	4.2		4.1	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.94		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3443		1770	3452		1770	3317		1770	1788	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3443		1770	3452		1770	3317		1770	1788	
Peak-hour factor, PHF	0.96	0.96	0.96	0.80	0.80	0.80	0.85	0.85	0.85	0.84	0.84	0.84
Adj. Flow (vph)	125	427	94	75	275	75	118	294	212	83	179	65
RTOR Reduction (vph)	0	17	0	0	23	0	0	92	0	0	9	0
Lane Group Flow (vph)	125	504	0	75	327	0	118	414	0	83	235	0
Heavy Vehicles (%)	2%	2%	2%	2%	1%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	13.2	29.3		8.9	25.0		12.8	47.9		9.3	44.4	
Effective Green, g (s)	13.2	29.3		8.9	25.0		12.8	47.9		9.3	44.4	
Actuated g/C Ratio	0.12	0.26		0.08	0.22		0.11	0.43		0.08	0.40	
Clearance Time (s)	4.1	4.2		4.1	4.2		4.1	4.2		4.1	4.2	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	209	901		141	771		202	1419		147	709	
v/s Ratio Prot	c0.07	c0.15		0.04	0.09		c0.07	c0.12		0.05	c0.13	
v/s Ratio Perm												
v/c Ratio	0.60	0.56		0.53	0.42		0.58	0.29		0.56	0.33	
Uniform Delay, d1	46.9	35.8		49.5	37.3		47.1	21.0		49.4	23.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.6	1.3		3.8	0.8		4.3	0.5		4.9	1.3	
Delay (s)	51.4	37.1		53.4	38.1		51.3	21.5		54.3	24.7	
Level of Service	D	D		D	D		D	C		D	C	
Approach Delay (s)		39.8			40.8			27.1			32.2	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	34.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	112.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	100	10	40	110	75	15	120	30	190	190	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.94		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3492		1770	3324		1770	1808		1770	1863	1583
Flt Permitted	0.61	1.00		0.67	1.00		0.57	1.00		0.65	1.00	1.00
Satd. Flow (perm)	1144	3492		1242	3324		1064	1808		1208	1863	1583
Peak-hour factor, PHF	0.82	0.82	0.82	0.84	0.84	0.84	0.87	0.87	0.87	0.74	0.74	0.74
Adj. Flow (vph)	37	122	12	48	131	89	17	138	34	257	257	27
RTOR Reduction (vph)	0	7	0	0	50	0	0	15	0	0	0	16
Lane Group Flow (vph)	37	127	0	48	170	0	17	157	0	257	257	11
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	25.0	25.0		25.0	25.0		23.0	23.0		23.0	23.0	23.0
Effective Green, g (s)	25.0	25.0		25.0	25.0		23.0	23.0		23.0	23.0	23.0
Actuated g/C Ratio	0.44	0.44		0.44	0.44		0.41	0.41		0.41	0.41	0.41
Clearance Time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	504	1540		548	1466		432	733		490	756	642
v/s Ratio Prot		0.04			c0.05			0.09			0.14	
v/s Ratio Perm	0.03			0.04			0.02			c0.21		0.01
v/c Ratio	0.07	0.08		0.09	0.12		0.04	0.21		0.52	0.34	0.02
Uniform Delay, d1	9.2	9.2		9.2	9.3		10.2	11.0		12.7	11.6	10.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1		0.3	0.2		0.2	0.7		4.0	1.2	0.0
Delay (s)	9.4	9.3		9.5	9.5		10.3	11.6		16.7	12.8	10.1
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		9.3			9.5			11.5			14.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	56.7	Sum of lost time (s)	8.7
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	280	10	10	250	10	10	10	10	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.95			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	3521		1770	3518			1750			1750	
Flt Permitted	0.67	1.00		0.67	1.00			1.00			1.00	
Satd. Flow (perm)	1242	3521		1242	3518			1779			1779	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	12	329	12	12	294	12	12	12	12	12	12	12
RTOR Reduction (vph)	0	4	0	0	5	0	0	10	0	0	10	0
Lane Group Flow (vph)	12	337	0	12	301	0	0	26	0	0	26	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	6.0	6.0		6.0	6.0			2.1			2.1	
Effective Green, g (s)	6.0	6.0		6.0	6.0			2.1			2.1	
Actuated g/C Ratio	0.37	0.37		0.37	0.37			0.13			0.13	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	463	1312		463	1311			232			232	
v/s Ratio Prot		c0.10			0.09							
v/s Ratio Perm	0.01			0.01				c0.01			0.01	
v/c Ratio	0.03	0.26		0.03	0.23			0.11			0.11	
Uniform Delay, d1	3.2	3.5		3.2	3.5			6.2			6.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	0.1		0.0	0.1			0.2			0.2	
Delay (s)	3.2	3.6		3.2	3.6			6.4			6.4	
Level of Service	A	A		A	A			A			A	
Approach Delay (s)		3.6			3.5			6.4			6.4	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	3.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	16.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	18.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	210	20	35	170	155	55	370	55	85	105	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00	
Frt	1.00	0.99		1.00	0.93		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3493		1770	3303		1770	3470		1770	1773	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3493		1770	3303		1770	3470		1770	1773	
Peak-hour factor, PHF	0.74	0.74	0.74	0.74	0.74	0.74	0.89	0.89	0.89	0.96	0.96	0.96
Adj. Flow (vph)	95	284	27	47	230	209	62	416	62	89	109	52
RTOR Reduction (vph)	0	6	0	0	143	0	0	11	0	0	16	0
Lane Group Flow (vph)	95	305	0	47	296	0	62	467	0	89	145	0
Heavy Vehicles (%)	2%	2%	2%	2%	1%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	7.0	26.5		4.2	23.7		4.6	21.4		6.8	23.6	
Effective Green, g (s)	7.0	26.5		4.2	23.7		4.6	21.4		6.8	23.6	
Actuated g/C Ratio	0.09	0.35		0.06	0.31		0.06	0.28		0.09	0.31	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	5.0		2.0	5.0	
Lane Grp Cap (vph)	165	1229		99	1040		108	986		160	556	
v/s Ratio Prot	c0.05	c0.09		0.03	c0.09		0.04	c0.13		c0.05	0.08	
v/s Ratio Perm												
v/c Ratio	0.58	0.25		0.47	0.28		0.57	0.47		0.56	0.26	
Uniform Delay, d1	32.7	17.3		34.5	19.4		34.4	22.3		32.8	19.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.0	0.2		1.3	0.3		4.5	0.8		2.4	0.5	
Delay (s)	35.7	17.5		35.8	19.7		38.9	23.0		35.2	19.8	
Level of Service	D	B		D	B		D	C		D	B	
Approach Delay (s)		21.8			21.3			24.9			25.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	23.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	75.3	Sum of lost time (s)	20.6
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	5	0	145	0	160	15	85	100	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.2		4.2	4.2	4.0	4.2	
Lane Util. Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Frt					1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1770	1583		1863	1583	1770	1863	
Flt Permitted					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)					1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.85	0.85	0.85	0.59	0.85	0.59	0.85	0.80	0.80	0.80	0.80	0.85
Adj. Flow (vph)	0	0	0	8	0	246	0	200	19	106	125	0
RTOR Reduction (vph)	0	0	0	0	0	189	0	0	12	0	0	0
Lane Group Flow (vph)	0	0	0	0	8	57	0	200	7	106	125	0
Turn Type				Perm		custom	Perm		Perm	Prot		
Protected Phases					8			6		5	2	
Permitted Phases				8		4	6		6			
Actuated Green, G (s)					9.9	9.7		15.1	15.1	4.9	24.0	
Effective Green, g (s)					9.9	9.7		15.1	15.1	4.9	24.0	
Actuated g/C Ratio					0.24	0.23		0.36	0.36	0.12	0.57	
Clearance Time (s)					4.0	4.2		4.2	4.2	4.0	4.2	
Vehicle Extension (s)					3.0	2.0		4.8	4.8	3.0	4.8	
Lane Grp Cap (vph)					416	365		668	568	206	1062	
v/s Ratio Prot								c0.11		c0.06	0.07	
v/s Ratio Perm					0.00	c0.04			0.00			
v/c Ratio					0.02	0.16		0.30	0.01	0.51	0.12	
Uniform Delay, d1					12.4	12.9		9.7	8.7	17.5	4.2	
Progression Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2					0.0	0.1		0.5	0.0	2.2	0.1	
Delay (s)					12.4	13.0		10.2	8.7	19.6	4.3	
Level of Service					B	B		B	A	B	A	
Approach Delay (s)		0.0			13.0			10.1			11.3	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	42.1	Sum of lost time (s)	12.4
Intersection Capacity Utilization	27.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	90	10	10	40	10	10	10	20	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.91			0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	1823		1805	1826		1583	1709			1750	
Flt Permitted	0.72	1.00		0.66	1.00		0.73	1.00			0.94	
Satd. Flow (perm)	1347	1823		1254	1826		1223	1709			1678	
Peak-hour factor, PHF	0.85	0.65	0.65	1.00	1.00	0.85	1.00	0.85	1.00	0.85	0.85	0.85
Adj. Flow (vph)	12	138	15	10	40	12	10	12	20	12	12	12
RTOR Reduction (vph)	0	7	0	0	6	0	0	13	0	0	8	0
Lane Group Flow (vph)	12	147	0	10	46	0	10	19	0	0	28	0
Heavy Vehicles (%)	2%	3%	0%	0%	0%	2%	14%	2%	0%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	30.0	30.0		30.0	30.0		22.0	22.0			21.8	
Effective Green, g (s)	30.0	30.0		30.0	30.0		22.0	22.0			21.8	
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.37	0.37			0.36	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.2	
Lane Grp Cap (vph)	674	912		627	913		448	627			610	
v/s Ratio Prot		c0.08			0.03			0.01				
v/s Ratio Perm	0.01			0.01			0.01				c0.02	
v/c Ratio	0.02	0.16		0.02	0.05		0.02	0.03			0.05	
Uniform Delay, d1	7.6	8.2		7.6	7.7		12.1	12.2			12.4	
Progression Factor	1.00	1.00		0.86	0.84		1.00	1.00			1.00	
Incremental Delay, d2	0.0	0.4		0.0	0.1		0.1	0.1			0.1	
Delay (s)	7.6	8.5		6.6	6.6		12.2	12.3			12.5	
Level of Service	A	A		A	A		B	B			B	
Approach Delay (s)		8.5			6.6			12.3			12.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	9.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.11		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.2
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	55	5	10	30	15	30	455	55	5	100	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.95		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1839		1770	1768		1770	1833		1770	1863	1583
Flt Permitted	0.71	1.00		0.70	1.00		0.67	1.00		0.29	1.00	1.00
Satd. Flow (perm)	1331	1839		1311	1768		1255	1833		535	1863	1583
Peak-hour factor, PHF	0.73	0.73	0.73	0.69	0.69	0.69	0.89	0.89	0.89	0.77	0.77	0.77
Adj. Flow (vph)	27	75	7	14	43	22	34	511	62	6	130	13
RTOR Reduction (vph)	0	4	0	0	14	0	0	7	0	0	0	7
Lane Group Flow (vph)	27	78	0	14	51	0	34	566	0	6	130	6
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	22.8	22.8		22.8	22.8		28.8	28.8		28.8	28.8	28.8
Effective Green, g (s)	22.8	22.8		22.8	22.8		28.8	28.8		28.8	28.8	28.8
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.48	0.48		0.48	0.48	0.48
Clearance Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Grp Cap (vph)	506	699		498	672		602	880		257	894	760
v/s Ratio Prot		c0.04			0.03			c0.31			0.07	
v/s Ratio Perm	0.02			0.01			0.03			0.01		0.00
v/c Ratio	0.05	0.11		0.03	0.08		0.06	0.64		0.02	0.15	0.01
Uniform Delay, d1	11.8	12.0		11.7	11.9		8.3	11.7		8.2	8.7	8.1
Progression Factor	0.60	0.57		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.3		0.1	0.2		0.2	3.6		0.2	0.3	0.0
Delay (s)	7.3	7.2		11.8	12.1		8.5	15.3		8.4	9.1	8.2
Level of Service	A	A		B	B		A	B		A	A	A
Approach Delay (s)		7.2			12.0			15.0			9.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	70	560	10	5	380	70	20	10	5	30	15	30
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.92	0.92	0.92	0.78	0.78	0.78	0.89	0.89	0.89
Hourly flow rate (vph)	84	675	12	5	413	76	26	13	6	34	17	34
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					400							
pX, platoon unblocked	0.94						0.94	0.94		0.94	0.94	0.94
vC, conflicting volume	489			687			1109	1349	343	981	1317	245
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	333			687			991	1247	343	855	1213	73
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			99			84	91	99	84	89	96
cM capacity (veh/h)	1151			903			157	149	653	206	157	917

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	84	450	237	5	275	214	45	84
Volume Left	84	0	0	5	0	0	26	34
Volume Right	0	0	12	0	0	76	6	34
cSH	1151	1700	1700	903	1700	1700	173	274
Volume to Capacity	0.07	0.26	0.14	0.01	0.16	0.13	0.26	0.31
Queue Length 95th (ft)	6	0	0	0	0	0	25	32
Control Delay (s)	8.4	0.0	0.0	9.0	0.0	0.0	32.9	23.9
Lane LOS	A			A			D	C
Approach Delay (s)	0.9			0.1			32.9	23.9
Approach LOS							D	C

