Appendix J: Traffic

J.1 - Traffic Study

Final Transportation Impact Report

FULTON MALL RECONSTRUCTION PROJECT

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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

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STUDY AREA

FIGURE 1

PROJECT PURPOSE

Per Section 1.3 of the Fulton Mall Reconstruction Draft EA, the purpose of the Fulton Mall Reconstruction project is to:

- Maximize the economic productivity of the Project Area
- Maximize mobility, circulation, and access in and around the Project Area for people using many different modes of travel
- Lower crime and improve the quality of life for living in, working in, and visiting the Project Area
- Encourage sustainable development by promoting the concentration of buildings and people in Downtown Fresno, consistent with the objectives of the draft City of Fresno 2035 General Plan

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.

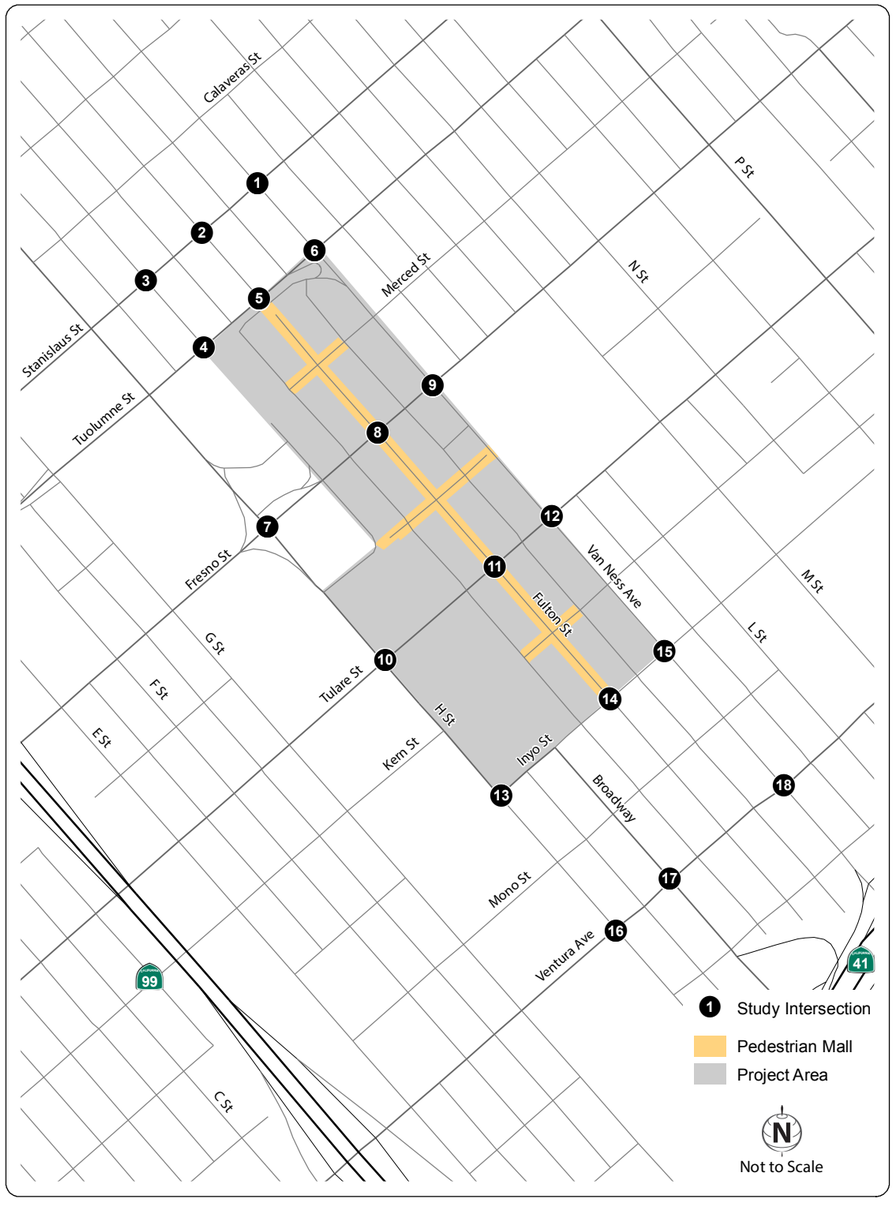
TRAFFIC VOLUMES AND ROADWAY OPERATIONS

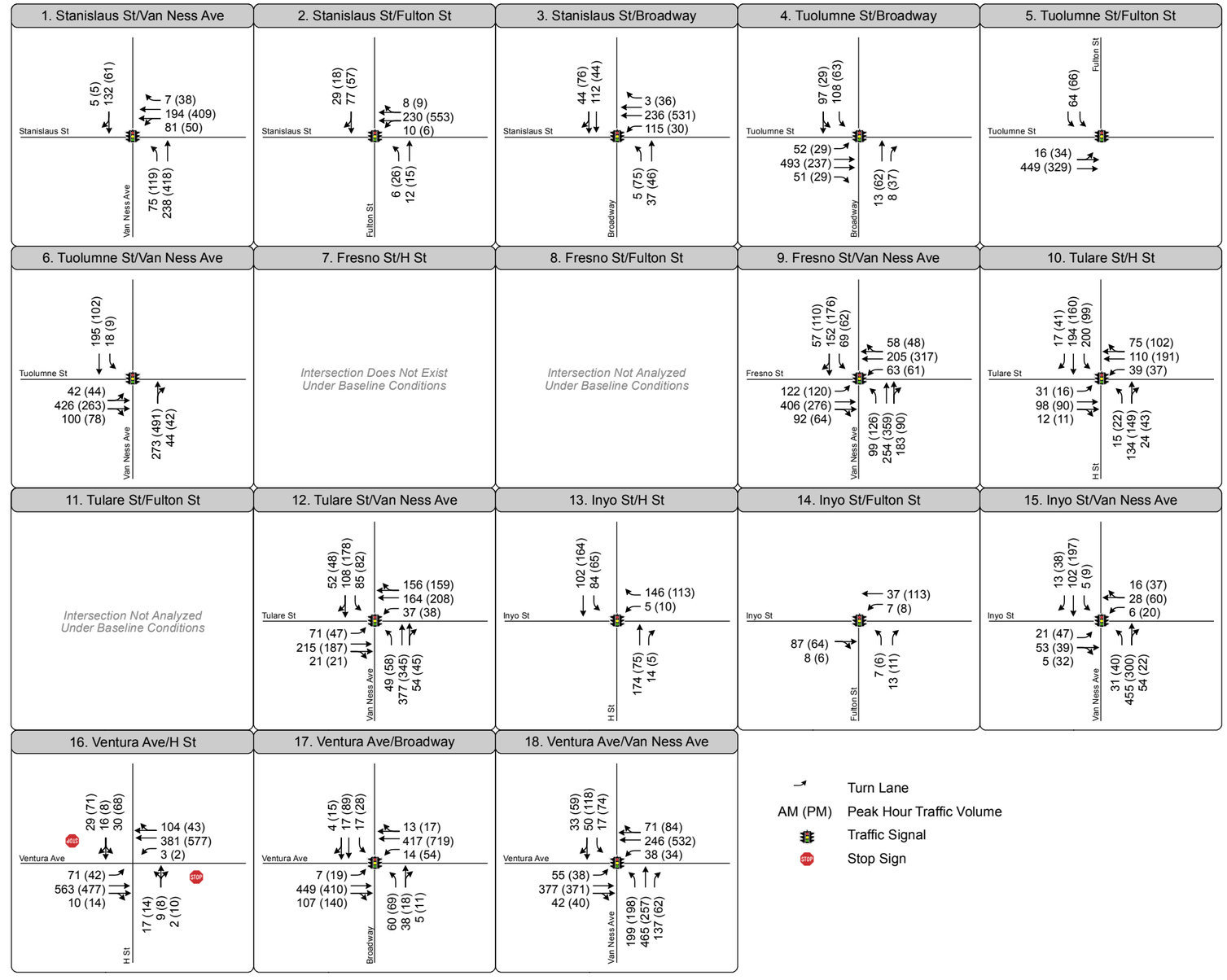
Traffic counts were collected at the study intersections on weekdays between November 2009 and January 2012 (refer to Appendix B for traffic count data). These turning movement counts at study intersections were taken during both the morning (7:00 – 9:00 am) and evening (4:00 – 6:00 pm) peak periods. 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

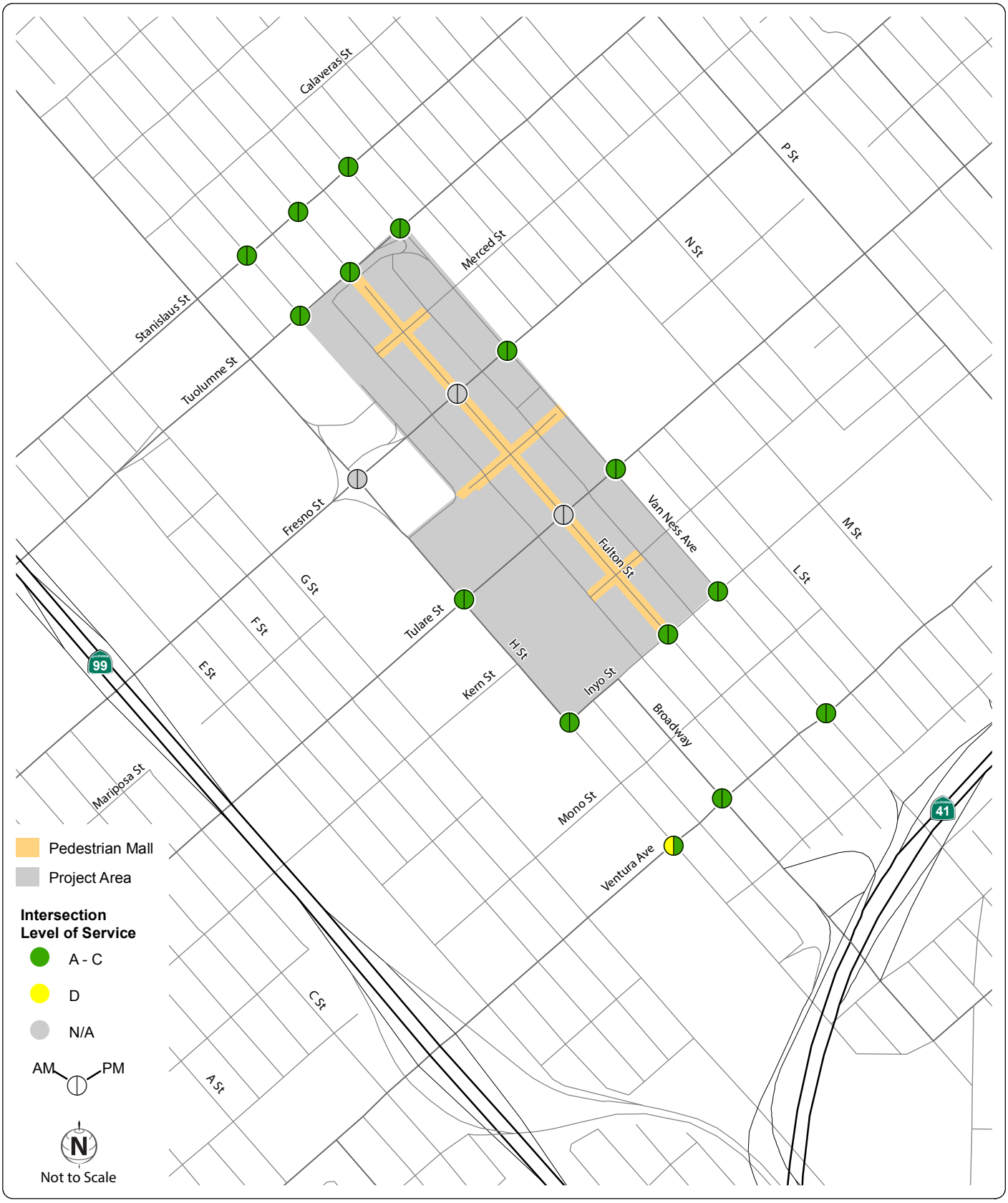
Notes: [1]For signalized intersections, the overall average intersection control delay is reported in seconds per vehicle. For side-street stop controlled intersections, the average control delay for the movement with the greatest delay is reported in seconds per vehicle.