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	450	110	15	390	15	60	40	5	20	20	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	0.95	
Frt	1.00	0.97		1.00	0.99		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3435		1770	3519		1770	1830		1770	3436	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00		0.72	1.00	
Satd. Flow (perm)	1770	3435		1770	3519		1371	1830		1337	3436	
Peak-hour factor, PHF	0.79	0.79	0.79	0.95	0.95	0.95	0.76	0.76	0.76	0.79	0.79	0.79
Adj. Flow (vph)	13	570	139	16	411	16	79	53	7	25	25	6
RTOR Reduction (vph)	0	24	0	0	3	0	0	5	0	0	4	0
Lane Group Flow (vph)	13	685	0	16	424	0	79	55	0	25	27	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	10.0	36.8		13.0	39.8		26.4	26.4		26.4	26.4	
Effective Green, g (s)	10.0	36.8		13.0	39.8		26.4	26.4		26.4	26.4	
Actuated g/C Ratio	0.11	0.41		0.14	0.44		0.29	0.29		0.29	0.29	
Clearance Time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Lane Grp Cap (vph)	197	1405		256	1556		402	537		392	1008	
v/s Ratio Prot	0.01	c0.20		c0.01	c0.12			0.03			0.01	
v/s Ratio Perm							c0.06			0.02		
v/c Ratio	0.07	0.49		0.06	0.27		0.20	0.10		0.06	0.03	
Uniform Delay, d1	35.8	19.6		33.2	15.9		23.8	23.2		22.9	22.6	
Progression Factor	1.00	1.00		0.83	1.04		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	1.2		0.5	0.4		1.1	0.4		0.3	0.0	
Delay (s)	36.5	20.9		27.9	16.9		24.9	23.6		23.2	22.7	
Level of Service	D	C		C	B		C	C		C	C	
Approach Delay (s)		21.1			17.3			24.3			22.9	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	375	50	40	250	65	210	460	140	20	50	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3477		1770	3430		1770	1863	1583	1770	1747	
Flt Permitted	0.95	1.00		0.95	1.00		0.69	1.00	1.00	0.18	1.00	
Satd. Flow (perm)	1770	3477		1770	3430		1279	1863	1583	339	1747	
Peak-hour factor, PHF	0.80	0.80	0.80	0.83	0.83	0.83	0.87	0.87	0.87	0.78	0.78	0.78
Adj. Flow (vph)	69	469	62	48	301	78	241	529	161	26	64	45
RTOR Reduction (vph)	0	9	0	0	23	0	0	0	40	0	29	0
Lane Group Flow (vph)	69	522	0	48	356	0	241	529	121	26	80	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	8.9	40.3		4.9	36.3		32.4	32.4	32.4	32.4	32.4	
Effective Green, g (s)	8.9	40.3		4.9	36.3		32.4	32.4	32.4	32.4	32.4	
Actuated g/C Ratio	0.10	0.45		0.05	0.40		0.36	0.36	0.36	0.36	0.36	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Vehicle Extension (s)	2.0	4.8		2.0	4.8		4.8	4.8	4.8	4.8	4.8	
Lane Grp Cap (vph)	175	1557		96	1383		460	671	570	122	629	
v/s Ratio Prot	0.04	c0.15		c0.03	0.10			c0.28			0.05	
v/s Ratio Perm							0.19		0.08	0.08		
v/c Ratio	0.39	0.34		0.50	0.26		0.52	0.79	0.21	0.21	0.13	
Uniform Delay, d1	38.0	16.1		41.4	17.9		22.7	25.7	20.0	20.0	19.3	
Progression Factor	1.23	1.28		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	0.5		1.5	0.5		1.9	7.0	0.4	1.7	0.2	
Delay (s)	47.1	21.1		42.8	18.3		24.6	32.7	20.3	21.7	19.5	
Level of Service	D	C		D	B		C	C	C	C	B	
Approach Delay (s)		24.1			21.1			28.5			19.9	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	25.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.4
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	50	410	40	110	420	0	0	55	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.2	4.2	4.2	4.2			4.2	
Lane Util. Factor					0.95	1.00	1.00	1.00			1.00	
Frt					1.00	0.85	1.00	1.00			0.99	
Flt Protected					0.99	1.00	0.95	1.00			1.00	
Satd. Flow (prot)					3520	1583	1770	1863			1843	
Flt Permitted					0.99	1.00	0.71	1.00			1.00	
Satd. Flow (perm)					3520	1583	1331	1863			1843	
Peak-hour factor, PHF	0.92	0.92	0.92	0.80	0.80	0.80	0.81	0.81	0.81	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	62	512	50	136	519	0	0	60	5
RTOR Reduction (vph)	0	0	0	0	0	31	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	0	0	574	19	136	519	0	0	62	0
Turn Type				Perm		Perm	Perm					
Protected Phases					4			6			2	
Permitted Phases				4		4	6					
Actuated Green, G (s)					22.0	22.0	28.0	28.0			28.0	
Effective Green, g (s)					22.0	22.0	28.0	28.0			28.0	
Actuated g/C Ratio					0.38	0.38	0.48	0.48			0.48	
Clearance Time (s)					4.2	4.2	4.2	4.2			4.2	
Lane Grp Cap (vph)					1326	596	638	893			884	
v/s Ratio Prot								c0.28			0.03	
v/s Ratio Perm					0.16	0.01	0.10					
v/c Ratio					0.43	0.03	0.21	0.58			0.07	
Uniform Delay, d1					13.6	11.5	8.8	11.0			8.2	
Progression Factor					1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2					1.0	0.1	0.8	2.8			0.2	
Delay (s)					14.6	11.6	9.6	13.7			8.3	
Level of Service					B	B	A	B			A	
Approach Delay (s)		0.0			14.3			12.9			8.3	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	58.4	Sum of lost time (s)	8.4
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	10	550	10	30	20	0	0	65	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.4		5.4	5.4			5.4	
Lane Util. Factor					0.95		1.00	1.00			1.00	
Frt					1.00		1.00	1.00			0.97	
Flt Protected					1.00		0.95	1.00			1.00	
Satd. Flow (prot)					3563		1805	1900			1723	
Flt Permitted					1.00		0.70	1.00			1.00	
Satd. Flow (perm)					3563		1333	1900			1723	
Peak-hour factor, PHF	0.85	0.85	0.85	0.86	0.86	0.86	0.34	0.34	0.34	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	12	640	12	88	59	0	0	65	20
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	14	0
Lane Group Flow (vph)	0	0	0	0	662	0	88	59	0	0	71	0
Heavy Vehicles (%)	2%	2%	2%	0%	1%	0%	0%	0%	0%	0%	7%	6%
Turn Type				Perm			Perm					
Protected Phases					8			2			2	
Permitted Phases				8			2					
Actuated Green, G (s)					30.6		18.6	18.6			18.6	
Effective Green, g (s)					30.6		18.6	18.6			18.6	
Actuated g/C Ratio					0.51		0.31	0.31			0.31	
Clearance Time (s)					5.4		5.4	5.4			5.4	
Lane Grp Cap (vph)					1817		413	589			534	
v/s Ratio Prot								0.03			0.04	
v/s Ratio Perm					0.19		c0.07					
v/c Ratio					0.36		0.21	0.10			0.13	
Uniform Delay, d1					8.8		15.3	14.7			14.9	
Progression Factor					1.00		1.00	1.00			1.00	
Incremental Delay, d2					0.6		1.2	0.3			0.5	
Delay (s)					9.4		16.5	15.1			15.4	
Level of Service					A		B	B			B	
Approach Delay (s)		0.0			9.4			15.9			15.4	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	30	530	35	75	45	0	0	45	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.2	4.2	4.2	4.2	4.2			4.2	
Lane Util. Factor				1.00	0.95	1.00	1.00	1.00			0.95	
Frt				1.00	1.00	0.85	1.00	1.00			0.91	
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)				1770	3539	1583	1770	1863			3207	
Flt Permitted				0.95	1.00	1.00	0.67	1.00			1.00	
Satd. Flow (perm)				1770	3539	1583	1246	1863			3207	
Peak-hour factor, PHF	0.92	0.92	0.92	0.78	0.78	0.78	0.69	0.69	0.69	0.91	0.91	0.91
Adj. Flow (vph)	0	0	0	38	679	45	109	65	0	0	49	82
RTOR Reduction (vph)	0	0	0	0	0	21	0	0	0	0	55	0
Lane Group Flow (vph)	0	0	0	38	679	24	109	65	0	0	76	0
Turn Type				Perm		Perm	Perm					
Protected Phases					4			2			2	
Permitted Phases				4		4	2					
Actuated Green, G (s)				31.0	31.0	31.0	19.0	19.0			19.0	
Effective Green, g (s)				31.0	31.0	31.0	19.0	19.0			19.0	
Actuated g/C Ratio				0.53	0.53	0.53	0.33	0.33			0.33	
Clearance Time (s)				4.2	4.2	4.2	4.2	4.2			4.2	
Lane Grp Cap (vph)				940	1879	840	405	606			1043	
v/s Ratio Prot					c0.19			0.03			0.02	
v/s Ratio Perm				0.02		0.02	c0.09					
v/c Ratio				0.04	0.36	0.03	0.27	0.11			0.07	
Uniform Delay, d1				6.6	8.0	6.5	14.6	13.8			13.6	
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2				0.1	0.5	0.1	1.6	0.4			0.1	
Delay (s)				6.6	8.5	6.6	16.2	14.1			13.7	
Level of Service				A	A	A	B	B			B	
Approach Delay (s)		0.0			8.3			15.4			13.7	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	58.4	Sum of lost time (s)	8.4
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	240	30	0	0	0	0	65	40	65	30	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2					4.2	4.2	4.6	4.6	
Lane Util. Factor	1.00	0.95	1.00					1.00	1.00	0.95	0.95	
Frt	1.00	1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	0.98	
Satd. Flow (prot)	1770	3539	1583					1863	1583	1681	1734	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.68	0.86	
Satd. Flow (perm)	1770	3539	1583					1863	1583	1198	1526	
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.52	0.52	0.52	0.85	0.85	0.85
Adj. Flow (vph)	32	253	32	0	0	0	0	125	77	76	35	0
RTOR Reduction (vph)	0	0	22	0	0	0	0	0	60	0	0	0
Lane Group Flow (vph)	32	253	10	0	0	0	0	125	17	52	59	0
Turn Type	Perm		Perm						Perm	Perm		
Protected Phases		8						1			2	
Permitted Phases	8		8						1	2		
Actuated Green, G (s)	19.0	19.0	19.0					13.0	13.0	13.0	13.0	
Effective Green, g (s)	19.0	19.0	19.0					13.0	13.0	13.0	13.0	
Actuated g/C Ratio	0.33	0.33	0.33					0.22	0.22	0.22	0.22	
Clearance Time (s)	4.2	4.2	4.2					4.2	4.2	4.6	4.6	
Lane Grp Cap (vph)	580	1159	519					418	355	269	342	
v/s Ratio Prot		c0.07						c0.07				
v/s Ratio Perm	0.02		0.01						0.01	c0.04	0.04	
v/c Ratio	0.06	0.22	0.02					0.30	0.05	0.19	0.17	
Uniform Delay, d1	13.4	14.1	13.2					18.7	17.6	18.2	18.2	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.4	0.1					1.8	0.3	1.6	1.1	
Delay (s)	13.5	14.6	13.3					20.5	17.9	19.8	19.3	
Level of Service	B	B	B					C	B	B	B	
Approach Delay (s)		14.3			0.0			19.5			19.5	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	58.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	325	10	0	0	0	0	10	10	70	10	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2						4.0		4.0	4.0	
Lane Util. Factor		0.95						1.00		1.00	1.00	
Frt		1.00						0.93		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3514						1737		1703	1863	
Flt Permitted		1.00						1.00		0.74	1.00	
Satd. Flow (perm)		3514						1737		1329	1863	
Peak-hour factor, PHF	0.86	0.86	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.83	0.85	0.83
Adj. Flow (vph)	41	378	12	0	0	0	0	12	12	84	12	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	7	0	0	0	0
Lane Group Flow (vph)	0	429	0	0	0	0	0	17	0	84	12	0
Heavy Vehicles (%)	0%	2%	2%	2%	0%	0%	2%	2%	2%	6%	2%	0%
Turn Type	Perm									Perm		
Protected Phases		8						2			6	
Permitted Phases	8									6		
Actuated Green, G (s)		30.0						26.0		26.0	26.0	
Effective Green, g (s)		30.0						26.0		26.0	26.0	
Actuated g/C Ratio		0.47						0.40		0.40	0.40	
Clearance Time (s)		4.2						4.0		4.0	4.0	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		1642						703		538	754	
v/s Ratio Prot								0.01			0.01	
v/s Ratio Perm		0.12								c0.06		
v/c Ratio		0.26						0.02		0.16	0.02	
Uniform Delay, d1		10.4						11.5		12.1	11.4	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.1						0.0		0.1	0.0	
Delay (s)		10.5						11.5		12.3	11.4	
Level of Service		B						B		B	B	
Approach Delay (s)		10.5			0.0			11.5			12.2	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	64.2	Sum of lost time (s)	8.2
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	265	75	0	0	0	0	490	40	10	100	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2						4.2		4.2	4.2	
Lane Util. Factor		0.95						1.00		1.00	1.00	
Frt		0.97						0.99		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3416						1844		1770	1863	
Flt Permitted		0.99						1.00		0.26	1.00	
Satd. Flow (perm)		3416						1844		475	1863	
Peak-hour factor, PHF	0.76	0.76	0.76	0.92	0.92	0.92	0.86	0.86	0.86	0.87	0.87	0.87
Adj. Flow (vph)	59	349	99	0	0	0	0	570	47	11	115	0
RTOR Reduction (vph)	0	28	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	479	0	0	0	0	0	613	0	11	115	0
Turn Type	Perm									Perm		
Protected Phases		8						6			2	
Permitted Phases	8									2		
Actuated Green, G (s)		22.1						28.7		28.7	28.7	
Effective Green, g (s)		22.1						28.7		28.7	28.7	
Actuated g/C Ratio		0.37						0.48		0.48	0.48	
Clearance Time (s)		4.2						4.2		4.2	4.2	
Vehicle Extension (s)		3.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		1275						894		230	903	
v/s Ratio Prot								c0.33			0.06	
v/s Ratio Perm		0.14								0.02		
v/c Ratio		0.38						0.69		0.05	0.13	
Uniform Delay, d1		13.5						11.8		8.0	8.4	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.2						2.2		0.1	0.1	
Delay (s)		13.7						14.0		8.1	8.4	
Level of Service		B						B		A	A	
Approach Delay (s)		13.7			0.0			14.0			8.4	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	59.2	Sum of lost time (s)	8.4
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	440	10	10	540	10	10	10	10	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.95			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	3527		1770	3529			1750			1750	
Flt Permitted	0.41	1.00		0.46	1.00			1.00			1.00	
Satd. Flow (perm)	756	3527		848	3529			1779			1779	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	12	518	12	12	635	12	12	12	12	12	12	12
RTOR Reduction (vph)	0	2	0	0	1	0	0	11	0	0	11	0
Lane Group Flow (vph)	12	528	0	12	646	0	0	25	0	0	25	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	15.6	15.6		15.6	15.6			2.1			2.1	
Effective Green, g (s)	15.6	15.6		15.6	15.6			2.1			2.1	
Actuated g/C Ratio	0.61	0.61		0.61	0.61			0.08			0.08	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	459	2141		515	2142			145			145	
v/s Ratio Prot		0.15			c0.18							
v/s Ratio Perm	0.02			0.01				c0.01			0.01	
v/c Ratio	0.03	0.25		0.02	0.30			0.17			0.17	
Uniform Delay, d1	2.0	2.3		2.0	2.4			11.0			11.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	0.1		0.0	0.1			0.6			0.6	
Delay (s)	2.0	2.4		2.0	2.5			11.6			11.6	
Level of Service	A	A		A	A			B			B	
Approach Delay (s)		2.4			2.5			11.6			11.6	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	3.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	25.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	25.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	280	60	60	320	50	130	350	90	60	170	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.1	4.2		4.1	4.2		4.1	4.2		4.1	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.97		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3445		1770	3497		1770	1805		1770	1753	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3445		1770	3497		1770	1805		1770	1753	
Peak-hour factor, PHF	0.99	0.99	0.99	0.83	0.83	0.83	0.92	0.92	0.92	0.87	0.87	0.87
Adj. Flow (vph)	121	283	61	72	386	60	141	380	98	69	195	126
RTOR Reduction (vph)	0	16	0	0	12	0	0	6	0	0	17	0
Lane Group Flow (vph)	121	328	0	72	434	0	141	472	0	69	304	0
Heavy Vehicles (%)	2%	2%	2%	2%	1%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	12.9	29.5		8.7	25.3		14.1	48.7		8.5	43.1	
Effective Green, g (s)	12.9	29.5		8.7	25.3		14.1	48.7		8.5	43.1	
Actuated g/C Ratio	0.12	0.26		0.08	0.23		0.13	0.43		0.08	0.38	
Clearance Time (s)	4.1	4.2		4.1	4.2		4.1	4.2		4.1	4.2	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	204	907		137	790		223	785		134	675	
v/s Ratio Prot	c0.07	0.10		0.04	c0.12		c0.08	c0.26		0.04	0.17	
v/s Ratio Perm												
v/c Ratio	0.59	0.36		0.53	0.55		0.63	0.60		0.51	0.45	
Uniform Delay, d1	47.1	33.6		49.7	38.3		46.5	24.2		49.8	25.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.6	0.5		3.6	1.4		5.7	3.4		3.3	2.2	
Delay (s)	51.6	34.1		53.3	39.7		52.2	27.6		53.1	27.8	
Level of Service	D	C		D	D		D	C		D	C	
Approach Delay (s)		38.7			41.6			33.2			32.3	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	112.0	Sum of lost time (s)	12.4
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	90	10	40	190	100	20	150	45	100	160	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.95		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3485		1770	3356		1770	1798		1770	1863	1583
Flt Permitted	0.56	1.00		0.68	1.00		0.64	1.00		0.57	1.00	1.00
Satd. Flow (perm)	1034	3485		1263	3356		1193	1798		1066	1863	1583
Peak-hour factor, PHF	0.86	0.86	0.86	0.89	0.89	0.89	0.76	0.76	0.76	0.86	0.86	0.86
Adj. Flow (vph)	17	105	12	45	213	112	26	197	59	116	186	47
RTOR Reduction (vph)	0	7	0	0	63	0	0	19	0	0	0	28
Lane Group Flow (vph)	17	110	0	45	262	0	26	237	0	116	186	19
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	25.0	25.0		25.0	25.0		23.0	23.0		23.0	23.0	23.0
Effective Green, g (s)	25.0	25.0		25.0	25.0		23.0	23.0		23.0	23.0	23.0
Actuated g/C Ratio	0.44	0.44		0.44	0.44		0.41	0.41		0.41	0.41	0.41
Clearance Time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Lane Grp Cap (vph)	456	1537		557	1480		484	729		432	756	642
v/s Ratio Prot		0.03			c0.08			c0.13			0.10	
v/s Ratio Perm	0.02			0.04			0.02			0.11		0.01
v/c Ratio	0.04	0.07		0.08	0.18		0.05	0.33		0.27	0.25	0.03
Uniform Delay, d1	9.0	9.2		9.2	9.6		10.2	11.5		11.2	11.1	10.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.1		0.3	0.3		0.2	1.2		1.5	0.8	0.1
Delay (s)	9.2	9.2		9.5	9.9		10.4	12.7		12.8	11.9	10.2
Level of Service	A	A		A	A		B	B		B	B	B
Approach Delay (s)		9.2			9.8			12.5			12.0	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	56.7	Sum of lost time (s)	8.7
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	240	10	10	300	10	10	10	10	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.95			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	3518		1770	3522			1750			1750	
Flt Permitted	0.53	1.00		0.57	1.00			1.00			1.00	
Satd. Flow (perm)	995	3518		1066	3522			1779			1779	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	12	282	12	12	353	12	12	12	12	12	12	12
RTOR Reduction (vph)	0	4	0	0	3	0	0	11	0	0	11	0
Lane Group Flow (vph)	12	290	0	12	362	0	0	25	0	0	25	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	7.8	7.8		7.8	7.8			2.0			2.0	
Effective Green, g (s)	7.8	7.8		7.8	7.8			2.0			2.0	
Actuated g/C Ratio	0.44	0.44		0.44	0.44			0.11			0.11	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	436	1542		467	1543			200			200	
v/s Ratio Prot		0.08			c0.10							
v/s Ratio Perm	0.01			0.01				c0.01			0.01	
v/c Ratio	0.03	0.19		0.03	0.23			0.13			0.13	
Uniform Delay, d1	2.8	3.1		2.8	3.1			7.1			7.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	0.1		0.0	0.1			0.3			0.3	
Delay (s)	2.9	3.1		2.9	3.2			7.4			7.4	
Level of Service	A	A		A	A			A			A	
Approach Delay (s)		3.1			3.2			7.4			7.4	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	3.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	17.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	18.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	190	20	40	210	160	60	340	45	80	170	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.94		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3489		1770	3328		1770	1830		1770	1799	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3489		1770	3328		1770	1830		1770	1799	
Peak-hour factor, PHF	0.86	0.86	0.86	0.78	0.78	0.78	0.87	0.87	0.87	0.94	0.94	0.94
Adj. Flow (vph)	58	221	23	51	269	205	69	391	52	85	181	53
RTOR Reduction (vph)	0	7	0	0	124	0	0	5	0	0	10	0
Lane Group Flow (vph)	58	237	0	51	350	0	69	438	0	85	224	0
Heavy Vehicles (%)	2%	2%	2%	2%	1%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	5.8	25.4		4.3	23.9		6.2	25.8		6.8	26.4	
Effective Green, g (s)	5.8	25.4		4.3	23.9		6.2	25.8		6.8	26.4	
Actuated g/C Ratio	0.07	0.32		0.05	0.30		0.08	0.33		0.09	0.34	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	5.0		2.0	5.0	
Lane Grp Cap (vph)	130	1126		97	1011		139	600		153	603	
v/s Ratio Prot	c0.03	0.07		0.03	c0.11		0.04	c0.24		c0.05	0.12	
v/s Ratio Perm												
v/c Ratio	0.45	0.21		0.53	0.35		0.50	0.73		0.56	0.37	
Uniform Delay, d1	34.9	19.4		36.2	21.3		34.8	23.4		34.5	19.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.2		2.4	0.4		1.0	5.5		2.5	0.8	
Delay (s)	35.8	19.6		38.6	21.8		35.8	28.9		37.0	20.7	
Level of Service	D	B		D	C		D	C		D	C	
Approach Delay (s)		22.7			23.4			29.8			25.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	78.7	Sum of lost time (s)	16.4
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	10	0	115	0	75	5	65	160	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.2		4.2	4.2	4.0	4.2	
Lane Util. Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Frt					1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1770	1583		1863	1583	1770	1863	
Flt Permitted					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)					1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.85	0.85	0.85	0.57	0.85	0.57	0.85	0.83	0.83	0.88	0.88	0.85
Adj. Flow (vph)	0	0	0	18	0	202	0	90	6	74	182	0
RTOR Reduction (vph)	0	0	0	0	0	153	0	0	4	0	0	0
Lane Group Flow (vph)	0	0	0	0	18	49	0	90	2	74	182	0
Turn Type				Perm		custom	Perm		Perm	Prot		
Protected Phases					8			6		5	2	
Permitted Phases				8		4	6		6			
Actuated Green, G (s)					10.0	9.8		15.6	15.6	2.8	22.4	
Effective Green, g (s)					10.0	9.8		15.6	15.6	2.8	22.4	
Actuated g/C Ratio					0.25	0.24		0.38	0.38	0.07	0.55	
Clearance Time (s)					4.0	4.2		4.2	4.2	4.0	4.2	
Vehicle Extension (s)					3.0	2.0		4.8	4.8	3.0	4.8	
Lane Grp Cap (vph)					436	382		716	608	122	1028	
v/s Ratio Prot								0.05		c0.04	c0.10	
v/s Ratio Perm					0.01	c0.03			0.00			
v/c Ratio					0.04	0.13		0.13	0.00	0.61	0.18	
Uniform Delay, d1					11.6	12.1		8.1	7.7	18.4	4.5	
Progression Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2					0.0	0.1		0.2	0.0	8.3	0.2	
Delay (s)					11.7	12.1		8.2	7.7	26.6	4.7	
Level of Service					B	B		A	A	C	A	
Approach Delay (s)		0.0			12.1			8.2			11.0	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	40.6	Sum of lost time (s)	8.2
Intersection Capacity Utilization	21.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	65	5	10	115	10	10	10	20	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.91			0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	1797		1805	1879		1805	1709			1750	
Flt Permitted	0.64	1.00		0.71	1.00		0.73	1.00			0.94	
Satd. Flow (perm)	1193	1797		1344	1879		1394	1709			1678	
Peak-hour factor, PHF	0.85	0.92	0.92	0.66	0.66	0.85	1.00	0.85	1.00	0.85	0.85	0.85
Adj. Flow (vph)	12	71	5	15	174	12	10	12	20	12	12	12
RTOR Reduction (vph)	0	3	0	0	4	0	0	13	0	0	8	0
Lane Group Flow (vph)	12	74	0	15	182	0	10	19	0	0	28	0
Heavy Vehicles (%)	2%	5%	0%	0%	0%	2%	0%	2%	0%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	30.0	30.0		30.0	30.0		22.0	22.0			21.8	
Effective Green, g (s)	30.0	30.0		30.0	30.0		22.0	22.0			21.8	
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.37	0.37			0.36	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.2	
Lane Grp Cap (vph)	597	899		672	940		511	627			610	
v/s Ratio Prot		0.04			c0.10			0.01				
v/s Ratio Perm	0.01			0.01			0.01				c0.02	
v/c Ratio	0.02	0.08		0.02	0.19		0.02	0.03			0.05	
Uniform Delay, d1	7.6	7.8		7.6	8.3		12.1	12.2			12.4	
Progression Factor	1.00	1.00		0.90	0.92		1.00	1.00			1.00	
Incremental Delay, d2	0.1	0.2		0.1	0.5		0.1	0.1			0.1	
Delay (s)	7.6	8.0		6.9	8.1		12.2	12.3			12.5	
Level of Service	A	A		A	A		B	B			B	
Approach Delay (s)		7.9			8.0			12.2			12.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	8.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.13		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.2
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	40	35	20	60	40	50	290	25	10	190	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.93		1.00	0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1732		1770	1751		1770	1841		1770	1863	1583
Flt Permitted	0.67	1.00		0.70	1.00		0.63	1.00		0.48	1.00	1.00
Satd. Flow (perm)	1247	1732		1301	1751		1168	1841		894	1863	1583
Peak-hour factor, PHF	0.84	0.84	0.84	0.73	0.73	0.73	0.88	0.88	0.88	0.91	0.91	0.91
Adj. Flow (vph)	60	48	42	27	82	55	57	330	28	11	209	44
RTOR Reduction (vph)	0	26	0	0	34	0	0	5	0	0	0	23
Lane Group Flow (vph)	60	64	0	27	103	0	57	353	0	11	209	21
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	22.8	22.8		22.8	22.8		28.8	28.8		28.8	28.8	28.8
Effective Green, g (s)	22.8	22.8		22.8	22.8		28.8	28.8		28.8	28.8	28.8
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.48	0.48		0.48	0.48	0.48
Clearance Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Grp Cap (vph)	474	658		494	665		561	884		429	894	760
v/s Ratio Prot		0.04			c0.06			c0.19			0.11	
v/s Ratio Perm	0.05			0.02			0.05			0.01		0.01
v/c Ratio	0.13	0.10		0.05	0.15		0.10	0.40		0.03	0.23	0.03
Uniform Delay, d1	12.1	12.0		11.8	12.3		8.5	10.0		8.2	9.1	8.2
Progression Factor	0.84	0.75		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	0.3		0.2	0.5		0.4	1.3		0.1	0.6	0.1
Delay (s)	10.7	9.3		12.0	12.7		8.9	11.4		8.3	9.8	8.3
Level of Service	B	A		B	B		A	B		A	A	A
Approach Delay (s)		9.8			12.6			11.0			9.4	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	10.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	45	540	15	5	750	40	15	10	10	70	10	70
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.77	0.77	0.77	0.73	0.73	0.73	0.82	0.82	0.82
Hourly flow rate (vph)	49	593	16	6	974	52	21	14	14	85	12	85
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (ft)					400							
pX, platoon unblocked	0.84						0.84	0.84		0.84	0.84	0.84
vC, conflicting volume	1026			610			1292	1740	305	1429	1722	513
vC1, stage 1 conf vol							701	701		1013	1013	
vC2, stage 2 conf vol							591	1039		416	709	
vCu, unblocked vol	642			610			960	1495	305	1124	1473	30
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			99			94	95	98	72	96	90
cM capacity (veh/h)	786			965			329	268	691	310	291	869

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	49	396	214	6	649	377	48	183
Volume Left	49	0	0	6	0	0	21	85
Volume Right	0	0	16	0	0	52	14	85
cSH	786	1700	1700	965	1700	1700	360	440
Volume to Capacity	0.06	0.23	0.13	0.01	0.38	0.22	0.13	0.42
Queue Length 95th (ft)	5	0	0	1	0	0	11	50
Control Delay (s)	9.9	0.0	0.0	8.8	0.0	0.0	16.5	18.9
Lane LOS	A			A			C	C
Approach Delay (s)	0.7			0.1			16.5	18.9
Approach LOS							C	C

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	430	140	60	720	20	70	20	10	30	90	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3409		1770	3525		1770	1770		1770	1823	
Flt Permitted	0.95	1.00		0.95	1.00		0.63	1.00		0.73	1.00	
Satd. Flow (perm)	1770	3409		1770	3525		1166	1770		1367	1823	
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.84	0.84	0.84	0.62	0.62	0.62
Adj. Flow (vph)	22	473	154	64	766	21	83	24	12	48	145	24
RTOR Reduction (vph)	0	35	0	0	2	0	0	8	0	0	6	0
Lane Group Flow (vph)	22	592	0	64	785	0	83	28	0	48	163	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	12.0	32.8		17.0	37.8		26.4	26.4		26.4	26.4	
Effective Green, g (s)	12.0	32.8		17.0	37.8		26.4	26.4		26.4	26.4	
Actuated g/C Ratio	0.13	0.36		0.19	0.42		0.29	0.29		0.29	0.29	
Clearance Time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Lane Grp Cap (vph)	236	1242		334	1481		342	519		401	535	
v/s Ratio Prot	0.01	c0.17		0.04	c0.22			0.02			c0.09	
v/s Ratio Perm							0.07			0.04		
v/c Ratio	0.09	0.48		0.19	0.53		0.24	0.05		0.12	0.30	
Uniform Delay, d1	34.2	22.0		30.7	19.5		24.2	22.8		23.3	24.7	
Progression Factor	1.00	1.00		1.14	1.25		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	1.3		1.2	1.2		1.7	0.2		0.6	1.5	
Delay (s)	35.0	23.3		36.3	25.6		25.9	23.0		23.9	26.1	
Level of Service	D	C		D	C		C	C		C	C	
Approach Delay (s)		23.7			26.4			25.0			25.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	370	40	35	540	80	200	260	60	75	120	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3487		1770	3471		1770	1863	1583	1770	1769	
Flt Permitted	0.95	1.00		0.95	1.00		0.52	1.00	1.00	0.39	1.00	
Satd. Flow (perm)	1770	3487		1770	3471		977	1863	1583	733	1769	
Peak-hour factor, PHF	0.91	0.91	0.91	0.80	0.80	0.80	0.87	0.87	0.87	0.85	0.85	0.85
Adj. Flow (vph)	38	407	44	44	675	100	230	299	69	88	141	71
RTOR Reduction (vph)	0	6	0	0	9	0	0	0	35	0	25	0
Lane Group Flow (vph)	38	445	0	44	766	0	230	299	34	88	187	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	6.0	46.4		4.7	45.1		26.5	26.5	26.5	26.5	26.5	
Effective Green, g (s)	6.0	46.4		4.7	45.1		26.5	26.5	26.5	26.5	26.5	
Actuated g/C Ratio	0.07	0.52		0.05	0.50		0.29	0.29	0.29	0.29	0.29	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Vehicle Extension (s)	2.0	4.8		2.0	4.8		4.8	4.8	4.8	4.8	4.8	
Lane Grp Cap (vph)	118	1798		92	1739		288	549	466	216	521	
v/s Ratio Prot	0.02	c0.13		0.02	c0.22			0.16			0.11	
v/s Ratio Perm							c0.24		0.02	0.12		
v/c Ratio	0.32	0.25		0.48	0.44		0.80	0.54	0.07	0.41	0.36	
Uniform Delay, d1	40.1	12.1		41.5	14.4		29.3	26.7	22.9	25.5	25.0	
Progression Factor	0.57	0.62		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	0.3		1.4	0.8		16.0	1.8	0.1	2.4	0.8	
Delay (s)	23.2	7.8		42.9	15.2		45.3	28.5	23.0	27.9	25.9	
Level of Service	C	A		D	B		D	C	C	C	C	
Approach Delay (s)		9.0			16.7			34.3			26.5	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX E:
TECHNICAL CALCULATIONS – CUMULATIVE CONDITIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	410	10	40	440	30	80	290	10	80	400	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.2		4.5	4.2		4.2	4.2			4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.99			0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1856		1770	1845		1770	1853			1833	
Flt Permitted	0.95	1.00		0.95	1.00		0.35	1.00			0.84	
Satd. Flow (perm)	1770	1856		1770	1845		652	1853			1560	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	98	446	11	43	478	33	86	312	11	87	435	33
RTOR Reduction (vph)	0	1	0	0	3	0	0	1	0	0	2	0
Lane Group Flow (vph)	98	456	0	43	508	0	86	322	0	0	553	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			6			2	
Permitted Phases							6			2		
Actuated Green, G (s)	7.2	35.4		3.7	31.9		38.0	38.0			38.0	
Effective Green, g (s)	7.2	35.4		3.7	31.9		38.0	38.0			38.0	
Actuated g/C Ratio	0.08	0.39		0.04	0.35		0.42	0.42			0.42	
Clearance Time (s)	4.5	4.2		4.5	4.2		4.2	4.2			4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	142	730		73	654		275	782			659	
v/s Ratio Prot	0.06	c0.25		0.02	c0.28			0.17				
v/s Ratio Perm							0.13				c0.35	
v/c Ratio	0.69	0.62		0.59	0.78		0.31	0.41			0.84	
Uniform Delay, d1	40.3	22.0		42.4	25.9		17.3	18.2			23.3	
Progression Factor	0.65	0.48		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	12.6	3.7		11.6	8.8		3.0	1.6			12.2	
Delay (s)	38.7	14.3		54.0	34.7		20.3	19.8			35.4	
Level of Service	D	B		D	C		C	B			D	
Approach Delay (s)		18.6			36.2			19.9			35.4	
Approach LOS		B			D			B			D	