[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:

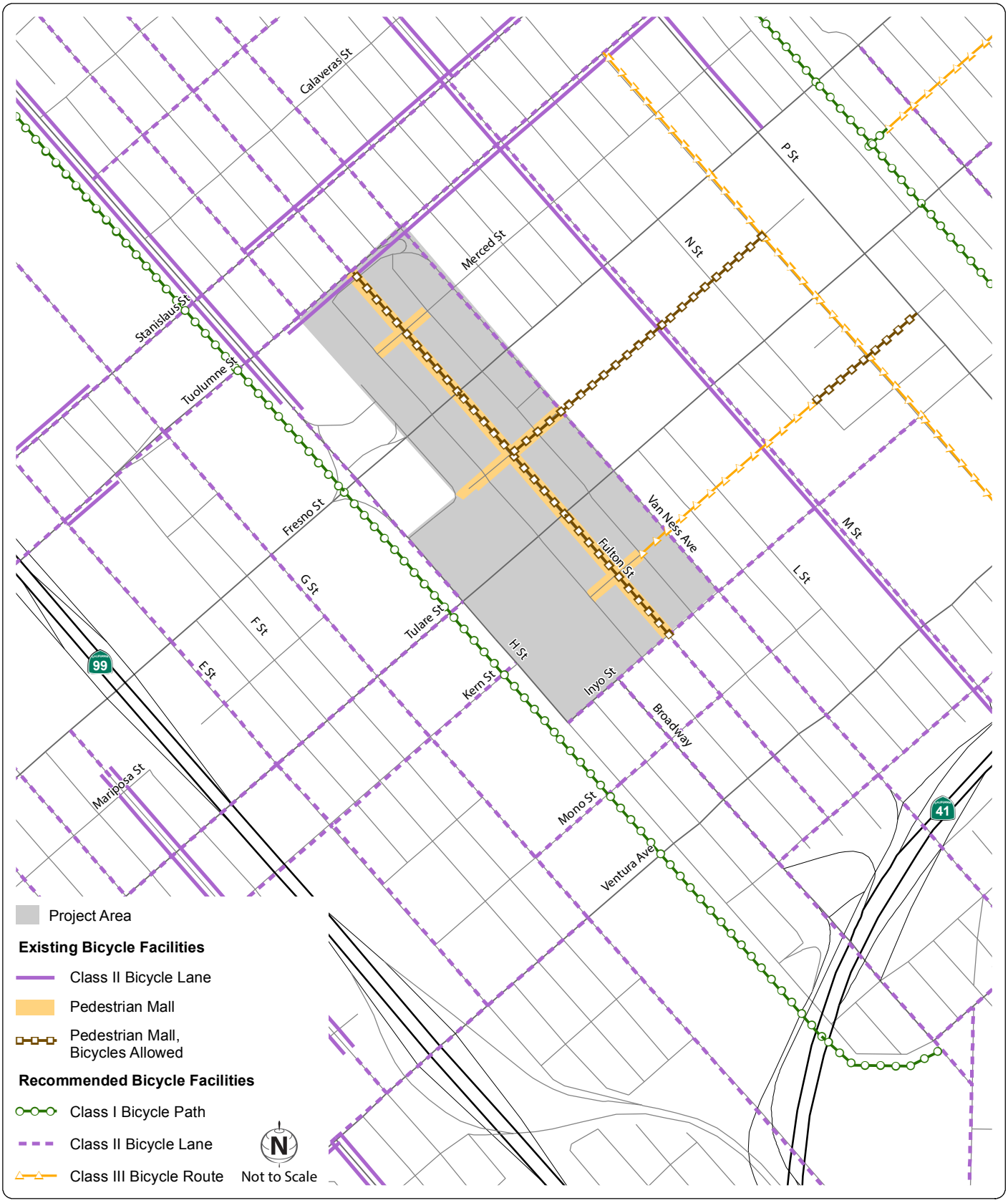
- H Street: Tuolumne Street to Divisadero Street
- M Street: Divisadero Street to San Benito Street
- P Street: Fresno Street to Divisadero Street