Intersection Summary			
HCM Average Control Delay	28.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	410	60	90	370	10	10	20	20	10	350	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		5.2	5.2		5.2	5.2		5.2	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00		1.00	0.93		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1827		1770	1817		1770	1723		1770	1778	
Flt Permitted	0.48	1.00		0.37	1.00		0.20	1.00		0.73	1.00	
Satd. Flow (perm)	885	1827		681	1817		370	1723		1357	1778	
Peak-hour factor, PHF	0.92	0.92	0.92	1.00	1.00	1.00	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	446	65	90	370	10	11	22	22	11	380	120
RTOR Reduction (vph)	0	5	0	0	1	0	0	15	0	0	15	0
Lane Group Flow (vph)	11	506	0	90	379	0	11	29	0	11	485	0
Heavy Vehicles (%)	2%	2%	2%	2%	4%	10%	2%	2%	2%	2%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			2	
Permitted Phases	4			8			2			2		
Actuated Green, G (s)	50.0	50.0		49.3	49.3		30.3	30.3		30.3	30.3	
Effective Green, g (s)	50.0	50.0		49.3	49.3		30.3	30.3		30.3	30.3	
Actuated g/C Ratio	0.56	0.56		0.55	0.55		0.34	0.34		0.34	0.34	
Clearance Time (s)	4.5	4.5		5.2	5.2		5.2	5.2		5.2	5.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	492	1015		373	995		125	580		457	599	
v/s Ratio Prot		c0.28			0.21			0.02			c0.27	
v/s Ratio Perm	0.01			0.13			0.03			0.01		
v/c Ratio	0.02	0.50		0.24	0.38		0.09	0.05		0.02	0.81	
Uniform Delay, d1	9.0	12.3		10.6	11.6		20.4	20.1		20.0	27.2	
Progression Factor	0.89	0.65		0.71	0.66		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.2		1.1	0.8		0.3	0.0		0.0	8.2	
Delay (s)	8.0	9.2		8.6	8.5		20.7	20.2		20.0	35.4	
Level of Service	A	A		A	A		C	C		B	D	
Approach Delay (s)		9.2			8.5			20.3			35.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	360	210	340	280	10	50	100	180	40	210	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.2	4.2	4.2	4.2	4.2	4.2	4.2		4.5	4.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.90		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1683		1770	1711	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	1683		1770	1711	
Peak-hour factor, PHF	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	337	391	228	354	292	10	54	109	196	43	228	272
RTOR Reduction (vph)	0	0	175	0	0	5	0	67	0	0	48	0
Lane Group Flow (vph)	337	391	53	354	292	5	54	238	0	43	452	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		2	5		6	1	
Permitted Phases			4			8						
Actuated Green, G (s)	18.9	20.8	20.8	19.8	21.4	21.4	7.8	28.1		4.2	24.8	
Effective Green, g (s)	18.9	20.8	20.8	19.8	21.4	21.4	7.8	28.1		4.2	24.8	
Actuated g/C Ratio	0.21	0.23	0.23	0.22	0.24	0.24	0.09	0.31		0.05	0.28	
Clearance Time (s)	4.5	4.2	4.2	4.2	4.2	4.2	4.2	4.2		4.5	4.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	372	431	366	389	443	376	153	525		83	471	
v/s Ratio Prot	0.19	c0.21		c0.20	0.16		0.03	c0.14		0.02	c0.26	
v/s Ratio Perm			0.03			0.00						
v/c Ratio	0.91	0.91	0.14	0.91	0.66	0.01	0.35	0.45		0.52	0.96	
Uniform Delay, d1	34.7	33.7	27.5	34.2	31.0	26.2	38.7	24.8		41.9	32.1	
Progression Factor	1.00	1.00	1.00	0.90	0.89	0.79	1.00	1.00		1.00	1.00	
Incremental Delay, d2	24.7	25.4	0.8	26.9	7.2	0.1	6.3	2.8		5.4	32.6	
Delay (s)	59.4	59.1	28.3	57.9	34.9	20.9	45.0	27.6		47.3	64.7	
Level of Service	E	E	C	E	C	C	D	C		D	E	
Approach Delay (s)		51.8			47.1			30.2			63.4	
Approach LOS		D			D			C			E	

Intersection Summary			
HCM Average Control Delay	50.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	70	70	170	70	200	30	120	60	110	560	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.89			1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1656			1844	1583	1770	1858	
Flt Permitted	0.36	1.00	1.00	0.71	1.00			0.80	1.00	0.12	1.00	
Satd. Flow (perm)	665	1863	1583	1322	1656			1487	1583	217	1858	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	31	73	73	185	76	217	33	130	65	120	609	11
RTOR Reduction (vph)	0	0	55	0	128	0	0	0	54	0	1	0
Lane Group Flow (vph)	31	73	18	185	165	0	0	163	11	120	619	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		4			8			1			2	
Permitted Phases	4		4	8			1		1	2		
Actuated Green, G (s)	19.6	19.6	19.6	19.6	19.6			13.0	13.0	34.4	34.4	
Effective Green, g (s)	19.6	19.6	19.6	19.6	19.6			13.0	13.0	34.4	34.4	
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25			0.16	0.16	0.43	0.43	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0			2.0	2.0	3.8	3.8	
Lane Grp Cap (vph)	163	456	388	324	406			242	257	93	799	
v/s Ratio Prot		0.04			0.10						0.33	
v/s Ratio Perm	0.05		0.01	c0.14				c0.11	0.01	c0.55		
v/c Ratio	0.19	0.16	0.05	0.57	0.41			0.67	0.04	1.29	0.78	
Uniform Delay, d1	23.9	23.7	23.1	26.5	25.3			31.5	28.2	22.8	19.5	
Progression Factor	1.00	1.00	1.00	1.18	1.45			1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.6	0.8	0.2	7.0	2.9			14.0	0.3	189.8	7.3	
Delay (s)	26.5	24.5	23.3	38.3	39.8			45.5	28.5	212.6	26.7	
Level of Service	C	C	C	D	D			D	C	F	C	
Approach Delay (s)		24.3			39.2			40.7			56.9	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM Average Control Delay	45.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	40	110	190	20	340	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.2	4.2		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1845	1839		1719	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1845	1839		1719	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	1.00	1.00
Adj. Flow (vph)	43	120	207	22	340	200
RTOR Reduction (vph)	0	0	4	0	0	134
Lane Group Flow (vph)	43	120	225	0	340	66
Heavy Vehicles (%)	2%	3%	2%	2%	5%	2%
Turn Type	Prot					custom
Protected Phases	7	4	8			
Permitted Phases					2	2
Actuated Green, G (s)	4.4	45.4	36.5		26.4	26.4
Effective Green, g (s)	4.4	45.4	36.5		26.4	26.4
Actuated g/C Ratio	0.06	0.57	0.46		0.33	0.33
Clearance Time (s)	4.5	4.2	4.2		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	97	1047	839		567	522
v/s Ratio Prot	c0.02	0.07	c0.12			
v/s Ratio Perm					c0.20	0.04
v/c Ratio	0.44	0.11	0.27		0.60	0.13
Uniform Delay, d1	36.6	8.0	13.5		22.4	18.7
Progression Factor	1.03	0.82	2.00		1.00	1.00
Incremental Delay, d2	2.3	0.2	0.3		1.7	0.1
Delay (s)	39.9	6.7	27.3		24.1	18.8
Level of Service	D	A	C		C	B
Approach Delay (s)		15.4	27.3		22.2	
Approach LOS		B	C		C	

Intersection Summary			
HCM Average Control Delay	22.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	210	120	0	0	0	200	340	50	60	260	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2					4.5	4.2		4.5	4.2	
Lane Util. Factor	1.00	1.00					1.00	1.00		1.00	1.00	
Frt	1.00	0.95					1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00					0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1761					1770	1827		1770	1818	
Flt Permitted	0.95	1.00					0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1761					1770	1827		1770	1818	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	228	130	0	0	0	217	370	54	65	283	54
RTOR Reduction (vph)	0	26	0	0	0	0	0	6	0	0	9	0
Lane Group Flow (vph)	11	332	0	0	0	0	217	418	0	65	328	0
Turn Type	Perm						Prot			Prot		
Protected Phases		8					1	6		5	2	
Permitted Phases	8											
Actuated Green, G (s)	30.1	30.1					9.5	29.9		7.1	27.5	
Effective Green, g (s)	30.1	30.1					9.5	29.9		7.1	27.5	
Actuated g/C Ratio	0.38	0.38					0.12	0.37		0.09	0.34	
Clearance Time (s)	4.2	4.2					4.5	4.2		4.5	4.2	
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	666	663					210	683		157	625	
v/s Ratio Prot		c0.19					c0.12	c0.23		0.04	0.18	
v/s Ratio Perm	0.01											
v/c Ratio	0.02	0.50					1.03	0.61		0.41	0.53	
Uniform Delay, d1	15.7	19.2					35.2	20.3		34.5	21.0	
Progression Factor	1.37	1.53					1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	2.5					71.1	1.6		1.8	0.8	
Delay (s)	21.6	31.9					106.3	22.0		36.3	21.8	
Level of Service	C	C					F	C		D	C	
Approach Delay (s)		31.6			0.0			50.5			24.2	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	990	290	200	460	10	120	260	70	20	270	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.97		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3419		1770	3528		1770	1804		1770	1734	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3419		1770	3528		1770	1804		1770	1734	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	337	1076	315	217	500	11	130	283	76	22	293	250
RTOR Reduction (vph)	0	32	0	0	2	0	0	9	0	0	33	0
Lane Group Flow (vph)	337	1359	0	217	509	0	130	350	0	22	510	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	18.9	30.8		9.5	21.4		6.5	29.1		2.6	25.2	
Effective Green, g (s)	18.9	30.8		9.5	21.4		6.5	29.1		2.6	25.2	
Actuated g/C Ratio	0.21	0.34		0.11	0.24		0.07	0.32		0.03	0.28	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	372	1170		187	839		128	583		51	486	
v/s Ratio Prot	0.19	c0.40		c0.12	0.14		c0.07	c0.19		0.01	c0.29	
v/s Ratio Perm												
v/c Ratio	0.91	1.16		1.16	0.61		1.02	0.60		0.43	1.05	
Uniform Delay, d1	34.7	29.6		40.2	30.6		41.8	25.6		43.0	32.4	
Progression Factor	1.00	1.00		1.12	0.89		1.04	0.78		1.00	1.00	
Incremental Delay, d2	24.7	82.6		100.6	1.9		79.6	1.5		5.8	54.3	
Delay (s)	59.4	112.2		145.6	28.9		123.2	21.4		48.7	86.7	
Level of Service	E	F		F	C		F	C		D	F	
Approach Delay (s)		101.9			63.7			48.4			85.2	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM Average Control Delay	83.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	730	100	120	530	250	100	410	200	160	270	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.95		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3475		1770	3392		1770	1771		1770	1812	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3475		1770	3392		1770	1771		1770	1812	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	135	760	104	130	576	272	109	446	217	174	293	65
RTOR Reduction (vph)	0	12	0	0	62	0	0	19	0	0	9	0
Lane Group Flow (vph)	135	852	0	130	786	0	109	644	0	174	349	0
Heavy Vehicles (%)	2%	2%	2%	2%	1%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	6.8	24.0		6.8	24.0		7.4	33.6		8.8	35.0	
Effective Green, g (s)	6.8	24.0		6.8	24.0		7.4	33.6		8.8	35.0	
Actuated g/C Ratio	0.08	0.27		0.08	0.27		0.08	0.37		0.10	0.39	
Clearance Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	134	927		134	905		146	661		173	705	
v/s Ratio Prot	c0.08	c0.25		0.07	0.23		0.06	c0.36		c0.10	0.19	
v/s Ratio Perm												
v/c Ratio	1.01	0.92		0.97	0.87		0.75	0.97		1.01	0.50	
Uniform Delay, d1	41.6	32.1		41.5	31.5		40.4	27.8		40.6	20.8	
Progression Factor	0.78	1.47		1.00	1.00		1.21	0.69		1.00	1.00	
Incremental Delay, d2	25.2	1.7		68.3	9.6		10.9	20.4		69.9	2.5	
Delay (s)	57.7	48.8		109.8	41.1		59.8	39.5		110.5	23.3	
Level of Service	E	D		F	D		E	D		F	C	
Approach Delay (s)		50.0			50.2			42.3			51.8	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	48.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	460	120	50	370	270	70	360	60	120	280	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.94		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3430		1770	3315		1770	1823		1770	1863	1583
Flt Permitted	0.28	1.00		0.31	1.00		0.52	1.00		0.39	1.00	1.00
Satd. Flow (perm)	517	3430		586	3315		971	1823		726	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	500	130	54	402	293	76	391	65	130	304	98
RTOR Reduction (vph)	0	26	0	0	147	0	0	7	0	0	0	47
Lane Group Flow (vph)	43	604	0	54	548	0	76	449	0	130	304	51
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	34.8	34.8		34.8	34.8		46.5	46.5		46.5	46.5	46.5
Effective Green, g (s)	34.8	34.8		34.8	34.8		46.5	46.5		46.5	46.5	46.5
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.52	0.52		0.52	0.52	0.52
Clearance Time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	200	1326		227	1282		502	942		375	963	818
v/s Ratio Prot		c0.18			0.17			c0.25			0.16	
v/s Ratio Perm	0.08			0.09			0.08			0.18		0.03
v/c Ratio	0.21	0.46		0.24	0.43		0.15	0.48		0.35	0.32	0.06
Uniform Delay, d1	18.5	20.5		18.6	20.3		11.4	13.9		12.8	12.6	10.9
Progression Factor	1.00	1.00		0.30	0.14		1.00	1.00		1.36	1.34	2.19
Incremental Delay, d2	2.4	1.1		1.8	0.8		0.6	1.7		0.2	0.1	0.0
Delay (s)	20.9	21.7		7.4	3.6		12.0	15.7		17.6	17.0	23.8
Level of Service	C	C		A	A		B	B		B	B	C
Approach Delay (s)		21.6			3.9			15.2			18.4	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	540	30	60	650	180	100	420	70	150	350	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3511		1770	3450		1770	1823		1770	1816	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3511		1770	3450		1770	1823		1770	1816	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	87	587	33	65	707	196	109	457	76	156	365	73
RTOR Reduction (vph)	0	4	0	0	28	0	0	7	0	0	9	0
Lane Group Flow (vph)	87	616	0	65	875	0	109	526	0	156	429	0
Heavy Vehicles (%)	2%	2%	2%	2%	1%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	4.8	32.2		4.8	32.2		10.6	27.6		9.0	26.0	
Effective Green, g (s)	4.8	32.2		4.8	32.2		10.6	27.6		9.0	26.0	
Actuated g/C Ratio	0.05	0.36		0.05	0.36		0.12	0.31		0.10	0.29	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	5.0		2.0	5.0	
Lane Grp Cap (vph)	94	1256		94	1234		208	559		177	525	
v/s Ratio Prot	c0.05	0.18		0.04	c0.25		0.06	c0.29		0.09	c0.24	
v/s Ratio Perm												
v/c Ratio	0.93	0.49		0.69	0.71		0.52	0.94		0.88	0.82	
Uniform Delay, d1	42.4	22.5		41.9	24.9		37.3	30.4		40.0	29.8	
Progression Factor	0.84	0.91		1.00	1.00		1.00	1.00		0.83	0.91	
Incremental Delay, d2	64.0	1.3		16.2	3.5		1.1	24.9		29.9	8.7	
Delay (s)	99.5	21.7		58.1	28.3		38.4	55.3		63.2	35.8	
Level of Service	F	C		E	C		D	E		E	D	
Approach Delay (s)		31.2			30.3			52.5			43.0	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	38.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	20	0	380	0	320	100	100	220	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5	4.5		4.2	4.2	4.0	4.2	
Lane Util. Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Frt					1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1770	1583		1863	1583	1770	1863	
Flt Permitted					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)					1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	22	0	413	0	348	109	109	239	0
RTOR Reduction (vph)	0	0	0	0	0	328	0	0	57	0	0	0
Lane Group Flow (vph)	0	0	0	0	22	85	0	348	52	109	239	0
Turn Type				Split		Perm	Perm		Perm	Prot		
Protected Phases				4	4			6		5	2	
Permitted Phases						4	6		6			
Actuated Green, G (s)					9.3	9.3		16.4	16.4	7.0	27.4	
Effective Green, g (s)					9.3	9.3		16.4	16.4	7.0	27.4	
Actuated g/C Ratio					0.20	0.20		0.36	0.36	0.15	0.60	
Clearance Time (s)					4.5	4.5		4.2	4.2	4.0	4.2	
Vehicle Extension (s)					3.0	3.0		4.8	4.8	3.0	4.8	
Lane Grp Cap (vph)					363	324		673	572	273	1124	
v/s Ratio Prot					0.01			c0.19		c0.06	0.13	
v/s Ratio Perm						c0.05			0.03			
v/c Ratio					0.06	0.26		0.52	0.09	0.40	0.21	
Uniform Delay, d1					14.5	15.2		11.4	9.6	17.3	4.1	
Progression Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2					0.1	0.4		1.2	0.1	1.0	0.2	
Delay (s)					14.6	15.6		12.6	9.7	18.3	4.3	
Level of Service					B	B		B	A	B	A	
Approach Delay (s)		0.0			15.5			11.9			8.7	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	45.4	Sum of lost time (s)	12.7
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	190	10	10	70	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.2	4.2
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1833		1770	1863	1641	1583
Flt Permitted	1.00		0.62	1.00	0.95	1.00
Satd. Flow (perm)	1833		1153	1863	1641	1583
Peak-hour factor, PHF	0.92	0.92	1.00	1.00	1.00	1.00
Adj. Flow (vph)	207	11	10	70	10	20
RTOR Reduction (vph)	3	0	0	0	0	13
Lane Group Flow (vph)	215	0	10	70	10	7
Heavy Vehicles (%)	3%	2%	2%	2%	10%	2%
Turn Type			Perm			custom
Protected Phases	8			4		
Permitted Phases			4		6	6
Actuated Green, G (s)	30.0		30.0	30.0	21.8	21.8
Effective Green, g (s)	30.0		30.0	30.0	21.8	21.8
Actuated g/C Ratio	0.50		0.50	0.50	0.36	0.36
Clearance Time (s)	4.0		4.0	4.0	4.2	4.2
Lane Grp Cap (vph)	917		577	932	596	575
v/s Ratio Prot	c0.12			0.04		
v/s Ratio Perm			0.01		c0.01	0.00
v/c Ratio	0.23		0.02	0.08	0.02	0.01
Uniform Delay, d1	8.5		7.6	7.8	12.2	12.2
Progression Factor	1.00		1.90	1.91	1.00	1.00
Incremental Delay, d2	0.6		0.1	0.2	0.1	0.0
Delay (s)	9.1		14.4	15.1	12.3	12.3
Level of Service	A		B	B	B	B
Approach Delay (s)	9.1			15.0	12.3	
Approach LOS	A			B	B	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.2
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	90	60	10	70	100	120	460	60	20	320	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.91		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1751		1770	1698		1770	1831		1770	1863	1583
Flt Permitted	0.64	1.00		0.65	1.00		0.49	1.00		0.29	1.00	1.00
Satd. Flow (perm)	1191	1751		1218	1698		912	1831		548	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	98	65	11	76	109	130	500	65	22	348	22
RTOR Reduction (vph)	0	40	0	0	68	0	0	8	0	0	0	11
Lane Group Flow (vph)	65	123	0	11	117	0	130	557	0	22	348	11
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	22.8	22.8		22.8	22.8		28.8	28.8		28.8	28.8	28.8
Effective Green, g (s)	22.8	22.8		22.8	22.8		28.8	28.8		28.8	28.8	28.8
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.48	0.48		0.48	0.48	0.48
Clearance Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Grp Cap (vph)	453	665		463	645		438	879		263	894	760
v/s Ratio Prot		c0.07			0.07			c0.30			0.19	
v/s Ratio Perm	0.05			0.01			0.14			0.04		0.01
v/c Ratio	0.14	0.19		0.02	0.18		0.30	0.63		0.08	0.39	0.01
Uniform Delay, d1	12.2	12.4		11.6	12.4		9.5	11.7		8.5	10.0	8.2
Progression Factor	0.93	0.89		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	0.6		0.1	0.6		1.7	3.5		0.6	1.3	0.0
Delay (s)	12.0	11.6		11.7	13.0		11.2	15.1		9.1	11.3	8.2
Level of Service	B	B		B	B		B	B		A	B	A
Approach Delay (s)		11.7			12.9			14.4			11.0	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	360	1040	30	10	710	110	30	10	10	70	30	110
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	391	1130	33	11	772	120	33	11	11	76	33	120
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					400							
pX, platoon unblocked	0.93						0.93	0.93		0.93	0.93	0.93
vC, conflicting volume	891			1163			2473	2842	582	2217	2799	446
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	742			1163			2436	2831	582	2162	2785	265
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	51			98			0	0	98	0	0	83
cM capacity (veh/h)	804			596			0	8	457	0	9	685

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	391	754	409	11	514	377	54	228
Volume Left	391	0	0	11	0	0	33	76
Volume Right	0	0	33	0	0	120	11	120
cSH	804	1700	1700	596	1700	1700	0	0
Volume to Capacity	0.49	0.44	0.24	0.02	0.30	0.22	Err	Err
Queue Length 95th (ft)	68	0	0	1	0	0	Err	Err
Control Delay (s)	13.7	0.0	0.0	11.1	0.0	0.0	Err	Err
Lane LOS	B			B			F	F
Approach Delay (s)	3.4			0.1			Err	Err
Approach LOS							F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	790	270	40	590	120	170	150	20	20	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3404		1770	3450		1770	1830		1770	1770	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00		0.54	1.00	
Satd. Flow (perm)	1770	3404		1770	3450		1370	1830		1000	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	859	293	42	621	126	185	163	22	22	22	11
RTOR Reduction (vph)	0	29	0	0	13	0	0	6	0	0	9	0
Lane Group Flow (vph)	11	1123	0	42	734	0	185	179	0	22	24	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.6	54.2		5.0	57.6		17.0	17.0		17.0	17.0	
Effective Green, g (s)	1.6	54.2		5.0	57.6		17.0	17.0		17.0	17.0	
Actuated g/C Ratio	0.02	0.60		0.06	0.64		0.19	0.19		0.19	0.19	
Clearance Time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	31	2050		98	2208		259	346		189	334	
v/s Ratio Prot	0.01	c0.33		0.02	c0.21			0.10			0.01	
v/s Ratio Perm							c0.14			0.02		
v/c Ratio	0.35	0.55		0.43	0.33		0.71	0.52		0.12	0.07	
Uniform Delay, d1	43.7	10.6		41.1	7.4		34.2	32.8		30.3	30.0	
Progression Factor	1.00	1.00		0.79	0.86		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.5	1.1		0.9	0.3		7.5	0.5		0.1	0.0	
Delay (s)	46.2	11.7		33.4	6.7		41.8	33.4		30.4	30.0	
Level of Service	D	B		C	A		D	C		C	C	
Approach Delay (s)		12.0			8.2			37.6			30.2	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	610	50	60	500	170	290	470	140	190	220	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3499		1770	3404		1770	1863	1583	1770	1820	
Flt Permitted	0.95	1.00		0.95	1.00		0.50	1.00	1.00	0.26	1.00	
Satd. Flow (perm)	1770	3499		1770	3404		924	1863	1583	479	1820	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	663	54	65	543	185	315	511	152	207	239	43
RTOR Reduction (vph)	0	5	0	0	31	0	0	0	44	0	9	0
Lane Group Flow (vph)	65	712	0	65	697	0	315	511	108	207	273	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	4.8	36.0		4.8	36.0		36.8	36.8	36.8	36.8	36.8	
Effective Green, g (s)	4.8	36.0		4.8	36.0		36.8	36.8	36.8	36.8	36.8	
Actuated g/C Ratio	0.05	0.40		0.05	0.40		0.41	0.41	0.41	0.41	0.41	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Vehicle Extension (s)	2.0	4.8		2.0	4.8		4.8	4.8	4.8	4.8	4.8	
Lane Grp Cap (vph)	94	1400		94	1362		378	762	647	196	744	
v/s Ratio Prot	c0.04	c0.20		0.04	c0.20			0.27			0.15	
v/s Ratio Perm							0.34		0.07	c0.43		
v/c Ratio	0.69	0.51		0.69	0.51		0.83	0.67	0.17	1.06	0.37	
Uniform Delay, d1	41.9	20.3		41.9	20.4		23.9	21.7	16.9	26.6	18.5	
Progression Factor	0.77	0.61		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.2	1.1		16.2	1.4		15.9	2.9	0.2	79.9	0.6	
Delay (s)	46.5	13.6		58.1	21.7		39.7	24.6	17.1	106.5	19.1	
Level of Service	D	B		E	C		D	C	B	F	B	
Approach Delay (s)		16.3			24.7			28.3			56.1	
Approach LOS		B			C			C			E	