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

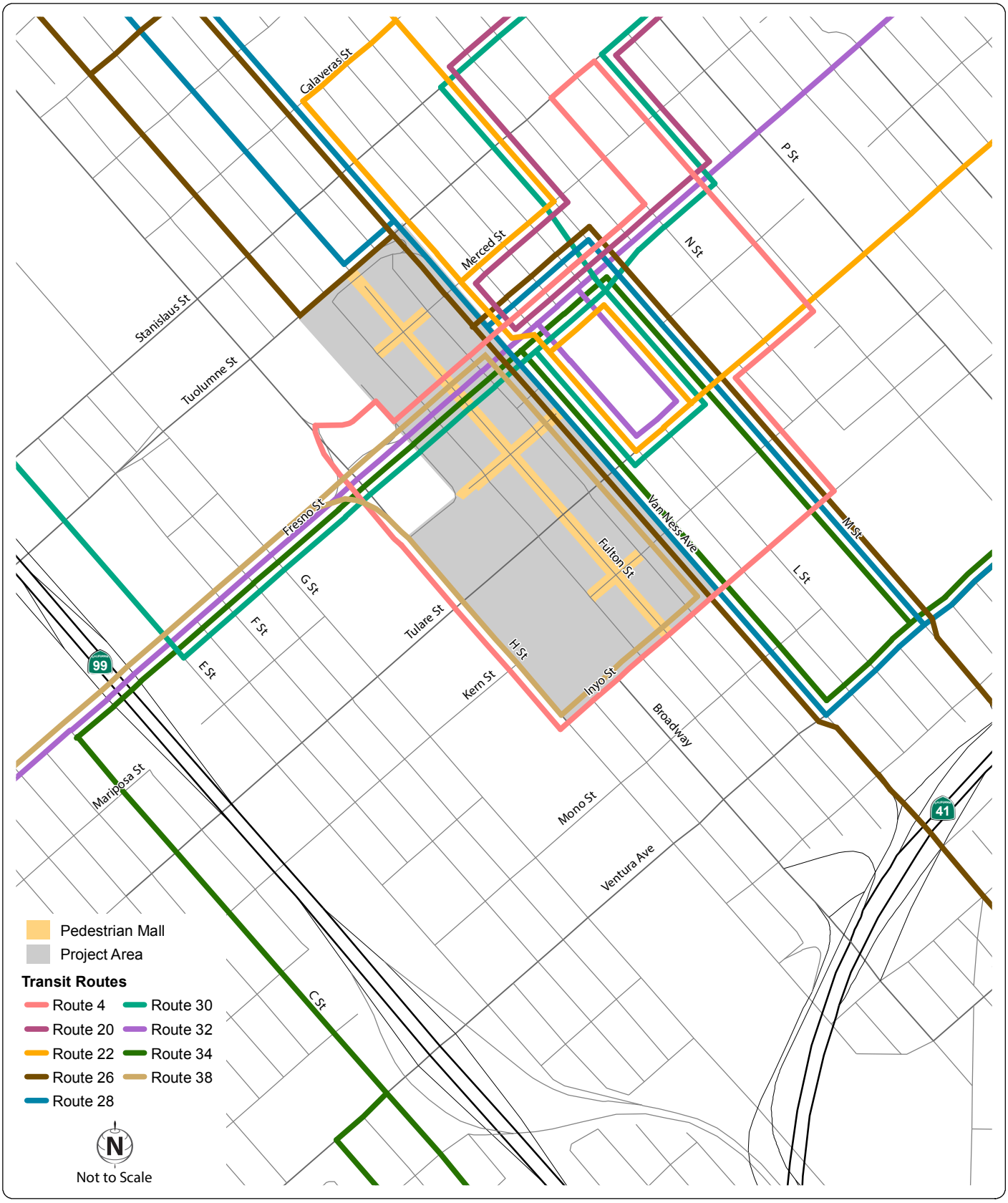
- Route 20 – Hughes Ave / Marks Ave
- Route 22 – West Ave / Tulare St
- Route 26 – Palm Ave / Butler Ave / Peach Ave
- Route 28 – CSUF / Manchester / W. Fresno
- Route 30 – Pinedale / Blackstone / W. Fresno
- Route 32 – Fresno St / Manchester / SW Fresno
- Route 33 – Belmont Ave Crosstown
- Route 34 – 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:

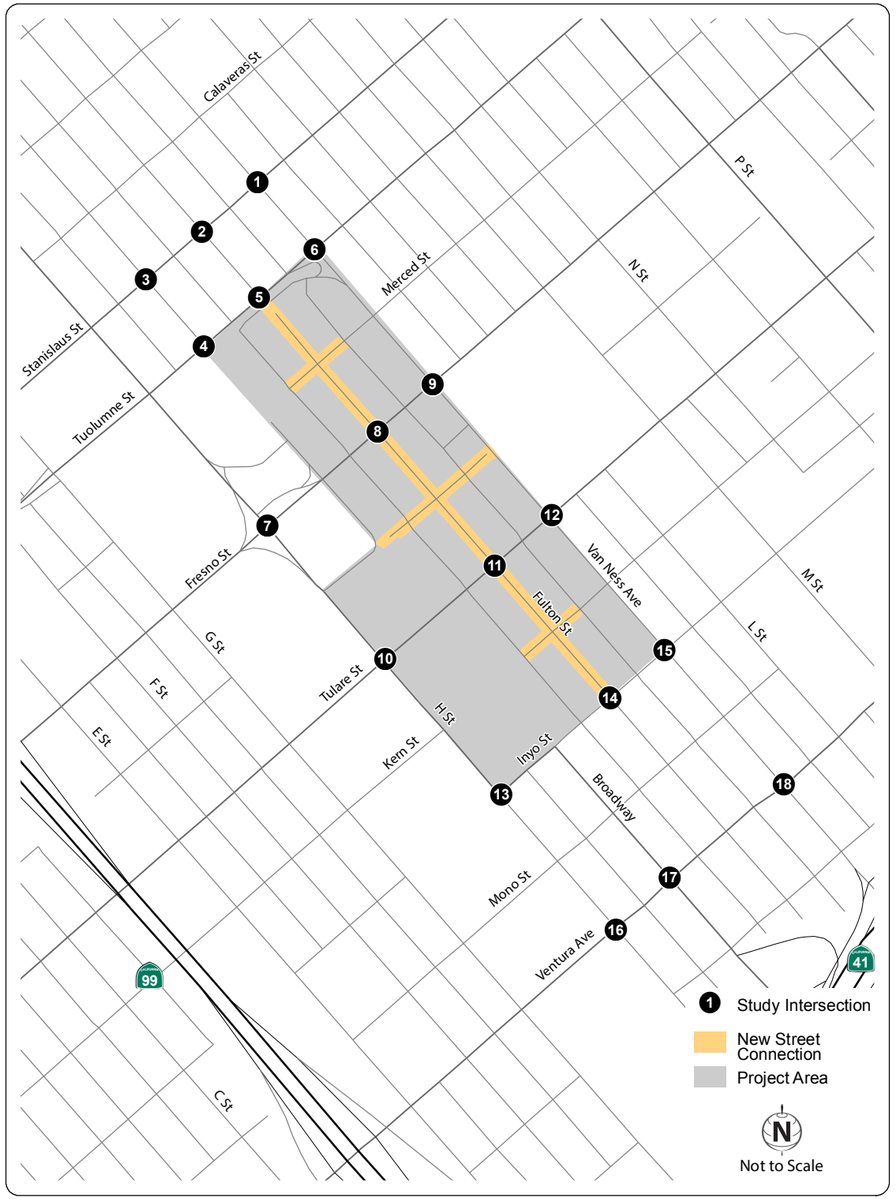
Plus Project Forecasts = Baseline Traffic Count +
(Plus Project Raw Model Volume – Base Year Raw Model Volume)