Intersection Summary			
HCM Average Control Delay	28.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.2
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	440	10	30	550	110	120	450	30	50	330	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.2		4.5	4.2		4.2	4.2			4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00		1.00	0.97		1.00	0.99			1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1856		1770	1816		1770	1845			1844	
Flt Permitted	0.95	1.00		0.95	1.00		0.38	1.00			0.60	
Satd. Flow (perm)	1770	1856		1770	1816		714	1845			1118	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	174	478	11	33	598	120	129	484	32	54	359	11
RTOR Reduction (vph)	0	1	0	0	8	0	0	3	0	0	1	0
Lane Group Flow (vph)	174	488	0	33	710	0	129	513	0	0	423	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			6			2	
Permitted Phases							6			2		
Actuated Green, G (s)	11.5	40.3		3.6	32.4		33.2	33.2			33.2	
Effective Green, g (s)	11.5	40.3		3.6	32.4		33.2	33.2			33.2	
Actuated g/C Ratio	0.13	0.45		0.04	0.36		0.37	0.37			0.37	
Clearance Time (s)	4.5	4.2		4.5	4.2		4.2	4.2			4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	226	831		71	654		263	681			412	
v/s Ratio Prot	c0.10	0.26		0.02	c0.39			0.28				
v/s Ratio Perm							0.18				c0.38	
v/c Ratio	0.77	0.59		0.46	1.09		0.49	0.75			1.03	
Uniform Delay, d1	38.0	18.6		42.3	28.8		21.9	24.8			28.4	
Progression Factor	0.91	0.82		1.00	1.00		0.77	0.71			1.00	
Incremental Delay, d2	14.0	2.9		4.7	60.5		3.9	4.7			51.2	
Delay (s)	48.6	18.2		47.0	89.3		20.7	22.3			79.6	
Level of Service	D	B		D	F		C	C			E	
Approach Delay (s)		26.2			87.5			22.0			79.6	
Approach LOS		C			F			C			E	

Intersection Summary			
HCM Average Control Delay	52.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	105.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	440	20	40	560	90	40	260	40	10	150	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		5.2	5.2		5.2	5.2		5.2	5.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1850		1770	1775		1770	1826		1770	1766	
Flt Permitted	0.33	1.00		0.42	1.00		0.48	1.00		0.30	1.00	
Satd. Flow (perm)	611	1850		781	1775		891	1826		557	1766	
Peak-hour factor, PHF	0.92	0.92	0.92	1.00	1.00	1.00	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	478	22	40	560	90	43	283	43	11	163	65
RTOR Reduction (vph)	0	1	0	0	5	0	0	7	0	0	18	0
Lane Group Flow (vph)	65	499	0	40	645	0	43	319	0	11	210	0
Heavy Vehicles (%)	2%	2%	2%	2%	4%	10%	2%	2%	2%	2%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			2	
Permitted Phases	4			8			2			2		
Actuated Green, G (s)	59.0	59.0		58.3	58.3		21.3	21.3		21.3	21.3	
Effective Green, g (s)	59.0	59.0		58.3	58.3		21.3	21.3		21.3	21.3	
Actuated g/C Ratio	0.66	0.66		0.65	0.65		0.24	0.24		0.24	0.24	
Clearance Time (s)	4.5	4.5		5.2	5.2		5.2	5.2		5.2	5.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	401	1213		506	1150		211	432		132	418	
v/s Ratio Prot		0.27			c0.36			c0.17			0.12	
v/s Ratio Perm	0.11			0.05			0.05			0.02		
v/c Ratio	0.16	0.41		0.08	0.56		0.20	0.74		0.08	0.50	
Uniform Delay, d1	6.0	7.3		5.9	8.8		27.5	31.8		26.7	29.8	
Progression Factor	0.85	0.85		0.92	0.71		0.88	0.96		1.00	1.00	
Incremental Delay, d2	0.5	0.6		0.1	0.7		0.5	6.2		0.3	1.0	
Delay (s)	5.6	6.8		5.5	6.9		24.8	36.7		27.0	30.7	
Level of Service	A	A		A	A		C	D		C	C	
Approach Delay (s)		6.7			6.8			35.3			30.6	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	15.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.4
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	300	80	220	490	40	120	340	300	10	90	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2	4.2	4.0	4.2	4.2	4.2	4.0		4.0	4.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1732		1770	1638	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	1732		1770	1638	
Peak-hour factor, PHF	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	326	87	229	510	42	130	370	326	11	98	402
RTOR Reduction (vph)	0	0	61	0	0	13	0	35	0	0	164	0
Lane Group Flow (vph)	315	326	26	229	510	29	130	661	0	11	336	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		2	5		6	1	
Permitted Phases			4			8						
Actuated Green, G (s)	6.0	27.4	27.4	6.0	27.4	27.4	19.0	34.0		6.4	21.0	
Effective Green, g (s)	6.0	27.4	27.4	6.0	27.4	27.4	19.0	34.0		6.4	21.0	
Actuated g/C Ratio	0.07	0.30	0.30	0.07	0.30	0.30	0.21	0.38		0.07	0.23	
Clearance Time (s)	4.0	4.2	4.2	4.0	4.2	4.2	4.2	4.0		4.0	4.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	118	567	482	118	567	482	374	654		126	382	
v/s Ratio Prot	c0.18	0.18		0.13	c0.27		c0.07	c0.38		0.01	0.21	
v/s Ratio Perm			0.02			0.02						
v/c Ratio	2.67	0.57	0.05	1.94	0.90	0.06	0.35	1.01		0.09	0.88	
Uniform Delay, d1	42.0	26.4	22.1	42.0	30.0	22.2	30.2	28.0		39.1	33.3	
Progression Factor	1.00	1.00	1.00	1.04	0.91	0.92	0.51	0.79		1.00	1.00	
Incremental Delay, d2	774.9	4.2	0.2	450.2	18.4	0.2	0.2	13.1		1.4	23.9	
Delay (s)	816.9	30.6	22.4	494.0	45.7	20.7	15.5	35.2		40.4	57.1	
Level of Service	F	C	C	F	D	C	B	D		D	E	
Approach Delay (s)		369.8			175.8			32.1			56.8	
Approach LOS		F			F			C			E	

Intersection Summary			
HCM Average Control Delay	162.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	130	90	80	70	20	50	650	240	190	210	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1800			1856	1583	1770	1838	
Flt Permitted	0.69	1.00	1.00	0.62	1.00			0.25	1.00	0.38	1.00	
Satd. Flow (perm)	1292	1863	1583	1155	1800			463	1583	702	1838	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	31	135	94	87	76	22	54	707	261	207	228	22
RTOR Reduction (vph)	0	0	73	0	12	0	0	0	69	0	4	0
Lane Group Flow (vph)	31	135	21	87	86	0	0	761	192	207	246	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		4			8			1			2	
Permitted Phases	4		4	8			1		1	2		
Actuated Green, G (s)	19.8	19.8	19.8	19.8	19.8			39.8	39.8	17.4	17.4	
Effective Green, g (s)	19.8	19.8	19.8	19.8	19.8			39.8	39.8	17.4	17.4	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22			0.44	0.44	0.19	0.19	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0			2.0	2.0	3.8	3.8	
Lane Grp Cap (vph)	284	410	348	254	396			205	700	136	355	
v/s Ratio Prot		0.07			0.05						0.13	
v/s Ratio Perm	0.02		0.01	c0.08				c1.64	0.12	c0.29		
v/c Ratio	0.11	0.33	0.06	0.34	0.22			3.71	0.27	1.52	0.69	
Uniform Delay, d1	28.1	29.5	27.7	29.6	28.8			25.1	15.9	36.3	33.8	
Progression Factor	1.00	1.00	1.00	0.95	0.94			1.00	1.00	1.08	0.99	
Incremental Delay, d2	0.8	2.1	0.3	3.6	1.3			1232.4	1.0	238.3	1.0	
Delay (s)	28.8	31.7	28.1	31.9	28.4			1257.5	16.9	277.7	34.5	
Level of Service	C	C	C	C	C			F	B	F	C	
Approach Delay (s)		30.0			30.0			940.7			144.6	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM Average Control Delay	541.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	150	420	40	220	150	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.2	4.2		4.5	4.5
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.89		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1845	1650		1719	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1845	1650		1719	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	1.00	1.00
Adj. Flow (vph)	163	457	43	239	150	80
RTOR Reduction (vph)	0	0	110	0	0	67
Lane Group Flow (vph)	163	457	172	0	150	13
Heavy Vehicles (%)	2%	3%	2%	2%	5%	2%
Turn Type	Prot					Perm
Protected Phases	7	4	8		2	
Permitted Phases						2
Actuated Green, G (s)	13.5	66.6	48.6		14.7	14.7
Effective Green, g (s)	13.5	66.6	48.6		14.7	14.7
Actuated g/C Ratio	0.15	0.74	0.54		0.16	0.16
Clearance Time (s)	4.5	4.2	4.2		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	266	1365	891		281	259
v/s Ratio Prot	c0.09	c0.25	0.10		c0.09	
v/s Ratio Perm						0.01
v/c Ratio	0.61	0.33	0.19		0.53	0.05
Uniform Delay, d1	35.8	4.0	10.6		34.5	31.8
Progression Factor	0.90	0.96	0.55		1.24	2.08
Incremental Delay, d2	2.8	0.4	0.3		1.9	0.1
Delay (s)	34.9	4.3	6.2		44.7	66.0
Level of Service	C	A	A		D	E
Approach Delay (s)		12.4	6.2		52.1	
Approach LOS		B	A		D	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	540	50	0	0	0	260	520	50	130	180	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2					4.5	4.2		4.5	4.2	
Lane Util. Factor	1.00	1.00					1.00	1.00		1.00	1.00	
Frt	1.00	0.99					1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00					0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1839					1770	1838		1770	1822	
Flt Permitted	0.95	1.00					0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1839					1770	1838		1770	1822	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	587	54	0	0	0	283	565	54	141	196	33
RTOR Reduction (vph)	0	4	0	0	0	0	0	4	0	0	7	0
Lane Group Flow (vph)	54	637	0	0	0	0	283	615	0	141	222	0
Turn Type	Perm						Prot			Prot		
Protected Phases		8					1	6		5	2	
Permitted Phases	8											
Actuated Green, G (s)	34.5	34.5					16.6	33.9		8.7	26.0	
Effective Green, g (s)	34.5	34.5					16.6	33.9		8.7	26.0	
Actuated g/C Ratio	0.38	0.38					0.18	0.38		0.10	0.29	
Clearance Time (s)	4.2	4.2					4.5	4.2		4.5	4.2	
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	679	705					326	692		171	526	
v/s Ratio Prot		c0.35					0.16	c0.33		c0.08	0.12	
v/s Ratio Perm	0.03											
v/c Ratio	0.08	0.90					0.87	0.89		0.82	0.42	
Uniform Delay, d1	17.7	26.2					35.6	26.3		39.9	25.9	
Progression Factor	1.08	1.10					0.96	0.94		1.34	1.83	
Incremental Delay, d2	0.2	16.8					5.8	3.5		10.1	0.2	
Delay (s)	19.2	45.7					39.9	28.4		63.6	47.5	
Level of Service	B	D					D	C		E	D	
Approach Delay (s)		43.6			0.0			32.0			53.6	
Approach LOS		D			A			C			D	

Intersection Summary			
HCM Average Control Delay	40.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	760	160	110	890	10	270	330	190	10	240	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.95		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3447		1770	3533		1770	1761		1770	1699	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3447		1770	3533		1770	1761		1770	1699	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	826	174	120	967	11	293	359	207	11	261	370
RTOR Reduction (vph)	0	21	0	0	1	0	0	21	0	0	54	0
Lane Group Flow (vph)	315	979	0	120	977	0	293	545	0	11	577	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.5	28.9		5.5	20.9		11.5	36.9		0.7	26.1	
Effective Green, g (s)	13.5	28.9		5.5	20.9		11.5	36.9		0.7	26.1	
Actuated g/C Ratio	0.15	0.32		0.06	0.23		0.13	0.41		0.01	0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	266	1107		108	820		226	722		14	493	
v/s Ratio Prot	c0.18	0.28		0.07	c0.28		c0.17	0.31		0.01	c0.34	
v/s Ratio Perm												
v/c Ratio	1.18	0.88		1.11	1.19		1.30	0.76		0.79	1.17	
Uniform Delay, d1	38.2	29.0		42.2	34.5		39.2	22.7		44.6	31.9	
Progression Factor	1.00	1.00		0.99	1.36		1.03	0.81		1.00	1.00	
Incremental Delay, d2	114.4	10.4		110.7	96.2		160.8	4.3		130.6	96.6	
Delay (s)	152.7	39.3		152.6	143.3		201.2	22.6		175.1	128.6	
Level of Service	F	D		F	F		F	C		F	F	
Approach Delay (s)		66.5			144.3			83.5			129.4	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM Average Control Delay	102.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	690	100	130	560	140	130	530	100	200	220	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.1	4.2		4.1	4.2		4.1	4.2		4.1	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3472		1770	3433		1770	1818		1770	1764	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3472		1770	3433		1770	1818		1770	1764	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	135	719	104	141	609	152	141	576	109	217	239	130
RTOR Reduction (vph)	0	12	0	0	25	0	0	7	0	0	22	0
Lane Group Flow (vph)	135	811	0	141	736	0	141	678	0	217	347	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	8.0	24.2		8.5	24.7		10.6	29.0		11.7	30.1	
Effective Green, g (s)	8.0	24.2		8.5	24.7		10.6	29.0		11.7	30.1	
Actuated g/C Ratio	0.09	0.27		0.09	0.27		0.12	0.32		0.13	0.33	
Clearance Time (s)	4.1	4.2		4.1	4.2		4.1	4.2		4.1	4.2	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	157	934		167	942		208	586		230	590	
v/s Ratio Prot	0.08	c0.23		c0.08	0.21		0.08	c0.37		c0.12	0.20	
v/s Ratio Perm												
v/c Ratio	0.86	0.87		0.84	0.78		0.68	1.16		0.94	0.59	
Uniform Delay, d1	40.4	31.4		40.1	30.2		38.1	30.5		38.8	24.8	
Progression Factor	0.81	1.41		1.00	1.00		0.90	1.35		0.90	0.61	
Incremental Delay, d2	23.5	6.8		30.3	6.4		5.9	83.4		43.2	4.2	
Delay (s)	56.1	51.0		70.4	36.6		40.0	124.7		78.1	19.4	
Level of Service	E	D		E	D		D	F		E	B	
Approach Delay (s)		51.7			41.9			110.3			41.1	
Approach LOS		D			D			F			D	

Intersection Summary			
HCM Average Control Delay	61.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	440	120	40	420	210	130	330	50	210	290	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.95		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3426		1770	3363		1770	1826		1770	1863	1583
Flt Permitted	0.26	1.00		0.31	1.00		0.52	1.00		0.44	1.00	1.00
Satd. Flow (perm)	491	3426		579	3363		973	1826		821	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	478	130	43	457	228	141	359	54	228	315	54
RTOR Reduction (vph)	0	27	0	0	69	0	0	6	0	0	0	24
Lane Group Flow (vph)	87	581	0	43	616	0	141	407	0	228	315	30
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	31.8	31.8		31.8	31.8		49.5	49.5		49.5	49.5	49.5
Effective Green, g (s)	31.8	31.8		31.8	31.8		49.5	49.5		49.5	49.5	49.5
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.55	0.55		0.55	0.55	0.55
Clearance Time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	173	1211		205	1188		535	1004		452	1025	871
v/s Ratio Prot		0.17			c0.18			0.22			0.17	
v/s Ratio Perm	0.18			0.07			0.14			c0.28		0.02
v/c Ratio	0.50	0.48		0.21	0.52		0.26	0.41		0.50	0.31	0.03
Uniform Delay, d1	22.9	22.7		20.3	23.0		10.7	11.7		12.6	11.0	9.3
Progression Factor	1.00	1.00		1.92	1.92		1.00	1.00		1.53	1.54	2.42
Incremental Delay, d2	10.1	1.4		1.5	1.1		1.2	1.2		0.4	0.1	0.0
Delay (s)	33.0	24.0		40.5	45.2		11.9	12.9		19.7	17.0	22.5
Level of Service	C	C		D	D		B	B		B	B	C
Approach Delay (s)		25.1			45.0			12.7			18.5	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM Average Control Delay	26.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	700	60	40	610	230	60	410	50	170	440	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3497		1770	3394		1770	1833		1770	1834	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3497		1770	3394		1770	1833		1770	1834	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	54	761	65	43	663	250	65	446	54	177	458	52
RTOR Reduction (vph)	0	7	0	0	42	0	0	5	0	0	4	0
Lane Group Flow (vph)	54	819	0	43	871	0	65	495	0	177	506	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	4.2	31.4		2.4	29.6		4.8	28.6		11.2	35.0	
Effective Green, g (s)	4.2	31.4		2.4	29.6		4.8	28.6		11.2	35.0	
Actuated g/C Ratio	0.05	0.35		0.03	0.33		0.05	0.32		0.12	0.39	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	5.0		2.0	5.0	
Lane Grp Cap (vph)	83	1220		47	1116		94	582		220	713	
v/s Ratio Prot	c0.03	0.23		0.02	c0.26		0.04	c0.27		c0.10	0.28	
v/s Ratio Perm												
v/c Ratio	0.65	0.67		0.91	0.78		0.69	0.85		0.80	0.71	
Uniform Delay, d1	42.2	24.9		43.7	27.3		41.9	28.7		38.3	23.2	
Progression Factor	1.04	0.97		1.00	1.00		1.00	1.00		1.19	0.80	
Incremental Delay, d2	12.1	2.7		97.4	5.4		16.2	12.5		15.9	3.5	
Delay (s)	55.9	26.9		141.1	32.7		58.1	41.2		61.4	22.1	
Level of Service	E	C		F	C		E	D		E	C	
Approach Delay (s)		28.7			37.6			43.1			32.2	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM Average Control Delay	34.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	120	0	200	0	260	50	260	260	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.2	4.2		4.2	4.2	4.0	4.2	
Lane Util. Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Frt					1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1770	1583		1863	1583	1770	1863	
Flt Permitted					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)					1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	130	0	217	0	283	54	283	283	0
RTOR Reduction (vph)	0	0	0	0	0	133	0	0	41	0	0	0
Lane Group Flow (vph)	0	0	0	0	130	84	0	283	13	283	283	0
Turn Type				Split		Perm	Perm		Perm	Prot		
Protected Phases				4	4			6		5	2	
Permitted Phases						4	6		6			
Actuated Green, G (s)					30.3	30.3		18.7	18.7	16.7	39.4	
Effective Green, g (s)					30.3	30.3		18.7	18.7	16.7	39.4	
Actuated g/C Ratio					0.39	0.39		0.24	0.24	0.21	0.50	
Clearance Time (s)					4.2	4.2		4.2	4.2	4.0	4.2	
Vehicle Extension (s)					3.0	3.0		4.8	4.8	3.0	4.8	
Lane Grp Cap (vph)					687	614		446	379	378	940	
v/s Ratio Prot					c0.07			c0.15		c0.16	0.15	
v/s Ratio Perm						0.05			0.01			
v/c Ratio					0.19	0.14		0.63	0.03	0.75	0.30	
Uniform Delay, d1					15.8	15.4		26.6	22.8	28.7	11.3	
Progression Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2					0.6	0.5		3.9	0.1	7.9	0.4	
Delay (s)					16.4	15.9		30.6	22.8	36.6	11.7	
Level of Service					B	B		C	C	D	B	
Approach Delay (s)		0.0			16.1			29.3			24.1	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	23.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	78.1	Sum of lost time (s)	12.4
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	110	10	20	270	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.2	4.2
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1825		1770	1863	1641	1583
Flt Permitted	1.00		0.67	1.00	0.95	1.00
Satd. Flow (perm)	1825		1254	1863	1641	1583
Peak-hour factor, PHF	0.92	0.92	1.00	1.00	1.00	1.00
Adj. Flow (vph)	120	11	20	270	10	20
RTOR Reduction (vph)	6	0	0	0	0	13
Lane Group Flow (vph)	126	0	20	270	10	7
Heavy Vehicles (%)	3%	2%	2%	2%	10%	2%
Turn Type			Perm			custom
Protected Phases	8			4		
Permitted Phases			4		6	6
Actuated Green, G (s)	30.0		30.0	30.0	21.8	21.8
Effective Green, g (s)	30.0		30.0	30.0	21.8	21.8
Actuated g/C Ratio	0.50		0.50	0.50	0.36	0.36
Clearance Time (s)	4.0		4.0	4.0	4.2	4.2
Lane Grp Cap (vph)	913		627	932	596	575
v/s Ratio Prot	0.07			c0.14		
v/s Ratio Perm			0.02		c0.01	0.00
v/c Ratio	0.14		0.03	0.29	0.02	0.01
Uniform Delay, d1	8.1		7.6	8.8	12.2	12.2
Progression Factor	1.00		0.93	0.93	1.00	1.00
Incremental Delay, d2	0.3		0.1	0.8	0.1	0.0
Delay (s)	8.4		7.2	8.9	12.3	12.3
Level of Service	A		A	A	B	B
Approach Delay (s)	8.4			8.8	12.3	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	8.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.2
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	110	80	140	200	40	130	320	30	110	350	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1745		1770	1817		1770	1839		1770	1863	1583
Flt Permitted	0.56	1.00		0.62	1.00		0.44	1.00		0.44	1.00	1.00
Satd. Flow (perm)	1037	1745		1152	1817		824	1839		822	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	120	87	152	217	43	141	348	33	120	380	54
RTOR Reduction (vph)	0	43	0	0	12	0	0	6	0	0	0	25
Lane Group Flow (vph)	65	164	0	152	248	0	141	375	0	120	380	29
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	24.8	24.8		24.8	24.8		26.8	26.8		26.8	26.8	26.8
Effective Green, g (s)	24.8	24.8		24.8	24.8		26.8	26.8		26.8	26.8	26.8
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.45	0.45		0.45	0.45	0.45
Clearance Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Grp Cap (vph)	429	721		476	751		368	821		367	832	707
v/s Ratio Prot		0.09			c0.14			c0.20			0.20	
v/s Ratio Perm	0.06			0.13			0.17			0.15		0.02
v/c Ratio	0.15	0.23		0.32	0.33		0.38	0.46		0.33	0.46	0.04
Uniform Delay, d1	11.0	11.4		11.9	12.0		11.1	11.5		10.8	11.5	9.4
Progression Factor	0.92	0.89		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	0.7		1.8	1.2		3.0	1.8		2.4	1.8	0.1
Delay (s)	10.9	10.8		13.7	13.1		14.1	13.4		13.1	13.3	9.5
Level of Service	B	B		B	B		B	B		B	B	A
Approach Delay (s)		10.8			13.3			13.6			12.9	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	190	1000	30	10	1170	120	40	20	10	70	20	330
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	207	1087	33	11	1272	130	43	22	11	76	22	359
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					400							
pX, platoon unblocked	0.79						0.79	0.79		0.79	0.79	0.79
vC, conflicting volume	1402			1120			2543	2940	560	2337	2891	701
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	976			1120			2422	2924	560	2160	2862	88
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	63			98			0	0	98	0	0	52
cM capacity (veh/h)	555			620			0	7	472	0	8	752