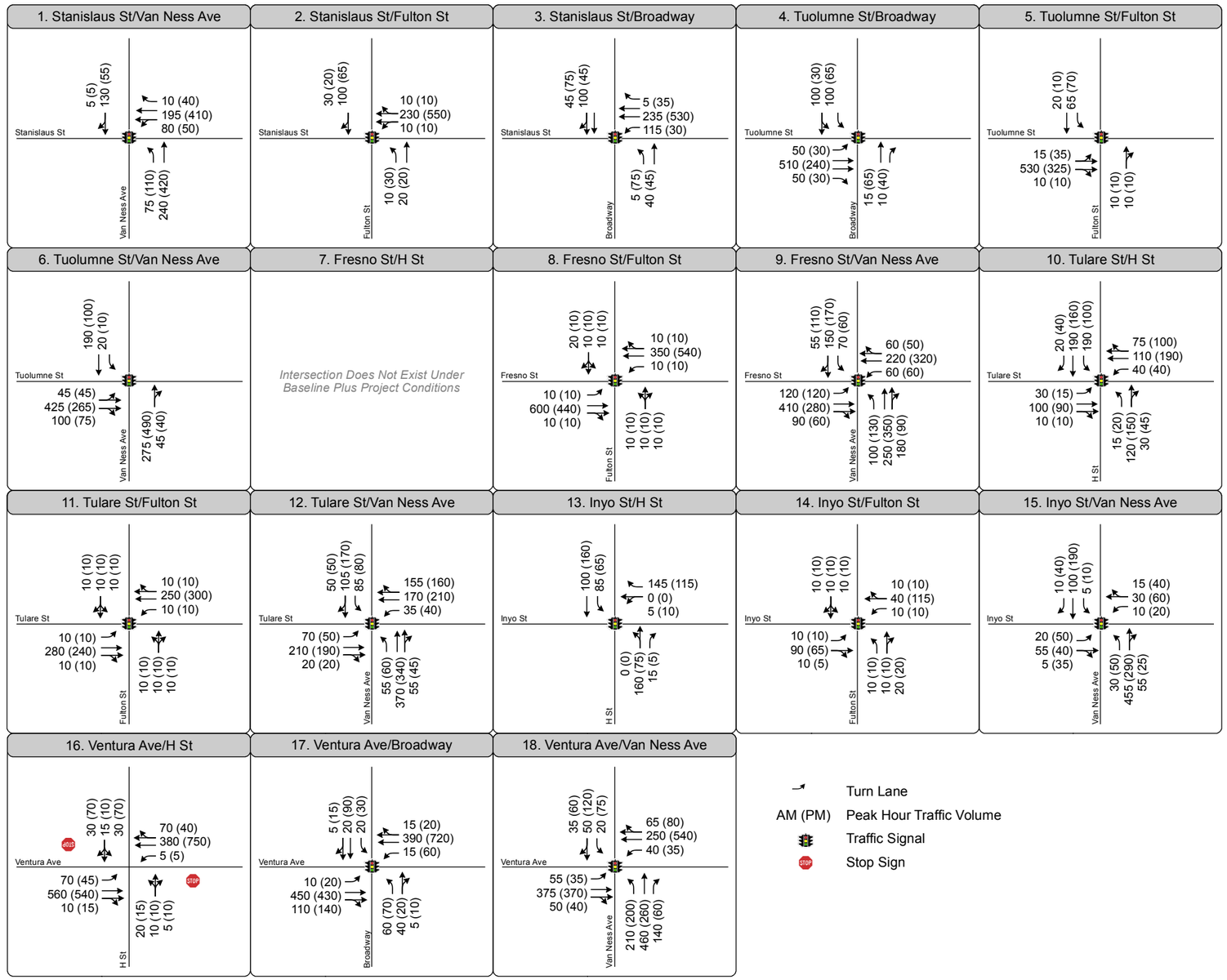
TRAFFIC FORECASTS AND ROADWAY OPERATIONS

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.

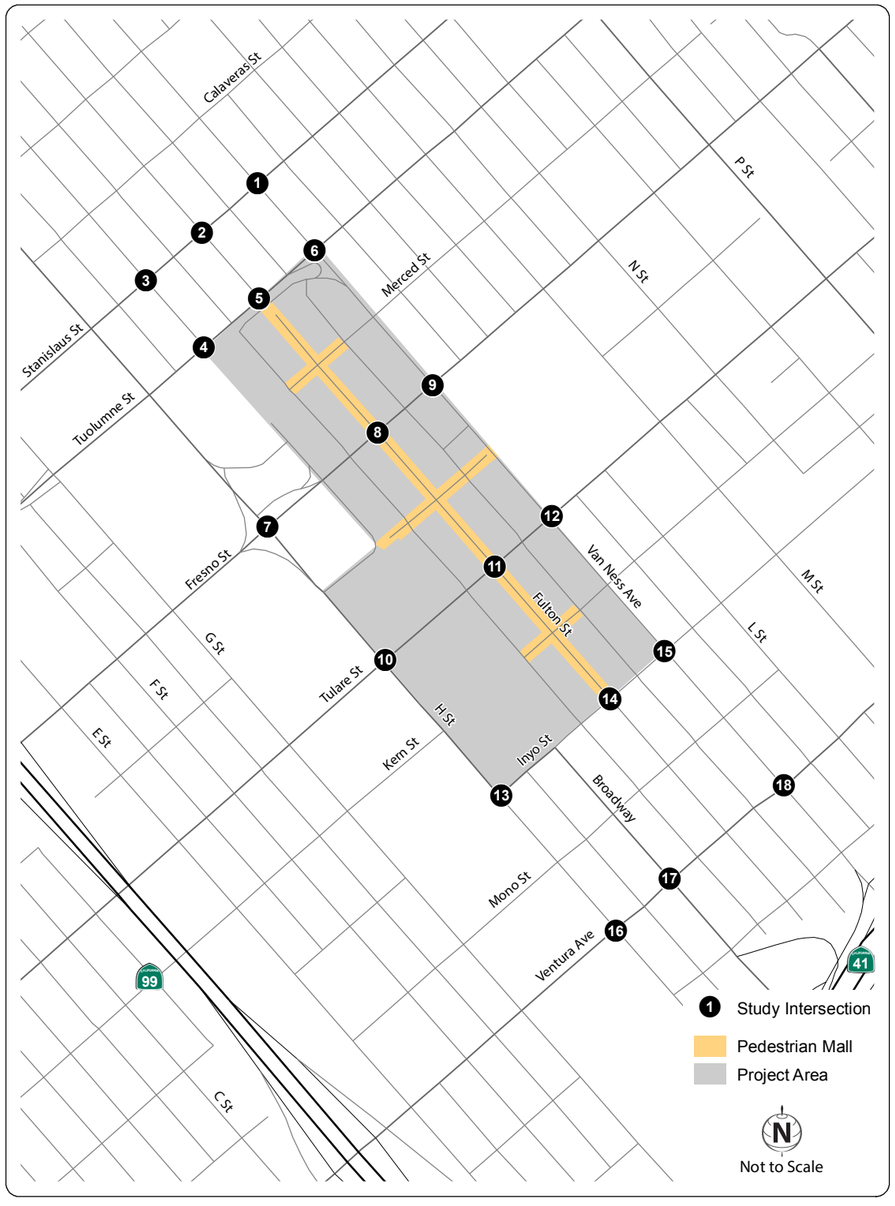
Cumulative No Project Forecasting

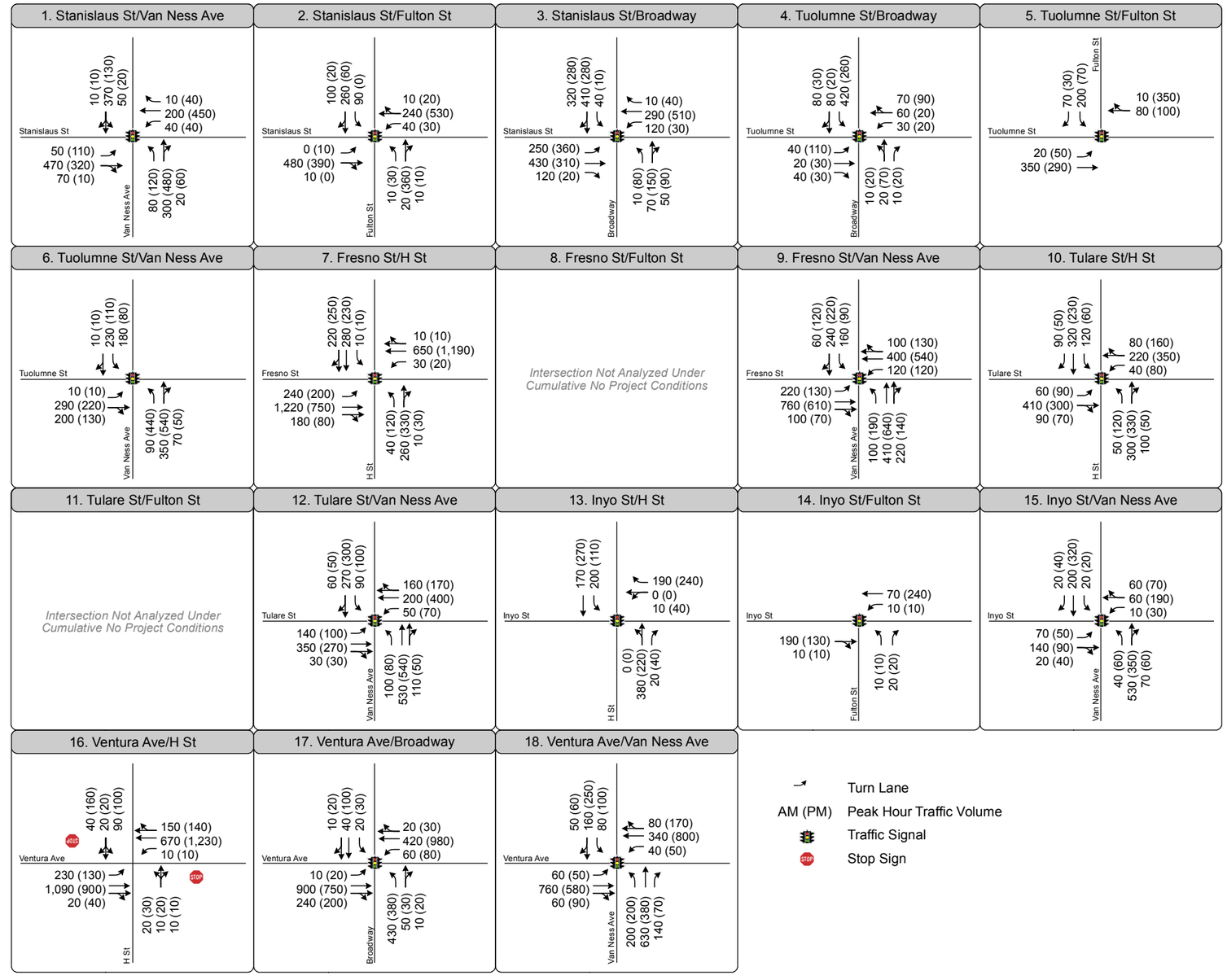
Cumulative (Year 2035) No Project weekday peak hour traffic volume forecasts were developed using a locally validated version of the Fresno COG travel demand forecasting (TDF) model. The model uses the land use and transportation inputs described above to provide travel demand forecasts for the AM and 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