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	207	725	395	11	848	554	76	457
Volume Left	207	0	0	11	0	0	43	76
Volume Right	0	0	33	0	0	130	11	359
cSH	555	1700	1700	620	1700	1700	0	0
Volume to Capacity	0.37	0.43	0.23	0.02	0.50	0.33	Err	Err
Queue Length 95th (ft)	43	0	0	1	0	0	Err	Err
Control Delay (s)	15.3	0.0	0.0	10.9	0.0	0.0	Err	Err
Lane LOS	C			B			F	F
Approach Delay (s)	2.4			0.1			Err	Err
Approach LOS							F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	700	320	40	1050	20	230	20	20	160	130	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.93		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3373		1770	3529		1770	1723		1770	1825	
Flt Permitted	0.95	1.00		0.95	1.00		0.62	1.00		0.73	1.00	
Satd. Flow (perm)	1770	3373		1770	3529		1160	1723		1357	1825	
Peak-hour factor, PHF	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	761	348	42	1105	21	250	22	22	174	141	22
RTOR Reduction (vph)	0	46	0	0	1	0	0	16	0	0	7	0
Lane Group Flow (vph)	22	1063	0	42	1125	0	250	28	0	174	156	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.2	48.5		4.8	50.1		22.9	22.9		22.9	22.9	
Effective Green, g (s)	3.2	48.5		4.8	50.1		22.9	22.9		22.9	22.9	
Actuated g/C Ratio	0.04	0.54		0.05	0.56		0.25	0.25		0.25	0.25	
Clearance Time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	63	1818		94	1964		295	438		345	464	
v/s Ratio Prot	0.01	c0.32		0.02	c0.32			0.02			0.09	
v/s Ratio Perm							c0.22			0.13		
v/c Ratio	0.35	0.58		0.45	0.57		0.85	0.06		0.50	0.34	
Uniform Delay, d1	42.4	14.0		41.3	13.0		31.9	25.4		28.7	27.3	
Progression Factor	1.00	1.00		1.15	0.56		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	1.4		0.6	0.6		18.9	0.0		0.4	0.2	
Delay (s)	43.6	15.4		48.3	7.9		50.8	25.4		29.1	27.5	
Level of Service	D	B		D	A		D	C		C	C	
Approach Delay (s)		15.9			9.4			47.0			28.3	
Approach LOS		B			A			D			C	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	750	120	80	880	200	200	300	70	110	410	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3466		1770	3441		1770	1863	1583	1770	1827	
Flt Permitted	0.95	1.00		0.95	1.00		0.27	1.00	1.00	0.45	1.00	
Satd. Flow (perm)	1770	3466		1770	3441		499	1863	1583	846	1827	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	815	130	87	957	217	217	326	76	120	446	65
RTOR Reduction (vph)	0	13	0	0	20	0	0	0	30	0	6	0
Lane Group Flow (vph)	54	932	0	87	1154	0	217	326	46	120	505	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	4.8	35.0		4.8	35.0		37.8	37.8	37.8	37.8	37.8	
Effective Green, g (s)	4.8	35.0		4.8	35.0		37.8	37.8	37.8	37.8	37.8	
Actuated g/C Ratio	0.05	0.39		0.05	0.39		0.42	0.42	0.42	0.42	0.42	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Vehicle Extension (s)	2.0	4.8		2.0	4.8		4.8	4.8	4.8	4.8	4.8	
Lane Grp Cap (vph)	94	1348		94	1338		210	782	665	355	767	
v/s Ratio Prot	0.03	c0.27		0.05	c0.34			0.18			0.28	
v/s Ratio Perm							c0.43		0.03	0.14		
v/c Ratio	0.57	0.69		0.93	0.86		1.03	0.42	0.07	0.34	0.66	
Uniform Delay, d1	41.6	23.0		42.4	25.3		26.1	18.4	15.6	17.6	20.9	
Progression Factor	0.81	0.83		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.6	2.6		67.6	7.5		71.1	0.7	0.1	1.1	2.6	
Delay (s)	38.2	21.7		110.0	32.8		97.2	19.1	15.7	18.7	23.6	
Level of Service	D	C		F	C		F	B	B	B	C	
Approach Delay (s)		22.6			38.2			46.0			22.6	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX F:
TECHNICAL CALCULATIONS –
CUMULATIVE PLUS PROJECT CONDITIONS –
MALL OPEN TO TRAFFIC ALTERNATIVES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	400	10	50	420	30	80	290	10	80	410	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.2	4.2			4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.99			0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1856		1770	1844		1770	1853			1830	
Flt Permitted	0.95	1.00		0.95	1.00		0.35	1.00			0.87	
Satd. Flow (perm)	1770	1856		1770	1844		652	1853			1601	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	98	435	11	54	457	33	86	312	11	87	446	43
RTOR Reduction (vph)	0	1	0	0	3	0	0	2	0	0	3	0
Lane Group Flow (vph)	98	445	0	54	487	0	86	321	0	0	573	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			6			2	
Permitted Phases							6			2		
Actuated Green, G (s)	7.8	33.8		4.0	30.0		39.8	39.8			39.8	
Effective Green, g (s)	7.8	33.8		4.0	30.0		39.8	39.8			39.8	
Actuated g/C Ratio	0.09	0.38		0.04	0.33		0.44	0.44			0.44	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.2	4.2			4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	153	697		79	615		288	819			708	
v/s Ratio Prot	c0.06	0.24		0.03	c0.26			0.17				
v/s Ratio Perm							0.13				c0.36	
v/c Ratio	0.64	0.64		0.68	0.79		0.30	0.39			0.81	
Uniform Delay, d1	39.7	23.1		42.4	27.2		16.1	16.9			21.8	
Progression Factor	0.60	0.83		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	8.2	4.1		21.7	10.1		2.6	1.4			9.7	
Delay (s)	31.9	23.3		64.1	37.3		18.8	18.4			31.5	
Level of Service	C	C		E	D		B	B			C	
Approach Delay (s)		24.8			39.9			18.4			31.5	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM Average Control Delay	29.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.4
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	410	60	80	370	10	10	20	20	10	390	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.4	5.4		5.4	5.4		5.4	5.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00		1.00	0.93		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1827		1770	1817		1770	1723		1770	1788	
Flt Permitted	0.47	1.00		0.35	1.00		0.19	1.00		0.73	1.00	
Satd. Flow (perm)	873	1827		650	1817		358	1723		1357	1788	
Peak-hour factor, PHF	0.92	0.92	0.92	1.00	1.00	1.00	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	446	65	80	370	10	11	22	22	11	424	109
RTOR Reduction (vph)	0	5	0	0	1	0	0	14	0	0	12	0
Lane Group Flow (vph)	11	506	0	80	379	0	11	30	0	11	521	0
Heavy Vehicles (%)	2%	2%	2%	2%	4%	10%	2%	2%	2%	2%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			2	
Permitted Phases	4			8			2			2		
Actuated Green, G (s)	48.4	48.4		47.0	47.0		32.2	32.2		32.2	32.2	
Effective Green, g (s)	48.4	48.4		47.0	47.0		32.2	32.2		32.2	32.2	
Actuated g/C Ratio	0.54	0.54		0.52	0.52		0.36	0.36		0.36	0.36	
Clearance Time (s)	4.0	4.0		5.4	5.4		5.4	5.4		5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	469	983		339	949		128	616		486	640	
v/s Ratio Prot		c0.28			0.21			0.02			c0.29	
v/s Ratio Perm	0.01			0.12			0.03			0.01		
v/c Ratio	0.02	0.51		0.24	0.40		0.09	0.05		0.02	0.81	
Uniform Delay, d1	9.7	13.3		11.7	13.0		19.1	18.9		18.7	26.2	
Progression Factor	0.78	0.57		0.70	0.63		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	1.3		1.1	0.9		0.3	0.0		0.0	7.9	
Delay (s)	7.6	8.9		9.3	9.1		19.4	18.9		18.7	34.1	
Level of Service	A	A		A	A		B	B		B	C	
Approach Delay (s)		8.9			9.1			19.0			33.8	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.4
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	360	210	330	280	10	50	120	180	30	230	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2	4.2	4.5	4.2	4.2	4.2	4.5		4.5	4.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1695		1770	1717	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	1695		1770	1717	
Peak-hour factor, PHF	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	326	391	228	344	292	10	54	130	196	33	250	272
RTOR Reduction (vph)	0	0	175	0	0	5	0	56	0	0	43	0
Lane Group Flow (vph)	326	391	53	344	292	5	54	270	0	33	479	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		2	5		6	1	
Permitted Phases			4			8						
Actuated Green, G (s)	19.1	20.8	20.8	19.5	21.7	21.7	7.8	27.8		4.2	24.8	
Effective Green, g (s)	19.1	20.8	20.8	19.5	21.7	21.7	7.8	27.8		4.2	24.8	
Actuated g/C Ratio	0.21	0.23	0.23	0.22	0.24	0.24	0.09	0.31		0.05	0.28	
Clearance Time (s)	4.0	4.2	4.2	4.5	4.2	4.2	4.2	4.5		4.5	4.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	376	431	366	384	449	382	153	524		83	473	
v/s Ratio Prot	0.18	c0.21		c0.19	0.16		0.03	c0.16		0.02	c0.28	
v/s Ratio Perm			0.03			0.00						
v/c Ratio	0.87	0.91	0.14	0.90	0.65	0.01	0.35	0.52		0.40	1.01	
Uniform Delay, d1	34.2	33.7	27.5	34.3	30.7	26.0	38.7	25.6		41.7	32.6	
Progression Factor	1.00	1.00	1.00	0.89	0.88	0.78	1.00	1.00		1.00	1.00	
Incremental Delay, d2	18.5	25.4	0.8	25.1	6.8	0.1	6.3	3.6		3.1	44.3	
Delay (s)	52.7	59.1	28.3	55.6	33.8	20.2	45.0	29.2		44.8	76.9	
Level of Service	D	E	C	E	C	C	D	C		D	E	
Approach Delay (s)		49.5			45.2			31.4			75.0	
Approach LOS		D			D			C			E	

Intersection Summary			
HCM Average Control Delay	51.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.9
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	70	70	160	60	210	30	110	60	110	550	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.88			1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1645			1843	1583	1770	1858	
Flt Permitted	0.36	1.00	1.00	0.71	1.00			0.79	1.00	0.12	1.00	
Satd. Flow (perm)	665	1863	1583	1322	1645			1473	1583	217	1858	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	31	73	73	174	65	228	33	120	65	120	598	11
RTOR Reduction (vph)	0	0	55	0	158	0	0	0	54	0	1	0
Lane Group Flow (vph)	31	73	18	174	135	0	0	153	11	120	608	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		4			8			1			2	
Permitted Phases	4		4	8			1		1	2		
Actuated Green, G (s)	19.6	19.6	19.6	19.6	19.6			13.0	13.0	34.4	34.4	
Effective Green, g (s)	19.6	19.6	19.6	19.6	19.6			13.0	13.0	34.4	34.4	
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25			0.16	0.16	0.43	0.43	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0			2.0	2.0	3.8	3.8	
Lane Grp Cap (vph)	163	456	388	324	403			239	257	93	799	
v/s Ratio Prot		0.04			0.08						0.33	
v/s Ratio Perm	0.05		0.01	c0.13				c0.10	0.01	c0.55		
v/c Ratio	0.19	0.16	0.05	0.54	0.34			0.64	0.04	1.29	0.76	
Uniform Delay, d1	23.9	23.7	23.1	26.3	24.8			31.3	28.2	22.8	19.3	
Progression Factor	1.00	1.00	1.00	0.77	0.74			1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.6	0.8	0.2	6.1	2.2			12.4	0.3	189.8	6.8	
Delay (s)	26.5	24.5	23.3	26.4	20.5			43.8	28.5	212.6	26.1	
Level of Service	C	C	C	C	C			D	C	F	C	
Approach Delay (s)		24.3			22.7			39.2			56.8	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	40.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	120	10	10	210	20	10	10	10	330	50	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.2	4.2			4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99			0.95		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1770	1824		1770	1838			1750		1719	1648	
Flt Permitted	0.95	1.00		0.67	1.00			0.91		0.74	1.00	
Satd. Flow (perm)	1770	1824		1243	1838			1618		1331	1648	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.00	0.92	1.00
Adj. Flow (vph)	43	130	11	11	228	22	11	11	11	330	54	180
RTOR Reduction (vph)	0	4	0	0	4	0	0	7	0	0	120	0
Lane Group Flow (vph)	43	138	0	11	246	0	0	26	0	330	114	0
Heavy Vehicles (%)	2%	3%	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%
Turn Type	Prot			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)	3.4	45.0		37.6	37.6			26.8		26.8	26.8	
Effective Green, g (s)	3.4	45.0		37.6	37.6			26.8		26.8	26.8	
Actuated g/C Ratio	0.04	0.56		0.47	0.47			0.34		0.34	0.34	
Clearance Time (s)	4.0	4.2		4.2	4.2			4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	75	1026		584	864			542		446	552	
v/s Ratio Prot	c0.02	0.08			c0.13						0.07	
v/s Ratio Perm				0.01				0.02		c0.25		
v/c Ratio	0.57	0.13		0.02	0.28			0.05		0.74	0.21	
Uniform Delay, d1	37.6	8.3		11.3	13.0			18.0		23.5	19.0	
Progression Factor	0.93	0.78		1.78	1.98			1.00		1.00	1.00	
Incremental Delay, d2	7.3	0.2		0.0	0.4			0.0		6.3	0.2	
Delay (s)	42.1	6.6		20.2	26.0			18.0		29.9	19.2	
Level of Service	D	A		C	C			B		C	B	
Approach Delay (s)		14.9			25.8			18.0			25.4	
Approach LOS		B			C			B			C	

Intersection Summary			
HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	210	120	0	0	0	200	340	60	60	280	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2					4.0	4.2		4.0	4.2	
Lane Util. Factor	1.00	1.00					1.00	1.00		1.00	1.00	
Frt	1.00	0.95					1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00					0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1761					1770	1821		1770	1814	
Flt Permitted	0.95	1.00					0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1761					1770	1821		1770	1814	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	228	130	0	0	0	217	370	65	65	304	65
RTOR Reduction (vph)	0	26	0	0	0	0	0	7	0	0	10	0
Lane Group Flow (vph)	11	332	0	0	0	0	217	428	0	65	359	0
Turn Type	Perm						Prot			Prot		
Protected Phases		8					1	6		5	2	
Permitted Phases	8											
Actuated Green, G (s)	29.6	29.6					10.0	30.8		7.2	28.0	
Effective Green, g (s)	29.6	29.6					10.0	30.8		7.2	28.0	
Actuated g/C Ratio	0.37	0.37					0.12	0.39		0.09	0.35	
Clearance Time (s)	4.2	4.2					4.0	4.2		4.0	4.2	
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	655	652					221	701		159	635	
v/s Ratio Prot		c0.19					c0.12	c0.23		0.04	0.20	
v/s Ratio Perm	0.01											
v/c Ratio	0.02	0.51					0.98	0.61		0.41	0.57	
Uniform Delay, d1	16.0	19.6					34.9	19.8		34.4	21.1	
Progression Factor	1.30	1.49					1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	2.4					55.1	1.6		1.7	1.2	
Delay (s)	20.8	31.7					90.0	21.3		36.1	22.2	
Level of Service	C	C					F	C		D	C	
Approach Delay (s)		31.3			0.0			44.2			24.3	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	35.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.4
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	320	960	300	210	470	10	120	230	60	10	250	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	0.97		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3413		1770	3528		1770	1805		1770	1729	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3413		1770	3528		1770	1805		1770	1729	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	348	1043	326	228	511	11	130	250	65	11	272	250
RTOR Reduction (vph)	0	35	0	0	2	0	0	9	0	0	35	0
Lane Group Flow (vph)	348	1334	0	228	520	0	130	306	0	11	487	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	19.5	30.8		10.0	21.3		7.0	31.8		1.4	26.2	
Effective Green, g (s)	19.5	30.8		10.0	21.3		7.0	31.8		1.4	26.2	
Actuated g/C Ratio	0.22	0.34		0.11	0.24		0.08	0.35		0.02	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	384	1168		197	835		138	638		28	503	
v/s Ratio Prot	0.20	c0.39		c0.13	0.15		c0.07	0.17		0.01	c0.28	
v/s Ratio Perm												
v/c Ratio	0.91	1.14		1.16	0.62		0.94	0.48		0.39	0.97	
Uniform Delay, d1	34.4	29.6		40.0	30.8		41.3	22.7		43.9	31.5	
Progression Factor	1.00	1.00		1.32	0.65		1.11	0.69		1.00	1.00	
Incremental Delay, d2	24.2	74.6		110.3	3.2		55.4	0.5		8.9	31.8	
Delay (s)	58.6	104.2		162.9	23.3		101.4	16.2		52.7	63.3	
Level of Service	E	F		F	C		F	B		D	E	
Approach Delay (s)		95.0			65.8			41.1			63.1	
Approach LOS		F			E			D			E	

Intersection Summary			
HCM Average Control Delay	76.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	890	30	10	690	20	110	30	10	20	60	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.99			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.96			0.99	
Satd. Flow (prot)	1770	3522		1770	3524			1781			1814	
Flt Permitted	0.27	1.00		0.18	1.00			0.74			0.93	
Satd. Flow (perm)	510	3522		333	3524			1373			1709	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	967	33	11	750	22	120	33	11	22	65	11
RTOR Reduction (vph)	0	3	0	0	2	0	0	3	0	0	5	0
Lane Group Flow (vph)	11	997	0	11	770	0	0	161	0	0	93	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.0	42.0		42.0	42.0			40.0			40.0	
Effective Green, g (s)	42.0	42.0		42.0	42.0			40.0			40.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.44			0.44	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	238	1644		155	1645			610			760	
v/s Ratio Prot		c0.28			0.22							
v/s Ratio Perm	0.02			0.03				c0.12			0.05	
v/c Ratio	0.05	0.61		0.07	0.47			0.26			0.12	
Uniform Delay, d1	13.1	17.9		13.2	16.4			15.7			14.7	
Progression Factor	1.67	1.47		0.68	0.63			0.62			1.00	
Incremental Delay, d2	0.1	0.4		0.5	0.6			1.0			0.3	
Delay (s)	22.0	26.6		9.5	10.9			10.7			15.0	
Level of Service	C	C		A	B			B			B	
Approach Delay (s)		26.6			10.9			10.7			15.0	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	710	100	120	530	240	100	420	210	150	290	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.1	4.2		4.1	4.2		4.1	4.2		4.1	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.95		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3474		1770	3374		1770	1770		1770	1815	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3474		1770	3374		1770	1770		1770	1815	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	135	740	104	130	576	261	109	457	228	163	315	65
RTOR Reduction (vph)	0	13	0	0	59	0	0	20	0	0	8	0
Lane Group Flow (vph)	135	831	0	130	778	0	109	665	0	163	372	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	6.9	23.2		6.9	23.2		7.4	34.4		8.9	35.9	
Effective Green, g (s)	6.9	23.2		6.9	23.2		7.4	34.4		8.9	35.9	
Actuated g/C Ratio	0.08	0.26		0.08	0.26		0.08	0.38		0.10	0.40	
Clearance Time (s)	4.1	4.2		4.1	4.2		4.1	4.2		4.1	4.2	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	136	896		136	870		146	677		175	724	
v/s Ratio Prot	c0.08	c0.24		0.07	0.23		0.06	c0.38		c0.09	0.21	
v/s Ratio Perm												
v/c Ratio	0.99	0.93		0.96	0.89		0.75	0.98		0.93	0.51	
Uniform Delay, d1	41.5	32.6		41.4	32.2		40.4	27.5		40.2	20.5	
Progression Factor	1.40	0.70		1.00	1.00		1.20	0.71		1.00	1.00	
Incremental Delay, d2	66.9	14.5		63.1	13.6		11.2	22.3		48.3	2.6	
Delay (s)	124.9	37.2		104.5	45.9		59.7	41.7		88.6	23.1	
Level of Service	F	D		F	D		E	D		F	C	
Approach Delay (s)		49.3			53.8			44.2			42.7	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	48.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	460	110	60	370	260	70	360	50	110	280	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.94		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3436		1770	3320		1770	1829		1770	1863	1583
Flt Permitted	0.28	1.00		0.32	1.00		0.52	1.00		0.40	1.00	1.00
Satd. Flow (perm)	527	3436		598	3320		971	1829		743	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	500	120	65	402	283	76	391	54	120	304	98
RTOR Reduction (vph)	0	23	0	0	142	0	0	5	0	0	0	47
Lane Group Flow (vph)	43	597	0	65	543	0	76	440	0	120	304	51
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	34.8	34.8		34.8	34.8		46.5	46.5		46.5	46.5	46.5
Effective Green, g (s)	34.8	34.8		34.8	34.8		46.5	46.5		46.5	46.5	46.5
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.52	0.52		0.52	0.52	0.52
Clearance Time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	204	1329		231	1284		502	945		384	963	818
v/s Ratio Prot		c0.17			0.16			c0.24			0.16	
v/s Ratio Perm	0.08			0.11			0.08			0.16		0.03
v/c Ratio	0.21	0.45		0.28	0.42		0.15	0.47		0.31	0.32	0.06
Uniform Delay, d1	18.4	20.5		19.0	20.2		11.4	13.8		12.5	12.6	10.9
Progression Factor	1.00	1.00		0.53	0.29		1.00	1.00		1.34	1.32	2.18
Incremental Delay, d2	2.3	1.1		2.7	0.9		0.6	1.6		0.2	0.1	0.0
Delay (s)	20.8	21.6		12.8	6.7		12.0	15.5		16.9	16.7	23.7
Level of Service	C	C		B	A		B	B		B	B	C
Approach Delay (s)		21.5			7.2			15.0			18.1	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	97.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	630	10	10	750	30	60	60	10	10	20	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.99			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3531		1770	3519			1802			1679	
Flt Permitted	0.24	1.00		0.31	1.00			0.84			0.98	
Satd. Flow (perm)	446	3531		579	3519			1551			1647	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	685	11	11	815	33	65	65	11	11	22	76
RTOR Reduction (vph)	0	1	0	0	3	0	0	3	0	0	42	0
Lane Group Flow (vph)	54	695	0	11	845	0	0	138	0	0	67	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.0	42.0		42.0	42.0			40.0			40.0	
Effective Green, g (s)	42.0	42.0		42.0	42.0			40.0			40.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.44			0.44	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	208	1648		270	1642			689			732	
v/s Ratio Prot		0.20			c0.24							
v/s Ratio Perm	0.12			0.02				c0.09			0.04	
v/c Ratio	0.26	0.42		0.04	0.51			0.20			0.09	
Uniform Delay, d1	14.6	15.9		13.0	16.8			15.2			14.5	
Progression Factor	0.68	0.69		0.59	0.95			1.00			0.43	
Incremental Delay, d2	2.8	0.7		0.2	0.8			0.7			0.2	
Delay (s)	12.8	11.7		7.9	16.8			15.9			6.4	
Level of Service	B	B		A	B			B			A	
Approach Delay (s)		11.8			16.7			15.9			6.4	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	540	30	50	640	190	90	420	70	170	340	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3511		1770	3418		1770	1823		1770	1821	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3511		1770	3418		1770	1823		1770	1821	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	87	587	33	54	696	207	98	457	76	177	354	62
RTOR Reduction (vph)	0	5	0	0	31	0	0	7	0	0	7	0
Lane Group Flow (vph)	87	615	0	54	872	0	98	526	0	177	409	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	4.8	31.3		4.8	31.3		7.9	28.5		9.0	29.6	
Effective Green, g (s)	4.8	31.3		4.8	31.3		7.9	28.5		9.0	29.6	
Actuated g/C Ratio	0.05	0.35		0.05	0.35		0.09	0.32		0.10	0.33	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	5.0		2.0	5.0	
Lane Grp Cap (vph)	94	1221		94	1189		155	577		177	599	
v/s Ratio Prot	c0.05	0.18		0.03	c0.26		0.06	c0.29		c0.10	0.22	
v/s Ratio Perm												
v/c Ratio	0.93	0.50		0.57	0.73		0.63	0.91		1.00	0.68	
Uniform Delay, d1	42.4	23.2		41.6	25.7		39.6	29.5		40.5	26.1	
Progression Factor	0.77	1.62		1.00	1.00		1.00	1.00		0.82	0.92	
Incremental Delay, d2	64.5	1.4		5.2	4.0		6.0	19.6		59.0	3.2	
Delay (s)	97.2	38.9		46.8	29.7		45.7	49.2		92.4	27.3	
Level of Service	F	D		D	C		D	D		F	C	
Approach Delay (s)		46.1			30.7			48.6			46.7	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	41.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	20	0	340	0	340	90	100	220	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.2	4.2		4.2	4.2	4.0	4.2	
Lane Util. Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Frt					1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1770	1583		1863	1583	1770	1863	
Flt Permitted					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)					1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	22	0	370	0	370	98	109	239	0
RTOR Reduction (vph)	0	0	0	0	0	206	0	0	67	0	0	0
Lane Group Flow (vph)	0	0	0	0	22	164	0	370	31	109	239	0
Turn Type				Split		Perm	Perm		Perm	Prot		
Protected Phases				4	4			6		5	2	
Permitted Phases						4	6		6			
Actuated Green, G (s)					30.7	30.7		19.7	19.7	6.6	30.3	
Effective Green, g (s)					30.7	30.7		19.7	19.7	6.6	30.3	
Actuated g/C Ratio					0.44	0.44		0.28	0.28	0.10	0.44	
Clearance Time (s)					4.2	4.2		4.2	4.2	4.0	4.2	
Vehicle Extension (s)					3.0	3.0		4.8	4.8	3.0	4.8	
Lane Grp Cap (vph)					783	700		529	449	168	813	
v/s Ratio Prot					0.01			c0.20		c0.06	0.13	
v/s Ratio Perm						c0.10			0.02			
v/c Ratio					0.03	0.23		0.70	0.07	0.65	0.29	
Uniform Delay, d1					10.9	12.0		22.2	18.2	30.3	12.6	
Progression Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2					0.1	0.8		4.9	0.1	8.3	0.4	
Delay (s)					11.0	12.8		27.1	18.3	38.6	13.0	
Level of Service					B	B		C	B	D	B	
Approach Delay (s)		0.0			12.7			25.3			21.0	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	69.4	Sum of lost time (s)	12.4
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	180	10	10	70	10	10	30	20	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.94			0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	1831		1770	1825		1641	1757			1750	
Flt Permitted	0.70	1.00		0.63	1.00		0.74	1.00			0.94	
Satd. Flow (perm)	1312	1831		1170	1825		1271	1757			1674	
Peak-hour factor, PHF	0.92	0.92	0.92	1.00	1.00	0.92	1.00	0.92	1.00	0.92	0.92	0.92
Adj. Flow (vph)	43	196	11	10	70	11	10	33	20	11	11	11
RTOR Reduction (vph)	0	4	0	0	6	0	0	13	0	0	7	0
Lane Group Flow (vph)	43	204	0	10	76	0	10	40	0	0	26	0
Heavy Vehicles (%)	2%	3%	2%	2%	2%	2%	10%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	30.0	30.0		30.0	30.0		22.0	22.0			21.8	
Effective Green, g (s)	30.0	30.0		30.0	30.0		22.0	22.0			21.8	
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.37	0.37			0.36	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.2	
Lane Grp Cap (vph)	656	916		585	913		466	644			608	
v/s Ratio Prot		c0.11			0.04			c0.02				
v/s Ratio Perm	0.03			0.01			0.01				0.02	
v/c Ratio	0.07	0.22		0.02	0.08		0.02	0.06			0.04	
Uniform Delay, d1	7.8	8.4		7.6	7.8		12.1	12.3			12.4	
Progression Factor	1.00	1.00		0.83	0.80		1.00	1.00			1.00	
Incremental Delay, d2	0.2	0.6		0.1	0.2		0.1	0.2			0.1	
Delay (s)	7.9	9.0		6.3	6.4		12.2	12.5			12.5	
Level of Service	A	A		A	A		B	B			B	
Approach Delay (s)		8.8			6.4			12.5			12.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	9.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.15		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	80	60	10	80	100	110	460	60	20	320	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.92		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1743		1770	1707		1770	1831		1770	1863	1583
Flt Permitted	0.62	1.00		0.66	1.00		0.49	1.00		0.29	1.00	1.00
Satd. Flow (perm)	1164	1743		1230	1707		912	1831		548	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	87	65	11	87	109	120	500	65	22	348	22
RTOR Reduction (vph)	0	40	0	0	68	0	0	8	0	0	0	11
Lane Group Flow (vph)	65	112	0	11	128	0	120	557	0	22	348	11
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	22.8	22.8		22.8	22.8		28.8	28.8		28.8	28.8	28.8
Effective Green, g (s)	22.8	22.8		22.8	22.8		28.8	28.8		28.8	28.8	28.8
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.48	0.48		0.48	0.48	0.48
Clearance Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Grp Cap (vph)	442	662		467	649		438	879		263	894	760
v/s Ratio Prot		0.06			c0.08			c0.30			0.19	
v/s Ratio Perm	0.06			0.01			0.13			0.04		0.01
v/c Ratio	0.15	0.17		0.02	0.20		0.27	0.63		0.08	0.39	0.01
Uniform Delay, d1	12.2	12.3		11.6	12.5		9.3	11.7		8.5	10.0	8.2
Progression Factor	1.23	1.59		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	0.5		0.1	0.7		1.5	3.5		0.6	1.3	0.0
Delay (s)	15.7	20.1		11.7	13.2		10.9	15.1		9.1	11.3	8.2
Level of Service	B	C		B	B		B	B		A	B	A
Approach Delay (s)		18.8			13.1			14.4			11.0	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	370	1040	30	10	720	110	30	10	10	70	30	110
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	402	1130	33	11	783	120	33	11	11	76	33	120
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					400							
pX, platoon unblocked	0.93						0.93	0.93		0.93	0.93	0.93
vC, conflicting volume	902			1163			2500	2875	582	2250	2832	451
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	742			1163			2462	2865	582	2193	2819	256
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	50			98			0	0	98	0	0	83
cM capacity (veh/h)	800			596			0	7	457	0	8	690