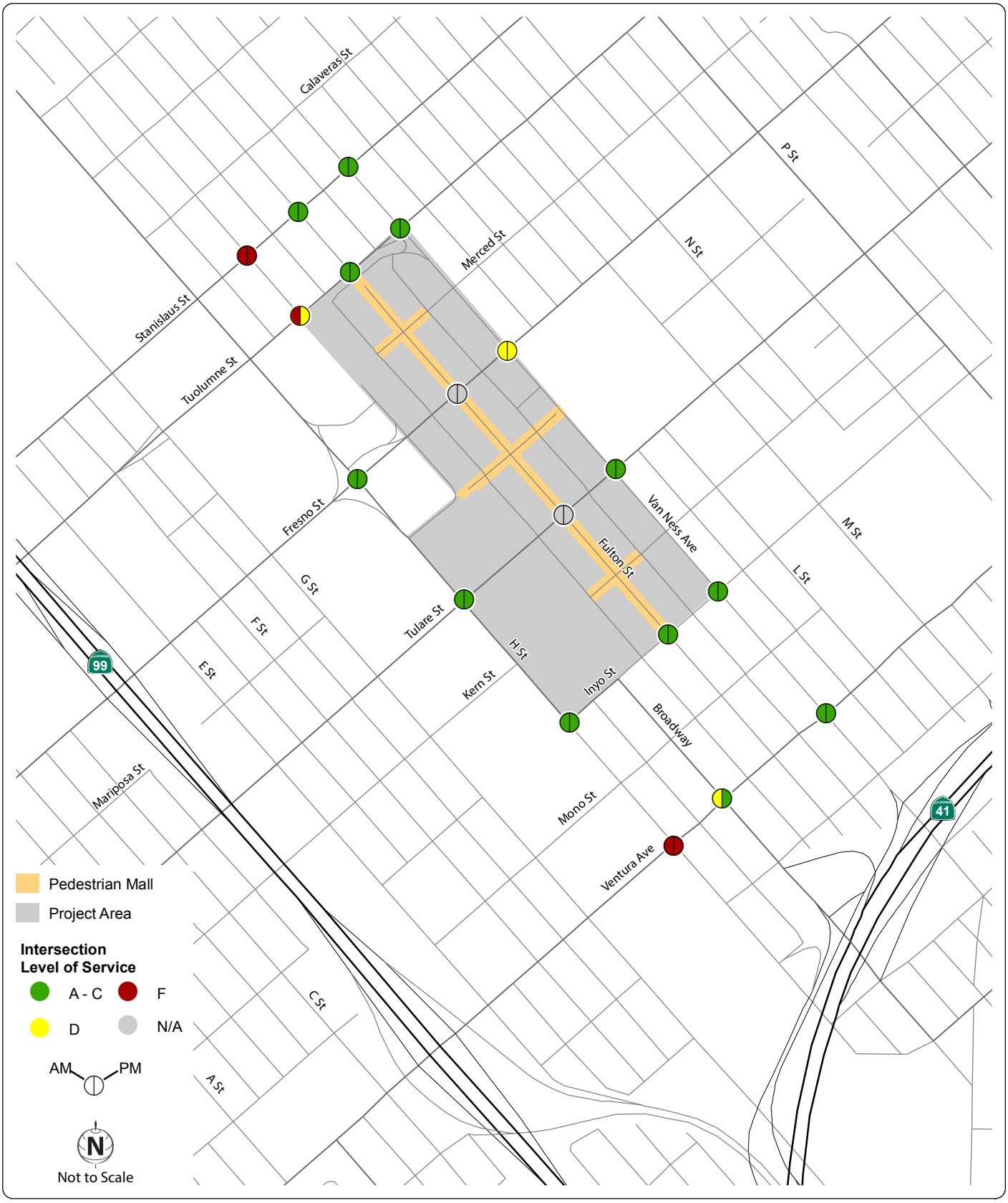
Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Delay[1]	LOS[2]	Delay[1]	LOS[2]
1. Stanislaus Street / Van Ness Avenue	Signal	28	C	53	D
2. Stanislaus Street / Fulton Street	Signal	18	B	16	B
3. Stanislaus Street / Broadway	Signal	50	D	>150	F
4. Tuolumne Street / Broadway	Signal	46	D	>150	F
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.