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	402	754	409	11	522	380	54	228
Volume Left	402	0	0	11	0	0	33	76
Volume Right	0	0	33	0	0	120	11	120
cSH	800	1700	1700	596	1700	1700	0	0
Volume to Capacity	0.50	0.44	0.24	0.02	0.31	0.22	Err	Err
Queue Length 95th (ft)	72	0	0	1	0	0	Err	Err
Control Delay (s)	14.0	0.0	0.0	11.1	0.0	0.0	Err	Err
Lane LOS	B			B			F	F
Approach Delay (s)	3.6			0.1			Err	Err
Approach LOS							F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	800	270	40	610	110	170	160	20	20	20	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3405		1770	3458		1770	1831		1770	1770	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00		0.51	1.00	
Satd. Flow (perm)	1770	3405		1770	3458		1370	1831		951	1770	
Peak-hour factor, PHF	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	870	293	42	642	116	185	174	22	22	22	11
RTOR Reduction (vph)	0	29	0	0	12	0	0	6	0	0	9	0
Lane Group Flow (vph)	11	1134	0	42	746	0	185	190	0	22	24	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.6	54.2		5.0	57.6		17.0	17.0		17.0	17.0	
Effective Green, g (s)	1.6	54.2		5.0	57.6		17.0	17.0		17.0	17.0	
Actuated g/C Ratio	0.02	0.60		0.06	0.64		0.19	0.19		0.19	0.19	
Clearance Time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	31	2051		98	2213		259	346		180	334	
v/s Ratio Prot	0.01	c0.33		0.02	c0.22			0.10			0.01	
v/s Ratio Perm							c0.14			0.02		
v/c Ratio	0.35	0.55		0.43	0.34		0.71	0.55		0.12	0.07	
Uniform Delay, d1	43.7	10.7		41.1	7.4		34.2	33.0		30.3	30.0	
Progression Factor	1.00	1.00		0.79	1.53		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.5	1.1		0.9	0.3		7.5	1.1		0.1	0.0	
Delay (s)	46.2	11.8		33.2	11.7		41.8	34.1		30.4	30.0	
Level of Service	D	B		C	B		D	C		C	C	
Approach Delay (s)		12.1			12.8			37.8			30.2	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	620	50	50	520	170	280	470	140	180	220	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3500		1770	3408		1770	1863	1583	1770	1820	
Flt Permitted	0.95	1.00		0.95	1.00		0.49	1.00	1.00	0.25	1.00	
Satd. Flow (perm)	1770	3500		1770	3408		914	1863	1583	458	1820	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	674	54	54	565	185	304	511	152	196	239	43
RTOR Reduction (vph)	0	6	0	0	30	0	0	0	41	0	8	0
Lane Group Flow (vph)	65	722	0	54	720	0	304	511	111	196	274	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	6.4	37.0		4.8	35.4		35.8	35.8	35.8	35.8	35.8	
Effective Green, g (s)	6.4	37.0		4.8	35.4		35.8	35.8	35.8	35.8	35.8	
Actuated g/C Ratio	0.07	0.41		0.05	0.39		0.40	0.40	0.40	0.40	0.40	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Vehicle Extension (s)	2.0	4.8		2.0	4.8		4.8	4.8	4.8	4.8	4.8	
Lane Grp Cap (vph)	126	1439		94	1340		364	741	630	182	724	
v/s Ratio Prot	c0.04	0.21		0.03	c0.21			0.27			0.15	
v/s Ratio Perm							0.33		0.07	c0.43		
v/c Ratio	0.52	0.50		0.57	0.54		0.84	0.69	0.18	1.08	0.38	
Uniform Delay, d1	40.3	19.7		41.6	21.0		24.4	22.5	17.6	27.1	19.2	
Progression Factor	0.87	0.57		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.3	1.1		5.2	1.5		16.6	3.3	0.3	88.7	0.6	
Delay (s)	36.2	12.2		46.8	22.5		41.0	25.8	17.8	115.8	19.9	
Level of Service	D	B		D	C		D	C	B	F	B	
Approach Delay (s)		14.2			24.2			29.3			59.2	
Approach LOS		B			C			C			E	

Intersection Summary			
HCM Average Control Delay	28.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	470	10	40	560	80	120	500	20	50	340	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.2	4.2			4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.99			1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1857		1770	1828		1770	1852			1845	
Flt Permitted	0.95	1.00		0.95	1.00		0.39	1.00			0.59	
Satd. Flow (perm)	1770	1857		1770	1828		729	1852			1091	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	163	511	11	43	609	87	129	538	22	54	370	11
RTOR Reduction (vph)	0	1	0	0	6	0	0	2	0	0	1	0
Lane Group Flow (vph)	163	521	0	43	690	0	129	558	0	0	434	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	7	4		3	8			6			2	
Permitted Phases							6			2		
Actuated Green, G (s)	8.0	40.0		2.4	34.4		35.2	35.2			35.2	
Effective Green, g (s)	8.0	40.0		2.4	34.4		35.2	35.2			35.2	
Actuated g/C Ratio	0.09	0.44		0.03	0.38		0.39	0.39			0.39	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.2	4.2			4.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	157	825		47	699		285	724			427	
v/s Ratio Prot	c0.09	0.28		0.02	c0.38			0.30				
v/s Ratio Perm							0.18				c0.40	
v/c Ratio	1.04	0.63		0.91	0.99		0.45	0.77			1.02	
Uniform Delay, d1	41.0	19.3		43.7	27.6		20.3	23.9			27.4	
Progression Factor	1.18	0.75		1.00	1.00		1.34	1.22			1.00	
Incremental Delay, d2	80.3	3.5		98.6	31.2		2.8	4.4			47.6	
Delay (s)	128.5	18.0		142.3	58.8		30.0	33.4			75.0	
Level of Service	F	B		F	E		C	C			E	
Approach Delay (s)		44.3			63.6			32.8			75.0	
Approach LOS		D			E			C			E	

Intersection Summary			
HCM Average Control Delay	52.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.4
Intersection Capacity Utilization	107.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	450	20	30	560	60	50	360	40	10	160	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.4	5.4		5.4	5.4		5.4	5.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1851		1770	1790		1770	1835		1770	1779	
Flt Permitted	0.32	1.00		0.38	1.00		0.53	1.00		0.23	1.00	
Satd. Flow (perm)	589	1851		712	1790		984	1835		424	1779	
Peak-hour factor, PHF	0.92	0.92	0.92	1.00	1.00	1.00	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	489	22	30	560	60	54	391	43	11	174	54
RTOR Reduction (vph)	0	2	0	0	4	0	0	5	0	0	13	0
Lane Group Flow (vph)	22	509	0	30	616	0	54	429	0	11	215	0
Heavy Vehicles (%)	2%	2%	2%	2%	4%	10%	2%	2%	2%	2%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			2	
Permitted Phases	4			8			2			2		
Actuated Green, G (s)	54.0	54.0		52.6	52.6		26.6	26.6		26.6	26.6	
Effective Green, g (s)	54.0	54.0		52.6	52.6		26.6	26.6		26.6	26.6	
Actuated g/C Ratio	0.60	0.60		0.58	0.58		0.30	0.30		0.30	0.30	
Clearance Time (s)	4.0	4.0		5.4	5.4		5.4	5.4		5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	353	1111		416	1046		291	542		125	526	
v/s Ratio Prot		0.28			c0.34			c0.23			0.12	
v/s Ratio Perm	0.04			0.04			0.05			0.03		
v/c Ratio	0.06	0.46		0.07	0.59		0.19	0.79		0.09	0.41	
Uniform Delay, d1	7.5	9.9		8.1	11.9		23.6	29.2		22.9	25.4	
Progression Factor	0.84	0.83		1.05	0.80		0.96	0.88		1.00	1.00	
Incremental Delay, d2	0.2	0.9		0.1	1.0		0.3	7.1		0.3	0.5	
Delay (s)	6.5	9.1		8.6	10.5		23.0	32.8		23.2	25.9	
Level of Service	A	A		A	B		C	C		C	C	
Approach Delay (s)		9.0			10.4			31.8			25.8	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	320	80	220	490	40	130	320	280	10	80	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.2	4.2	4.5	4.2	4.2	4.2	4.5		4.5	4.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1732		1770	1634	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	1732		1770	1634	
Peak-hour factor, PHF	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	283	348	87	229	510	42	141	348	304	11	87	391
RTOR Reduction (vph)	0	0	59	0	0	13	0	35	0	0	186	0
Lane Group Flow (vph)	283	348	28	229	510	29	141	617	0	11	292	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		2	5		6	1	
Permitted Phases			4			8						
Actuated Green, G (s)	4.0	28.9	28.9	4.0	28.9	28.9	21.5	32.7		6.7	18.5	
Effective Green, g (s)	4.0	28.9	28.9	4.0	28.9	28.9	21.5	32.7		6.7	18.5	
Actuated g/C Ratio	0.04	0.32	0.32	0.04	0.32	0.32	0.24	0.36		0.07	0.21	
Clearance Time (s)	4.5	4.2	4.2	4.5	4.2	4.2	4.2	4.5		4.5	4.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	79	598	508	79	598	508	423	629		132	336	
v/s Ratio Prot	c0.16	0.19		0.13	c0.27		c0.08	c0.36		0.01	0.18	
v/s Ratio Perm			0.02			0.02						
v/c Ratio	3.58	0.58	0.05	2.90	0.85	0.06	0.33	0.98		0.08	0.87	
Uniform Delay, d1	43.0	25.5	21.1	43.0	28.6	21.1	28.3	28.3		38.8	34.6	
Progression Factor	1.00	1.00	1.00	1.08	0.86	0.82	0.59	0.88		1.00	1.00	
Incremental Delay, d2	1192.8	4.1	0.2	884.8	13.2	0.2	0.2	7.0		1.2	20.5	
Delay (s)	1235.8	29.6	21.3	931.0	37.6	17.5	16.8	32.1		40.0	55.1	
Level of Service	F	C	C	F	D	B	B	C		D	E	
Approach Delay (s)		504.0			298.5			29.4			54.7	
Approach LOS		F			F			C			D	

Intersection Summary			
HCM Average Control Delay	232.0	HCM Level of Service	F
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	130	100	70	100	30	70	580	240	170	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1798			1853	1583	1770	1839	
Flt Permitted	0.61	1.00	1.00	0.63	1.00			0.17	1.00	0.40	1.00	
Satd. Flow (perm)	1138	1863	1583	1165	1798			322	1583	739	1839	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	31	135	104	76	109	33	76	630	261	185	239	22
RTOR Reduction (vph)	0	0	80	0	12	0	0	0	74	0	3	0
Lane Group Flow (vph)	31	135	24	76	130	0	0	706	187	185	258	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		4			8			1			2	
Permitted Phases	4		4	8			1		1	2		
Actuated Green, G (s)	20.8	20.8	20.8	20.8	20.8			40.8	40.8	15.4	15.4	
Effective Green, g (s)	20.8	20.8	20.8	20.8	20.8			40.8	40.8	15.4	15.4	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23			0.45	0.45	0.17	0.17	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0			2.0	2.0	3.8	3.8	
Lane Grp Cap (vph)	263	431	366	269	416			146	718	126	315	
v/s Ratio Prot		c0.07			0.07						0.14	
v/s Ratio Perm	0.03		0.02	0.07				c2.19	0.12	c0.25		
v/c Ratio	0.12	0.31	0.07	0.28	0.31			4.84	0.26	1.47	0.82	
Uniform Delay, d1	27.3	28.7	27.0	28.5	28.7			24.6	15.3	37.3	35.9	
Progression Factor	1.00	1.00	1.00	1.02	1.05			1.00	1.00	1.17	1.11	
Incremental Delay, d2	0.9	1.9	0.3	2.6	1.9			1741.4	0.1	214.7	2.3	
Delay (s)	28.3	30.6	27.4	31.7	31.9			1766.0	15.3	258.2	42.3	
Level of Service	C	C	C	C	C			F	B	F	D	
Approach Delay (s)		29.1			31.8			1293.5			131.9	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM Average Control Delay	696.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	420	10	10	60	110	30	240	10	140	20	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.2	4.2			4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.90			1.00		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	
Satd. Flow (prot)	1770	1839		1770	1682			1844		1719	1658	
Flt Permitted	0.95	1.00		0.49	1.00			0.96		0.35	1.00	
Satd. Flow (perm)	1770	1839		921	1682			1785		629	1658	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	1.00	0.92	1.00
Adj. Flow (vph)	141	457	11	11	65	120	33	261	11	140	22	60
RTOR Reduction (vph)	0	1	0	0	61	0	0	2	0	0	45	0
Lane Group Flow (vph)	141	467	0	11	124	0	0	303	0	140	37	0
Heavy Vehicles (%)	2%	3%	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%
Turn Type	Prot			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)	12.2	60.0		43.8	43.8			21.8		21.8	21.8	
Effective Green, g (s)	12.2	60.0		43.8	43.8			21.8		21.8	21.8	
Actuated g/C Ratio	0.14	0.67		0.49	0.49			0.24		0.24	0.24	
Clearance Time (s)	4.0	4.2		4.2	4.2			4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	240	1226		448	819			432		152	402	
v/s Ratio Prot	c0.08	c0.25			0.07						0.02	
v/s Ratio Perm				0.01				0.17		c0.22		
v/c Ratio	0.59	0.38		0.02	0.15			0.70		0.92	0.09	
Uniform Delay, d1	36.5	6.7		12.0	12.8			31.1		33.3	26.4	
Progression Factor	1.16	0.69		1.90	3.79			1.57		0.66	0.21	
Incremental Delay, d2	2.8	0.7		0.1	0.3			4.4		48.8	0.1	
Delay (s)	45.1	5.3		22.9	48.8			53.3		70.8	5.6	
Level of Service	D	A		C	D			D		E	A	
Approach Delay (s)		14.5			47.3			53.3			46.8	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM Average Control Delay	33.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	540	50	0	0	0	140	550	50	120	200	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2					4.0	4.2		4.0	4.2	
Lane Util. Factor	1.00	1.00					1.00	1.00		1.00	1.00	
Frt	1.00	0.99					1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00					0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1839					1770	1840		1770	1817	
Flt Permitted	0.95	1.00					0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1839					1770	1840		1770	1817	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	587	54	0	0	0	152	598	54	130	217	43
RTOR Reduction (vph)	0	4	0	0	0	0	0	4	0	0	8	0
Lane Group Flow (vph)	54	637	0	0	0	0	152	648	0	130	252	0
Turn Type	Perm						Prot			Prot		
Protected Phases		8					1	6		5	2	
Permitted Phases	8											
Actuated Green, G (s)	37.4	37.4					10.5	33.2		7.0	29.7	
Effective Green, g (s)	37.4	37.4					10.5	33.2		7.0	29.7	
Actuated g/C Ratio	0.42	0.42					0.12	0.37		0.08	0.33	
Clearance Time (s)	4.2	4.2					4.0	4.2		4.0	4.2	
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	736	764					207	679		138	600	
v/s Ratio Prot		c0.35					0.09	c0.35		c0.07	0.14	
v/s Ratio Perm	0.03											
v/c Ratio	0.07	0.83					0.73	0.95		0.94	0.42	
Uniform Delay, d1	15.9	23.5					38.4	27.7		41.3	23.5	
Progression Factor	0.91	0.91					0.89	1.38		1.50	0.33	
Incremental Delay, d2	0.2	9.8					5.0	12.0		28.3	0.1	
Delay (s)	14.6	31.2					39.0	50.3		90.3	7.9	
Level of Service	B	C					D	D		F	A	
Approach Delay (s)		29.9			0.0			48.1			35.4	
Approach LOS		C			A			D			D	

Intersection Summary			
HCM Average Control Delay	38.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.4
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	300	750	160	100	890	20	270	280	180	10	210	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	0.94		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3446		1770	3527		1770	1753		1770	1686	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3446		1770	3527		1770	1753		1770	1686	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	326	815	174	109	967	22	293	304	196	11	228	391
RTOR Reduction (vph)	0	21	0	0	2	0	0	23	0	0	65	0
Lane Group Flow (vph)	326	968	0	109	987	0	293	477	0	11	554	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.0	29.8		6.0	21.8		12.0	37.4		0.8	26.2	
Effective Green, g (s)	14.0	29.8		6.0	21.8		12.0	37.4		0.8	26.2	
Actuated g/C Ratio	0.16	0.33		0.07	0.24		0.13	0.42		0.01	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	275	1141		118	854		236	728		16	491	
v/s Ratio Prot	c0.18	0.28		0.06	c0.28		c0.17	0.27		0.01	c0.33	
v/s Ratio Perm												
v/c Ratio	1.19	0.85		0.92	1.16		1.24	0.66		0.69	1.13	
Uniform Delay, d1	38.0	28.0		41.8	34.1		39.0	21.1		44.5	31.9	
Progression Factor	1.00	1.00		1.11	1.19		1.06	0.79		1.00	1.00	
Incremental Delay, d2	114.1	7.9		57.4	82.9		138.2	2.0		80.1	80.6	
Delay (s)	152.1	35.9		103.9	123.5		179.6	18.7		124.6	112.5	
Level of Service	F	D		F	F		F	B		F	F	
Approach Delay (s)		64.7			121.5			78.2			112.7	
Approach LOS		E			F			E			F	

Intersection Summary			
HCM Average Control Delay	91.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	103.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	870	80	10	710	70	110	250	20	20	30	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.99			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1770	3495		1770	3492			1823			1791	
Flt Permitted	0.28	1.00		0.22	1.00			0.88			0.85	
Satd. Flow (perm)	527	3495		403	3492			1634			1555	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	946	87	11	772	76	120	272	22	22	33	11
RTOR Reduction (vph)	0	6	0	0	6	0	0	3	0	0	8	0
Lane Group Flow (vph)	11	1027	0	11	842	0	0	411	0	0	58	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	53.5	53.5		53.5	53.5			28.5			28.5	
Effective Green, g (s)	53.5	53.5		53.5	53.5			28.5			28.5	
Actuated g/C Ratio	0.59	0.59		0.59	0.59			0.32			0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	313	2078		240	2076			517			492	
v/s Ratio Prot		c0.29			0.24							
v/s Ratio Perm	0.02			0.03				c0.25			0.04	
v/c Ratio	0.04	0.49		0.05	0.41			0.80			0.12	
Uniform Delay, d1	7.6	10.5		7.6	9.8			28.1			21.8	
Progression Factor	1.35	1.15		0.89	0.67			0.54			1.22	
Incremental Delay, d2	0.1	0.6		0.3	0.4			7.3			0.1	
Delay (s)	10.3	12.6		7.0	7.0			22.5			26.8	
Level of Service	B	B		A	A			C			C	
Approach Delay (s)		12.5			7.0			22.5			26.8	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	680	80	140	520	140	130	460	100	200	220	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.1	4.2		4.1	4.2		4.1	4.2		4.1	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3484		1770	3427		1770	1813		1770	1764	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3484		1770	3427		1770	1813		1770	1764	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	135	708	83	152	565	152	141	500	109	217	239	130
RTOR Reduction (vph)	0	10	0	0	27	0	0	9	0	0	22	0
Lane Group Flow (vph)	135	781	0	152	690	0	141	600	0	217	347	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	8.0	24.2		8.5	24.7		10.6	29.0		11.7	30.1	
Effective Green, g (s)	8.0	24.2		8.5	24.7		10.6	29.0		11.7	30.1	
Actuated g/C Ratio	0.09	0.27		0.09	0.27		0.12	0.32		0.13	0.33	
Clearance Time (s)	4.1	4.2		4.1	4.2		4.1	4.2		4.1	4.2	
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Lane Grp Cap (vph)	157	937		167	941		208	584		230	590	
v/s Ratio Prot	0.08	c0.22		c0.09	0.20		0.08	c0.33		c0.12	0.20	
v/s Ratio Perm												
v/c Ratio	0.86	0.83		0.91	0.73		0.68	1.03		0.94	0.59	
Uniform Delay, d1	40.4	31.0		40.4	29.7		38.1	30.5		38.8	24.8	
Progression Factor	0.67	0.97		1.00	1.00		0.86	0.79		1.15	1.12	
Incremental Delay, d2	31.6	7.7		44.5	5.1		6.5	39.7		43.1	4.2	
Delay (s)	58.5	37.7		84.9	34.7		39.4	63.9		87.8	32.1	
Level of Service	E	D		F	C		D	E		F	C	
Approach Delay (s)		40.7			43.5			59.3			52.7	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM Average Control Delay	48.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	450	120	40	420	170	130	330	50	200	290	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.96		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3428		1770	3386		1770	1826		1770	1863	1583
Flt Permitted	0.29	1.00		0.30	1.00		0.52	1.00		0.44	1.00	1.00
Satd. Flow (perm)	539	3428		566	3386		973	1826		821	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	489	130	43	457	185	141	359	54	217	315	54
RTOR Reduction (vph)	0	27	0	0	49	0	0	6	0	0	0	24
Lane Group Flow (vph)	76	592	0	43	594	0	141	407	0	217	315	30
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	31.8	31.8		31.8	31.8		49.5	49.5		49.5	49.5	49.5
Effective Green, g (s)	31.8	31.8		31.8	31.8		49.5	49.5		49.5	49.5	49.5
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.55	0.55		0.55	0.55	0.55
Clearance Time (s)	4.2	4.2		4.2	4.2		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	190	1211		200	1196		535	1004		452	1025	871
v/s Ratio Prot		0.17			c0.18			0.22			0.17	
v/s Ratio Perm	0.14			0.08			0.14			c0.26		0.02
v/c Ratio	0.40	0.49		0.21	0.50		0.26	0.41		0.48	0.31	0.03
Uniform Delay, d1	21.9	22.8		20.4	22.8		10.7	11.7		12.4	11.0	9.3
Progression Factor	1.00	1.00		1.30	1.25		1.00	1.00		1.48	1.47	2.19
Incremental Delay, d2	6.2	1.4		2.1	1.3		1.2	1.2		1.6	0.3	0.0
Delay (s)	28.1	24.2		28.6	29.8		11.9	12.9		19.9	16.5	20.4
Level of Service	C	C		C	C		B	B		B	B	C
Approach Delay (s)		24.6			29.7			12.7			18.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.7
Intersection Capacity Utilization	95.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	730	70	10	600	210	10	50	10	10	50	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.96			0.98			0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1770	3493		1770	3232			1813			1730	
Flt Permitted	0.23	1.00		0.23	1.00			0.97			0.98	
Satd. Flow (perm)	421	3493		429	3232			1767			1708	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	793	76	11	652	228	11	54	11	11	54	65
RTOR Reduction (vph)	0	8	0	0	39	0	0	6	0	0	36	0
Lane Group Flow (vph)	120	861	0	11	841	0	0	70	0	0	94	0
Parking (#/hr)					0							
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.0	42.0		42.0	42.0			40.0			40.0	
Effective Green, g (s)	42.0	42.0		42.0	42.0			40.0			40.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.44			0.44	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	196	1630		200	1508			785			759	
v/s Ratio Prot		0.25			0.26							
v/s Ratio Perm	c0.29			0.03				0.04			c0.05	
v/c Ratio	0.61	0.53		0.06	0.56			0.09			0.12	
Uniform Delay, d1	17.9	17.0		13.1	17.3			14.5			14.7	
Progression Factor	0.71	0.75		1.18	0.86			1.00			0.70	
Incremental Delay, d2	12.8	1.2		0.3	0.9			0.2			0.3	
Delay (s)	25.6	13.8		15.9	15.9			14.7			10.5	
Level of Service	C	B		B	B			B			B	
Approach Delay (s)		15.3			15.9			14.7			10.5	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	670	30	50	680	200	90	360	50	170	460	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3516		1770	3419		1770	1829		1770	1835	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3516		1770	3419		1770	1829		1770	1835	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96
Adj. Flow (vph)	54	728	33	54	739	217	98	391	54	177	479	52
RTOR Reduction (vph)	0	3	0	0	29	0	0	6	0	0	5	0
Lane Group Flow (vph)	54	758	0	54	927	0	98	439	0	177	526	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases												
Actuated Green, G (s)	4.4	32.0		3.9	31.5		6.0	26.5		11.2	31.7	
Effective Green, g (s)	4.4	32.0		3.9	31.5		6.0	26.5		11.2	31.7	
Actuated g/C Ratio	0.05	0.36		0.04	0.35		0.07	0.29		0.12	0.35	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.0	4.2		4.0	4.2	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	5.0		2.0	5.0	
Lane Grp Cap (vph)	87	1250		77	1197		118	539		220	646	
v/s Ratio Prot	c0.03	0.22		0.03	c0.27		0.06	0.24		c0.10	c0.29	
v/s Ratio Perm												
v/c Ratio	0.62	0.61		0.70	0.77		0.83	0.82		0.80	0.81	
Uniform Delay, d1	42.0	23.8		42.5	26.1		41.5	29.5		38.3	26.5	
Progression Factor	1.55	0.54		1.00	1.00		1.00	1.00		1.20	0.80	
Incremental Delay, d2	8.3	1.9		20.9	4.9		35.4	10.4		16.1	7.8	
Delay (s)	73.2	14.8		63.4	31.0		76.9	39.8		62.0	29.1	
Level of Service	E	B		E	C		E	D		E	C	
Approach Delay (s)		18.7			32.7			46.5			37.3	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	32.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	110	0	180	0	270	40	240	260	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.2	4.2	4.0	4.2	
Lane Util. Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Frt					1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1770	1583		1863	1583	1770	1863	
Flt Permitted					0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)					1770	1583		1863	1583	1770	1863	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	120	0	196	0	293	43	261	283	0
RTOR Reduction (vph)	0	0	0	0	0	159	0	0	29	0	0	0
Lane Group Flow (vph)	0	0	0	0	120	37	0	293	14	261	283	0
Turn Type				Split		Perm	Perm		Perm	Prot		
Protected Phases				4	4			6		5	2	
Permitted Phases						4	6		6			
Actuated Green, G (s)					9.8	9.8		16.4	16.4	13.5	33.9	
Effective Green, g (s)					9.8	9.8		16.4	16.4	13.5	33.9	
Actuated g/C Ratio					0.19	0.19		0.32	0.32	0.26	0.65	
Clearance Time (s)					4.0	4.0		4.2	4.2	4.0	4.2	
Vehicle Extension (s)					3.0	3.0		4.8	4.8	3.0	4.8	
Lane Grp Cap (vph)					334	299		589	500	460	1217	
v/s Ratio Prot					c0.07			c0.16		c0.15	0.15	
v/s Ratio Perm						0.02			0.01			
v/c Ratio					0.36	0.12		0.50	0.03	0.57	0.23	
Uniform Delay, d1					18.3	17.5		14.4	12.3	16.7	3.7	
Progression Factor					1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2					0.7	0.2		1.3	0.0	1.6	0.2	
Delay (s)					19.0	17.7		15.7	12.3	18.3	3.9	
Level of Service					B	B		B	B	B	A	
Approach Delay (s)		0.0			18.2			15.3			10.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	51.9	Sum of lost time (s)	12.2
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	110	10	20	260	10	10	10	20	10	70	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.90			0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1823		1770	1851		1641	1682			1824	
Flt Permitted	0.57	1.00		0.67	1.00		0.77	1.00			0.98	
Satd. Flow (perm)	1055	1823		1254	1851		1334	1682			1797	
Peak-hour factor, PHF	0.92	0.92	0.92	1.00	1.00	0.92	1.00	0.92	1.00	0.92	0.92	0.92
Adj. Flow (vph)	11	120	11	20	260	11	10	11	20	11	76	11
RTOR Reduction (vph)	0	6	0	0	3	0	0	13	0	0	7	0
Lane Group Flow (vph)	11	126	0	20	269	0	10	18	0	0	91	0
Heavy Vehicles (%)	2%	3%	2%	2%	2%	2%	10%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		
Actuated Green, G (s)	30.0	30.0		30.0	30.0		22.0	22.0			21.8	
Effective Green, g (s)	30.0	30.0		30.0	30.0		22.0	22.0			21.8	
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.37	0.37			0.36	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.2	
Lane Grp Cap (vph)	528	912		627	926		489	617			653	
v/s Ratio Prot		0.07			c0.15			0.01				
v/s Ratio Perm	0.01			0.02			0.01				c0.05	
v/c Ratio	0.02	0.14		0.03	0.29		0.02	0.03			0.14	
Uniform Delay, d1	7.6	8.1		7.6	8.8		12.1	12.2			12.8	
Progression Factor	1.00	1.00		1.14	1.05		1.00	1.00			1.00	
Incremental Delay, d2	0.1	0.3		0.1	0.8		0.1	0.1			0.4	
Delay (s)	7.7	8.4		8.8	10.0		12.2	12.3			13.3	
Level of Service	A	A		A	A		B	B			B	
Approach Delay (s)		8.3			9.9			12.2			13.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.2
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	120	80	140	190	90	110	330	40	110	340	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.95		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1751		1770	1773		1770	1833		1770	1863	1583
Flt Permitted	0.49	1.00		0.60	1.00		0.47	1.00		0.44	1.00	1.00
Satd. Flow (perm)	911	1751		1114	1773		873	1833		817	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	130	87	152	207	98	120	359	43	120	370	54
RTOR Reduction (vph)	0	40	0	0	29	0	0	7	0	0	0	27
Lane Group Flow (vph)	54	177	0	152	276	0	120	395	0	120	370	27
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		2
Actuated Green, G (s)	22.8	22.8		22.8	22.8		28.8	28.8		28.8	28.8	28.8
Effective Green, g (s)	22.8	22.8		22.8	22.8		28.8	28.8		28.8	28.8	28.8
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.48	0.48		0.48	0.48	0.48
Clearance Time (s)	4.2	4.2		4.2	4.2		4.2	4.2		4.2	4.2	4.2
Lane Grp Cap (vph)	346	665		423	674		419	880		392	894	760
v/s Ratio Prot		0.10			c0.16			c0.22			0.20	
v/s Ratio Perm	0.06			0.14			0.14			0.15		0.02
v/c Ratio	0.16	0.27		0.36	0.41		0.29	0.45		0.31	0.41	0.04
Uniform Delay, d1	12.3	12.8		13.4	13.7		9.4	10.3		9.5	10.1	8.3
Progression Factor	0.83	0.77		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.0	1.0		2.4	1.8		1.7	1.7		2.0	1.4	0.1
Delay (s)	11.1	10.9		15.7	15.5		11.1	12.0		11.5	11.5	8.3
Level of Service	B	B		B	B		B	B		B	B	A
Approach Delay (s)		10.9			15.6			11.8			11.2	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.4
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	200	990	30	10	1170	120	40	20	10	70	20	330
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	217	1076	33	11	1272	130	43	22	11	76	22	359
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					400							
pX, platoon unblocked	0.79						0.79	0.79		0.79	0.79	0.79
vC, conflicting volume	1402			1109			2554	2951	554	2353	2902	701
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	976			1109			2435	2938	554	2181	2876	88
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	61			98			0	0	98	0	0	52
cM capacity (veh/h)	555			626			0	7	476	0	8	752

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	217	717	391	11	848	554	76	457
Volume Left	217	0	0	11	0	0	43	76
Volume Right	0	0	33	0	0	130	11	359
cSH	555	1700	1700	626	1700	1700	0	0
Volume to Capacity	0.39	0.42	0.23	0.02	0.50	0.33	Err	Err
Queue Length 95th (ft)	46	0	0	1	0	0	Err	Err
Control Delay (s)	15.6	0.0	0.0	10.9	0.0	0.0	Err	Err
Lane LOS	C			B			F	F
Approach Delay (s)	2.6			0.1			Err	Err
Approach LOS							F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	690	320	40	1050	20	230	20	20	150	130	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	0.93		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3371		1770	3529		1770	1723		1770	1825	
Flt Permitted	0.95	1.00		0.95	1.00		0.62	1.00		0.73	1.00	
Satd. Flow (perm)	1770	3371		1770	3529		1160	1723		1357	1825	
Peak-hour factor, PHF	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	750	348	42	1105	21	250	22	22	163	141	22
RTOR Reduction (vph)	0	47	0	0	1	0	0	16	0	0	7	0
Lane Group Flow (vph)	22	1051	0	42	1125	0	250	28	0	163	156	0
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.2	48.5		4.8	50.1		22.9	22.9		22.9	22.9	
Effective Green, g (s)	3.2	48.5		4.8	50.1		22.9	22.9		22.9	22.9	
Actuated g/C Ratio	0.04	0.54		0.05	0.56		0.25	0.25		0.25	0.25	
Clearance Time (s)	4.0	4.2		4.0	4.2		5.6	5.6		5.6	5.6	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	63	1817		94	1964		295	438		345	464	
v/s Ratio Prot	0.01	c0.31		0.02	c0.32			0.02			0.09	
v/s Ratio Perm							c0.22			0.12		
v/c Ratio	0.35	0.58		0.45	0.57		0.85	0.06		0.47	0.34	
Uniform Delay, d1	42.4	13.9		41.3	13.0		31.9	25.4		28.4	27.3	
Progression Factor	1.00	1.00		0.75	0.92		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	1.3		0.6	0.6		18.9	0.0		0.4	0.2	
Delay (s)	43.6	15.3		31.8	12.5		50.8	25.4		28.8	27.5	
Level of Service	D	B		C	B		D	C		C	C	
Approach Delay (s)		15.8			13.2			47.0			28.2	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	19.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	750	160	80	890	220	200	300	70	150	380	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3446		1770	3434		1770	1863	1583	1770	1825	
Flt Permitted	0.95	1.00		0.95	1.00		0.29	1.00	1.00	0.45	1.00	
Satd. Flow (perm)	1770	3446		1770	3434		540	1863	1583	834	1825	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	815	174	87	967	239	217	326	76	163	413	65
RTOR Reduction (vph)	0	20	0	0	23	0	0	0	28	0	7	0
Lane Group Flow (vph)	54	969	0	87	1183	0	217	326	48	163	471	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	4.8	34.4		6.4	36.0		36.8	36.8	36.8	36.8	36.8	
Effective Green, g (s)	4.8	34.4		6.4	36.0		36.8	36.8	36.8	36.8	36.8	
Actuated g/C Ratio	0.05	0.38		0.07	0.40		0.41	0.41	0.41	0.41	0.41	
Clearance Time (s)	4.0	4.2		4.0	4.2		4.2	4.2	4.2	4.2	4.2	
Vehicle Extension (s)	2.0	4.8		2.0	4.8		4.8	4.8	4.8	4.8	4.8	
Lane Grp Cap (vph)	94	1317		126	1374		221	762	647	341	746	
v/s Ratio Prot	0.03	c0.28		0.05	c0.34			0.18			0.26	
v/s Ratio Perm							c0.40		0.03	0.20		
v/c Ratio	0.57	0.74		0.69	0.86		0.98	0.43	0.07	0.48	0.63	
Uniform Delay, d1	41.6	23.9		40.8	24.7		26.3	19.1	16.2	19.5	21.2	
Progression Factor	0.97	0.89		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.7	3.3		12.4	7.3		55.4	0.8	0.1	2.1	2.3	
Delay (s)	44.9	24.6		53.2	32.0		81.7	19.8	16.3	21.6	23.5	
Level of Service	D	C		D	C		F	B	B	C	C	
Approach Delay (s)		25.7			33.4			41.1			23.0	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	30.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

J.2 - Supplemental Traffic Study

FEHR PEERS

MEMORANDUM

Date: September 6, 2013

To: Wilma Quan, City of Fresno Downtown & Community Revitalization Department
Michael Houlihan, AICP, FirstCarbon Solutions
Kirsten Helton, Caltrans Central Region

From: Rob Hananouchi & Alan Telford, Fehr & Peers

Subject: ***Fulton Mall Supplemental Traffic Analysis – 2025 General Plan***

RS10-2774.02

This memorandum presents the findings of the supplemental traffic analysis for the Fulton Mall Reconstruction Project when applying the policies from the *2025 Fresno General Plan*.

KEY FINDINGS

Based on the results provided in the Final Transportation Impact Study for the Fulton Mall Reconstruction Project, all study intersections would operate at LOS D or better during the AM and PM peak hour under Baseline Conditions and both Baseline Plus Project Conditions alternatives. Therefore, all intersections would operate at an acceptable LOS based on the policies in the *2025 Fresno General Plan*, and the project does not result in a significant impact.

Under Cumulative Conditions, the following intersections are projected to operate at LOS E or F:

- Stanislaus Street / Broadway
- Tuolumne Street / Broadway
- Fresno Street / Van Ness Avenue
- Fresno Street / H Street
- Ventura Avenue / H Street

With the Mall Open to Traffic alternatives, the following four intersection would continue to operate at LOS E or F:

- Stanislaus Street / Broadway
- Tuolumne Street / Broadway
- Fresno Street / H Street
- Ventura Avenue / H Street

The Fulton Mall Reconstruction Project would not contribute a cumulatively considerable amount of delay or additional traffic at three of the four intersections. However, traffic delays are projected to increase by more than five seconds at the Tuolumne Street / Broadway intersection over Cumulative No Project conditions.

To mitigate this impact, the City of Fresno would need to modify the signal to allow split phase operations on northbound and southbound Broadway. If the City of Fresno adopts the proposed General Plan Update policies prior to the intersection reaching LOS E or F operations, this improvement would not be necessary.

BACKGROUND

Fehr & Peers completed a transportation impact analysis for the Fulton Mall Reconstruction Project to support the environmental documents being prepared for the project. The findings of that analysis are documented in the Final Transportation Impact Report dated July 12, 2013.

As stated in the Regulatory Setting section of the Final Transportation Impact Report, the City of Fresno intends to consider the adoption of an update of the *2025 Fresno General Plan* in 2014. At the time we completed the Final Transportation Impact Report, City staff indicated that the General Plan Update would be adopted prior to the approval of the Fulton Mall Reconstruction Project. Therefore, the analysis in the Final Transportation Impact Report used policies from the General Plan Update.

We completed this supplemental traffic analysis to assess the potential transportation impacts associated with the Fulton Mall Reconstruction Project if it proceeds under the current policies of the *2025 Fresno General Plan*.

REGULATORY SETTING

The *2025 Fresno General Plan* includes the following policies related to transportation and circulation that are relevant to the analysis of the Fulton Mall Reconstruction Project:

- **Policy E-1-f**: Allow a Level of Service "D" as the acceptable level of traffic congestion on major streets. LOS "D" according to the Caltrans and COFCG accepted LOS criteria, as developed by the Florida Department of Transportation, means moderate congestion at peak traffic periods; approaching unstable flow with reduced speeds, limited maneuverability, and loss of convenience; average speeds range from 9 to 17 miles per hour on arterials with stopped delays of 40 seconds or less.

- **Policy E-1-j**: Provide areas for pedestrian and other non-motorized travel that enhance the safety, utilization, and efficiency of the street system. Pedestrian travel should be encouraged as a viable mode of movement throughout the metropolitan area by providing safe and convenient pedestrian facilities in new and existing urban areas and particularly within the Central Area and urban core community centers.

- **Policy E-1-k**: Pursue the funding for and development of sidewalks and bicycle lanes on all collector and arterial major streets and bike paths along all expressways.

- **Policy E-1-l**: All commercial and office development should be linked with pedestrian, bicycle, and transit facilities.

- **Policy E-1-m**: Achieve greater pedestrian accessibility to commercial uses from nearby neighborhoods.
- **Policy E-1-n**: Safe access and mobility for the physically impaired must be implemented in the design of all pedestrian facilities.
- **Policy E-2-a**: Pursue the implementation of Transportation Demand Management and Transportation System Management strategies, as identified by land use and air quality policies and actions of this plan, to reduce peak hour traffic demands and supplement the capacity of the transportation system.
- **Policy E-2-b**: Minimize vehicular and vehicle-pedestrian conflicts on major streets and adjacent land uses through use of traffic design and control measures that reduce congestion and increase safety.
- **Policy E-7-d**: Support the development of a multimodal transportation terminal facility in, or in close proximity to, the Central Area.
- **Policy E-9-m**: Encourage mixed use intensive cluster-type development where consistent with general plan goals and policies.
- **Policy E-9-s**: Promote the development of the Central Area as the region's principal employment center and public transportation hub
- **Policy E-13-a**: Provide bikeways in proximity to major traffic generators such as commercial centers, schools, recreational areas, and major public facilities.
- **Policy C-17-b**: The City shall identify and pursue measures to lower auto-dependence and encourage public transit (including pursuit of fixed guideway systems such as monorail or people mover), bicycle use, and walking consistent with other transit-oriented development concepts and principles.
- **Policy C-20-d**: Safe vehicular, bicycle, and pedestrian access shall be provided and maintained. Access for the disabled shall be incorporated into the project designs as required.

Policy Differences

As identified in the Final Transportation Impact Study, the General Plan Update includes the following policies related to vehicle level of service:

- **Policy MT-1-l**: Utilize to the extent feasible, a tiered system of flexible, multi-modal Level of Service standards for streets designated by the General Plan Circulation Diagram (Figure MT-1). Generally the City will strive to accommodate a peak hour vehicle LOS of "D" or better on street segments and at intersections except as further elaborated by following polices.
- **Policy MT-1-m**:Within the Downtown Neighborhoods Community Plan area and the Fulton Corridor Specific Plan area, accept motor vehicle LOS "F" conditions during peak hours on street

segments and intersections in the vicinity of these areas as specified by the applicable policies of these plans.

It is important to note that Policy E-1-f is different from these proposed policies in the General Plan Update in that the proposed Policy MT-1-l allows for exceptions to the LOS D policy. Policy MT-1-m describes one of these exceptions as accepting motor vehicle LOS "F" conditions during peak hours on street segments and intersections within the Downtown Neighborhoods Community Plan area and the Fulton Corridor Specific Plan area. This includes the Fulton Mall Reconstruction Project study area.

The remainder of this memorandum expands upon the ramifications of this policy difference.

TRAFFIC OPERATIONS RESULTS

Baseline Plus Project Conditions

Table 1 shows the AM and PM peak hour intersection operations results for Baseline and Baseline Plus Project Conditions from the Final Transportation Impact Study for the Fulton Mall Reconstruction Project. For technical calculations, refer to Appendix D in the Final Transportation Impact Study.

For the Baseline Plus Project Pedestrian Mall alternative, intersection operations would remain the same as the Baseline Conditions. For the Baseline Plus Project Mall Open to Traffic alternatives, Table 1 shows the AM and PM peak hour intersection operations under Baseline Plus Project – Mall Open to Traffic Conditions.

Based on the results in Table 1, all study intersections would operate at LOS D or better during the AM and PM peak hour under Baseline Conditions and both Baseline Plus Project Conditions alternatives. Therefore, all intersections would operate at an acceptable LOS based on the policies in the *2025 Fresno General Plan*, and the project does not result in a significant impact.

FEHR PEERS

TABLE 1:
PEAK HOUR INTERSECTION OPERATIONS – BASELINE PLUS PROJECT CONDITIONS

Intersection	Traffic Control	Baseline Conditions[1]				Baseline + Project: Mall Open to Traffic			
		AM Peak Hr		PM Peak Hr		AM Peak Hr		PM Peak Hr	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Stanislaus Street / Van Ness Avenue	Signal	11	B	13	B	11	B	13	B
2. Stanislaus Street / Fulton Street	Signal	11	B	11	B	12	B	11	B
3. Stanislaus Street / Broadway	Signal	10	A	10	B	10	A	10	B
4. Tuolumne Street / Broadway	Signal	18	B	17	B	18	B	17	B
5. Tuolumne Street / Fulton Street	Signal	12	B	11	B	12	B	11	B
6. Tuolumne Street / Van Ness Avenue	Signal	12	B	13	B	12	B	13	B
7. Fresno Street / H Street[4]	N/A								
8. Fresno Street / Fulton Street[5]	Pedestrian Signal					4	A	3	A
9. Fresno Street / Van Ness Avenue	Signal	35	C	35	C	35	C	37	D
10. Tulare Street / H Street	Signal	12	B	11	B	12	B	11	B
11. Tulare Street / Fulton Street[5]	Pedestrian Signal					4	A	4	A
12. Tulare Street / Van Ness Avenue	Signal	23	C	21	C	23	C	26	C
13. Inyo Street / H Street	Signal	13	B	12	B	12	B	11	B
14. Inyo Street / Fulton Street	Signal	10	A	10	B	9	A	9	A
15. Inyo Street / Van Ness Avenue	Signal	13	B	11	B	13	B	11	B
16. Ventura Avenue / H Street	Side Street Stop-Controlled	34	D	18	C	33	D	19	C
17. Ventura Avenue / Broadway	Signal	20	C	25	C	20	C	25	C
18. Ventura Avenue / Van Ness Avenue	Signal	25	C	21	C	25	C	21	C

Notes: [1]Baseline Plus Project: Pedestrian Mall alternative would have the same traffic operations as Baseline Conditions.

[2]For signalized intersections, the overall average intersection control delay is reported in seconds per vehicle. For side-street stop controlled intersections, the average control delay for the movement with the greatest delay is reported in seconds per vehicle.

[3]Level of Service based on *Highway Capacity Manual* (Transportation Research Board, 2000).

[4]Intersection does not exist under Baseline Conditions & Baseline Plus Project Conditions.

[5]Intersection exists as a pedestrian signal and is not analyzed under Baseline Conditions. Intersection would become fully signalized under Baseline Plus Project – Mall Open to Traffic conditions.

Source: Fehr & Peers, 2013.

Cumulative Plus Project Conditions

Table 2 shows the AM and PM peak hour intersection operations results for Cumulative No Project and Cumulative Plus Project Conditions from the Final Transportation Impact Study for the Fulton Mall Reconstruction Project. For technical calculations, refer to Appendix F in the Final Transportation Impact Study.

For the Cumulative Plus Project Pedestrian Mall alternative, intersection operations would remain the same as the Cumulative No Project Conditions. For the Cumulative Plus Project Mall Open to Traffic alternatives, Table 2 shows the AM and PM peak hour intersection operations under Cumulative Plus Project – Mall Open to Traffic Conditions.

Based on the results in Table 2, the following five intersections would operate at LOS E or F during the AM and/or PM peak hour under Cumulative No Project and Cumulative Plus Project Conditions with the Pedestrian Mall alternative:

- Stanislaus Street / Broadway
- Tuolumne Street / Broadway
- Fresno Street / Van Ness Avenue
- Fresno Street / H Street
- Ventura Avenue / H Street

For the Cumulative Plus Project Conditions with the Pedestrian Mall alternative, intersection operations would remain the same as the Cumulative No Project Conditions. Therefore, the Pedestrian Mall alternative of the project would not have a cumulatively significant effect.

Based on the results in Table 2, the following four intersections would operate at LOS E or F during the AM and/or PM peak hour under Cumulative Plus Project Conditions with the Mall Open to Traffic alternatives:

- Stanislaus Street / Broadway
- Tuolumne Street / Broadway
- Fresno Street / H Street
- Ventura Avenue / H Street

The contribution of the proposed Fulton Mall Reconstruction Project to traffic delays at these four intersections is described in more detail below.

FEHR PEERS

TABLE 2:
PEAK HOUR INTERSECTION OPERATIONS – CUMULATIVE PLUS PROJECT CONDITIONS

Intersection	Traffic Control	Cumulative No Project Conditions[1]				Cumulative + Project: Mall Open to Traffic			
		AM Peak Hr		PM Peak Hr		AM Peak Hr		PM Peak Hr	
		Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]
1. Stanislaus Street / Van Ness Avenue	Signal	28	C	53	D	29	C	52	D
2. Stanislaus Street / Fulton Street	Signal	18	B	16	B	18	B	17	B
3. Stanislaus Street / Broadway	Signal	50	D	**>150**	**F**	51	D	**>150**	**F**
4. Tuolumne Street / Broadway	Signal	46	D	**>150**	**F**	41	D	**>150**	**F**
5. Tuolumne Street / Fulton Street	Signal	22	C	19	B	23	C	34	C
6. Tuolumne Street / Van Ness Avenue	Signal	38	D	40	D	35	D	39	D
7. Fresno Street / H Street	Signal	**84**	**F**	**102**	**F**	**77**	**E**	**92**	**F**
8. Fresno Street / Fulton Street[4]	Pedestrian Signal					19	B	13	B
9. Fresno Street / Van Ness Avenue	Signal	49	D	**62**	**E**	48	D	48	D
10. Tulare Street / H Street	Signal	14	B	27	C	15	B	22	C
11. Tulare Street / Fulton Street[4]	Pedestrian Signal					14	B	15	B
12. Tulare Street / Van Ness Avenue	Signal	38	D	35	C	42	D	33	C
13. Inyo Street / H Street	Signal	12	B	23	C	20	B	14	B
14. Inyo Street / Fulton Street	Signal	11	B	9	A	9	A	10	B
15. Inyo Street / Van Ness Avenue	Signal	13	B	13	B	14	B	13	B
16. Ventura Avenue / H Street	Side Street Stop-Controlled	**>150**	**F**	**>150**	**F**	**>150**	**F**	**>150**	**F**
17. Ventura Avenue / Broadway	Signal	15	B	18	B	17	B	19	B
18. Ventura Avenue / Van Ness Avenue	Signal	29	C	32	C	29	C	31	C

Notes: [1]Cumulative Plus Project: Pedestrian Mall alternative would have the same traffic operations as Cumulative No Project Conditions.

[2]For signalized intersections, the overall average intersection control delay is reported in seconds per vehicle. For side-street stop controlled intersections, the average control delay for the movement with the greatest delay is reported in seconds per vehicle.

[3]Level of Service based on *Highway Capacity Manual* (Transportation Research Board, 2000).

[4]Intersection would exist as a pedestrian signal as it does under Baseline Conditions and is not analyzed under Cumulative No Project Conditions. Intersection would become fully signalized under Cumulative Plus Project – Mall Open to Traffic conditions.

Delays greater than 2.5 minutes are not reported due to model insensitivity under extreme congestion.

BOLD text indicates the intersection operates at an unacceptable LOS based on the City of Fresno's *2025 General Plan* level of service policy.

UNDERLINED text indicates a significant impact based on the significance criteria identified in the Final Transportation Impact Report for the Fulton Mall Reconstruction Project dated July 12, 2013.

Source: Fehr & Peers, 2013.

Fulton Mall Reconstruction Project – Cumulative Contribution

Stanislaus Street / Broadway

The technical calculations show that the overall intersection delay at the Stanislaus Street / Broadway intersection decreases slightly from 165 seconds to 159 seconds during the PM peak hour with the proposed project (see Attachment A). Therefore, the project would not have a cumulatively significant impact at this location.

Tuolumne Street / Broadway

The technical calculations show that the overall intersection delay at the Tuolumne Street / Broadway intersection increases from 541 seconds to 723 seconds during the PM peak hour with the proposed project (see Attachment A). Therefore, the project would have a potentially cumulatively significant impact at this location.

Fresno Street / H Street

At the Fresno Street / H Street intersection, Table 2 shows that traffic delay would decrease with the proposed project during both the AM and PM peak hours (Refer to Appendix E and F in the Final Transportation Impact Study). Therefore, the project would not have a cumulatively significant impact at this location.

Ventura Avenue / H Street

The Cumulative No Project and Cumulative Plus Project traffic volumes at the Ventura Avenue / H Street intersection indicate that the proposed Fulton Mall Reconstruction Project is not expected to result in a substantial change in traffic at that location.

In the AM peak hour, two turning movements have a minor increase in traffic volumes that can be attributed to rounding and model variation. In the PM peak hour, one turning movement has a minor increase while one has a minor decrease that can also be attributed to rounding and model variation.

In AM peak hour, the change in traffic volumes through the intersection is an increase of less than one percent, which is well within observed variation in day-to-day traffic. Therefore, this change is not considered cumulatively significant.

In the PM peak hour, there is no net change in traffic volumes through the intersection. Similarly, this change is not considered cumulatively significant.

MITIGATIONS FOR CUMULATIVE IMPACTS

The only cumulatively significant impact caused by the proposed project would occur at the Tuolumne Street / Broadway intersection during the PM peak hour.

To mitigate this impact, the City of Fresno would need to modify the signal to allow split phase operations on northbound and southbound Broadway. As shown in Table 3, with this improvement, delay at this

intersection would be reduced to 33 seconds and operate at LOS C. See Attachment A for technical calculations.

TABLE 3:
PEAK HOUR INTERSECTION OPERATIONS –
CUMULATIVE PLUS PROJECT CONDITIONS – MITIGATED

Intersection	Traffic Control	Cumulative No Project Conditions				Cumulative + Project: Mall Open to Traffic				Cumulative + Project: Mall Open to Traffic - Mitigated			
		AM Peak Hr		PM Peak Hr		AM Peak Hr		PM Peak Hr		AM Peak Hr		PM Peak Hr	
		Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]	Delay[1]	LOS[2]
4. Tuolumne Street / Broadway	Signal	46	D	**>150**	**F**	41	D	**>150**	**F**	25	C	32	C

Notes: [1]The overall average intersection control delay is reported in seconds per vehicle.

[2]Level of Service based on *Highway Capacity Manual* (Transportation Research Board, 2000).

Delays greater than 2.5 minutes are not reported due to model insensitivity under extreme congestion.

BOLD text indicates the intersection operates at an unacceptable LOS based on the City of Fresno's *2025 General Plan* level of service policy.

UNDERLINED text indicates a significant impact based on the significance criteria identified in the Final Transportation Impact Report for the Fulton Mall Reconstruction Project dated July 12, 2013.

Source: Fehr & Peers, 2013.

If the City of Fresno adopts the proposed General Plan Update policies prior to the intersection reaching LOS E or F operations, this improvement would not be necessary.

ATTACHMENT A:
TECHNICAL CALCULATIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	300	80	220	490	40	120	340	300	10	90	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2	4.2	4.0	4.2	4.2	4.2	4.0		4.0	4.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1732		1770	1638	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	1732		1770	1638	
Peak-hour factor, PHF	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	326	87	229	510	42	130	370	326	11	98	402
RTOR Reduction (vph)	0	0	61	0	0	13	0	35	0	0	164	0
Lane Group Flow (vph)	315	326	26	229	510	29	130	661	0	11	336	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		2	5		6	1	
Permitted Phases			4			8						
Actuated Green, G (s)	6.0	27.4	27.4	6.0	27.4	27.4	19.0	34.0		6.4	21.0	
Effective Green, g (s)	6.0	27.4	27.4	6.0	27.4	27.4	19.0	34.0		6.4	21.0	
Actuated g/C Ratio	0.07	0.30	0.30	0.07	0.30	0.30	0.21	0.38		0.07	0.23	
Clearance Time (s)	4.0	4.2	4.2	4.0	4.2	4.2	4.2	4.0		4.0	4.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	118	567	482	118	567	482	374	654		126	382	
v/s Ratio Prot	c0.18	0.18		0.13	c0.27		c0.07	c0.38		0.01	0.21	
v/s Ratio Perm			0.02			0.02						
v/c Ratio	2.67	0.57	0.05	1.94	0.90	0.06	0.35	1.01		0.09	0.88	
Uniform Delay, d1	42.0	26.4	22.1	42.0	30.0	22.2	30.2	28.0		39.1	33.3	
Progression Factor	1.00	1.00	1.00	1.04	0.91	0.92	0.51	0.79		1.00	1.00	
Incremental Delay, d2	774.9	4.2	0.2	450.2	18.4	0.2	0.2	13.1		1.4	23.9	
Delay (s)	816.9	30.6	22.4	494.0	45.7	20.7	15.5	35.2		40.4	57.1	
Level of Service	F	C	C	F	D	C	B	D		D	E	
Approach Delay (s)		369.8			175.8			32.1			56.8	
Approach LOS		F			F			C			E	

Intersection Summary			
HCM Average Control Delay	162.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	130	90	80	70	20	50	650	240	190	210	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1800			1856	1583	1770	1838	
Flt Permitted	0.69	1.00	1.00	0.62	1.00			0.25	1.00	0.38	1.00	
Satd. Flow (perm)	1292	1863	1583	1155	1800			463	1583	702	1838	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	31	135	94	87	76	22	54	707	261	207	228	22
RTOR Reduction (vph)	0	0	73	0	12	0	0	0	69	0	4	0
Lane Group Flow (vph)	31	135	21	87	86	0	0	761	192	207	246	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		4			8			1			2	
Permitted Phases	4		4	8			1		1	2		
Actuated Green, G (s)	19.8	19.8	19.8	19.8	19.8			39.8	39.8	17.4	17.4	
Effective Green, g (s)	19.8	19.8	19.8	19.8	19.8			39.8	39.8	17.4	17.4	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22			0.44	0.44	0.19	0.19	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0			2.0	2.0	3.8	3.8	
Lane Grp Cap (vph)	284	410	348	254	396			205	700	136	355	
v/s Ratio Prot		0.07			0.05						0.13	
v/s Ratio Perm	0.02		0.01	c0.08				c1.64	0.12	c0.29		
v/c Ratio	0.11	0.33	0.06	0.34	0.22			3.71	0.27	1.52	0.69	
Uniform Delay, d1	28.1	29.5	27.7	29.6	28.8			25.1	15.9	36.3	33.8	
Progression Factor	1.00	1.00	1.00	0.95	0.94			1.00	1.00	1.08	0.99	
Incremental Delay, d2	0.8	2.1	0.3	3.6	1.3			1232.4	1.0	238.3	1.0	
Delay (s)	28.8	31.7	28.1	31.9	28.4			1257.5	16.9	277.7	34.5	
Level of Service	C	C	C	C	C			F	B	F	C	
Approach Delay (s)		30.0			30.0			940.7			144.6	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM Average Control Delay	541.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	320	80	220	490	40	130	320	280	10	80	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.2	4.2	4.5	4.2	4.2	4.2	4.5		4.5	4.2	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1732		1770	1634	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	1732		1770	1634	
Peak-hour factor, PHF	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	283	348	87	229	510	42	141	348	304	11	87	391
RTOR Reduction (vph)	0	0	61	0	0	13	0	35	0	0	186	0
Lane Group Flow (vph)	283	348	26	229	510	29	141	617	0	11	292	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		2	5		6	1	
Permitted Phases			4			8						
Actuated Green, G (s)	5.5	27.4	27.4	5.5	27.4	27.4	21.5	33.1		6.3	18.5	
Effective Green, g (s)	5.5	27.4	27.4	5.5	27.4	27.4	21.5	33.1		6.3	18.5	
Actuated g/C Ratio	0.06	0.30	0.30	0.06	0.30	0.30	0.24	0.37		0.07	0.21	
Clearance Time (s)	4.5	4.2	4.2	4.5	4.2	4.2	4.2	4.5		4.5	4.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	108	567	482	108	567	482	423	637		124	336	
v/s Ratio Prot	c0.16	0.19		0.13	c0.27		c0.08	c0.36		0.01	0.18	
v/s Ratio Perm			0.02			0.02						
v/c Ratio	2.62	0.61	0.05	2.12	0.90	0.06	0.33	0.97		0.09	0.87	
Uniform Delay, d1	42.2	26.8	22.1	42.2	30.0	22.2	28.3	27.9		39.2	34.6	
Progression Factor	1.00	1.00	1.00	1.07	0.86	0.82	0.55	0.83		1.00	1.00	
Incremental Delay, d2	755.2	4.9	0.2	531.2	18.3	0.2	0.2	5.3		1.4	20.5	
Delay (s)	797.4	31.7	22.4	576.2	44.0	18.4	15.7	28.6		40.6	55.1	
Level of Service	F	C	C	F	D	B	B	C		D	E	
Approach Delay (s)		332.4			198.7			26.3			54.8	
Approach LOS		F			F			C			D	

Intersection Summary			
HCM Average Control Delay	158.7	HCM Level of Service	F
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	130	100	70	100	30	70	580	240	170	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1798			1853	1583	1770	1839	
Flt Permitted	0.61	1.00	1.00	0.62	1.00			0.17	1.00	0.40	1.00	
Satd. Flow (perm)	1128	1863	1583	1155	1798			317	1583	739	1839	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	31	135	104	76	109	33	76	630	261	185	239	22
RTOR Reduction (vph)	0	0	81	0	12	0	0	0	74	0	4	0
Lane Group Flow (vph)	31	135	23	76	130	0	0	706	187	185	257	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		4			8			1			2	
Permitted Phases	4		4	8			1		1	2		
Actuated Green, G (s)	19.8	19.8	19.8	19.8	19.8			39.8	39.8	17.4	17.4	
Effective Green, g (s)	19.8	19.8	19.8	19.8	19.8			39.8	39.8	17.4	17.4	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22			0.44	0.44	0.19	0.19	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0			2.0	2.0	3.8	3.8	
Lane Grp Cap (vph)	248	410	348	254	396			140	700	143	356	
v/s Ratio Prot		c0.07			0.07						0.14	
v/s Ratio Perm	0.03		0.01	0.07				c2.22	0.12	c0.25		
v/c Ratio	0.12	0.33	0.07	0.30	0.33			5.04	0.27	1.29	0.72	
Uniform Delay, d1	28.2	29.5	27.8	29.3	29.5			25.1	15.9	36.3	34.0	
Progression Factor	1.00	1.00	1.00	1.02	1.05			1.00	1.00	1.09	1.01	
Incremental Delay, d2	1.0	2.1	0.4	3.0	2.2			1835.2	0.1	137.0	1.2	
Delay (s)	29.2	31.7	28.1	33.0	33.0			1860.3	15.9	176.7	35.4	
Level of Service	C	C	C	C	C			F	B	F	D	
Approach Delay (s)		30.0			33.0			1362.5			94.0	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM Average Control Delay	723.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	70	70	160	60	210	30	110	60	110	550	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.88			1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1645			1843	1583	1770	1858	
Flt Permitted	0.36	1.00	1.00	0.71	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (perm)	665	1863	1583	1322	1645			1843	1583	1770	1858	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	31	73	73	174	65	228	33	120	65	120	598	11
RTOR Reduction (vph)	0	0	55	0	158	0	0	0	54	0	1	0
Lane Group Flow (vph)	31	73	18	174	135	0	0	153	11	120	608	0
Turn Type	Perm		Perm	Perm			Split		Perm	Split		
Protected Phases		4			8		1	1		2	2	
Permitted Phases	4		4	8					1			
Actuated Green, G (s)	19.6	19.6	19.6	19.6	19.6			13.0	13.0	34.4	34.4	
Effective Green, g (s)	19.6	19.6	19.6	19.6	19.6			13.0	13.0	34.4	34.4	
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25			0.16	0.16	0.43	0.43	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0			2.0	2.0	3.8	3.8	
Lane Grp Cap (vph)	163	456	388	324	403			299	257	761	799	
v/s Ratio Prot		0.04			0.08			c0.08		0.07	c0.33	
v/s Ratio Perm	0.05		0.01	c0.13					0.01			
v/c Ratio	0.19	0.16	0.05	0.54	0.34			0.51	0.04	0.16	0.76	
Uniform Delay, d1	23.9	23.7	23.1	26.3	24.8			30.6	28.2	13.9	19.3	
Progression Factor	1.00	1.00	1.00	0.77	0.74			1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.6	0.8	0.2	6.1	2.2			6.1	0.3	0.4	6.8	
Delay (s)	26.5	24.5	23.3	26.4	20.5			36.7	28.5	14.4	26.1	
Level of Service	C	C	C	C	C			D	C	B	C	
Approach Delay (s)		24.3			22.7			34.3			24.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	130	100	70	100	30	70	580	240	170	220	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1798			1853	1583	1770	1839	
Flt Permitted	0.61	1.00	1.00	0.62	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (perm)	1128	1863	1583	1155	1798			1853	1583	1770	1839	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	31	135	104	76	109	33	76	630	261	185	239	22
RTOR Reduction (vph)	0	0	81	0	12	0	0	0	78	0	4	0
Lane Group Flow (vph)	31	135	23	76	130	0	0	706	183	185	257	0
Turn Type	Perm		Perm	Perm			Split		Perm	Split		
Protected Phases		4			8		1	1		2	2	
Permitted Phases	4		4	8					1			
Actuated Green, G (s)	19.8	19.8	19.8	19.8	19.8			37.5	37.5	19.7	19.7	
Effective Green, g (s)	19.8	19.8	19.8	19.8	19.8			37.5	37.5	19.7	19.7	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22			0.42	0.42	0.22	0.22	
Clearance Time (s)	4.2	4.2	4.2	4.2	4.2			4.2	4.2	4.6	4.6	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0			2.0	2.0	3.8	3.8	
Lane Grp Cap (vph)	248	410	348	254	396			772	660	387	403	
v/s Ratio Prot		c0.07			0.07			c0.38		0.10	c0.14	
v/s Ratio Perm	0.03		0.01	0.07					0.12			
v/c Ratio	0.12	0.33	0.07	0.30	0.33			0.91	0.28	0.48	0.64	
Uniform Delay, d1	28.2	29.5	27.8	29.3	29.5			24.7	17.3	30.7	31.9	
Progression Factor	1.00	1.00	1.00	1.02	1.05			1.00	1.00	0.92	1.02	
Incremental Delay, d2	1.0	2.1	0.4	3.0	2.2			15.0	0.1	0.4	0.7	
Delay (s)	29.2	31.7	28.1	33.0	33.0			39.8	17.4	28.6	33.2	
Level of Service	C	C	C	C	C			D	B	C	C	
Approach Delay (s)		30.0			33.0			33.7			31.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	32.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			