FEHR PEERS

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

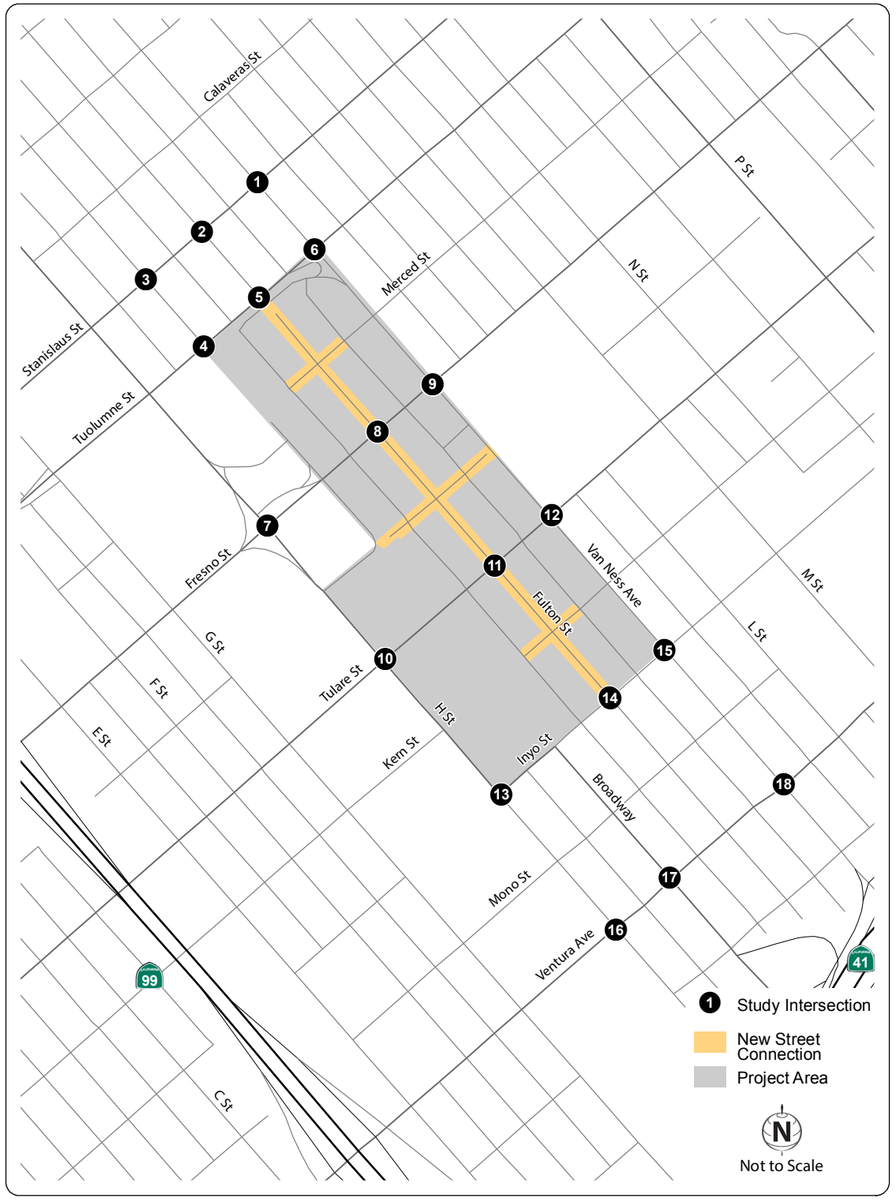
Similar to the Pedestrian Mall Alternative, the Open to Traffic Alternatives are expected to have a similar cumulative effect as the Baseline Plus Project scenario.

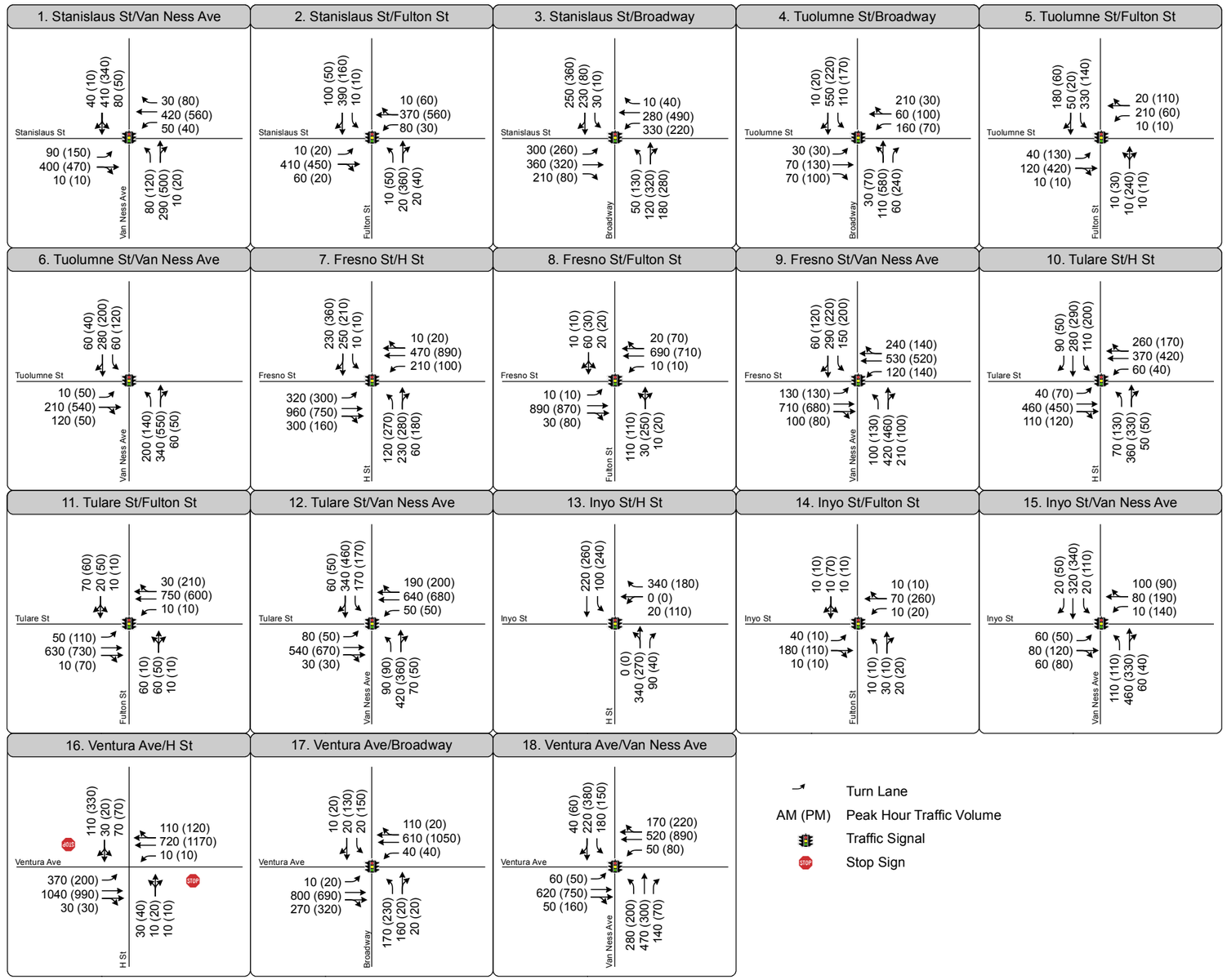
Overall, the Open to Traffic alternatives may cause some shifts in local traffic patterns by opening the Fulton Mall and its cross streets to vehicle traffic. However, since these alternatives would create narrow, two-way vehicular streets, these new roadways would primarily carry local trips to access 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

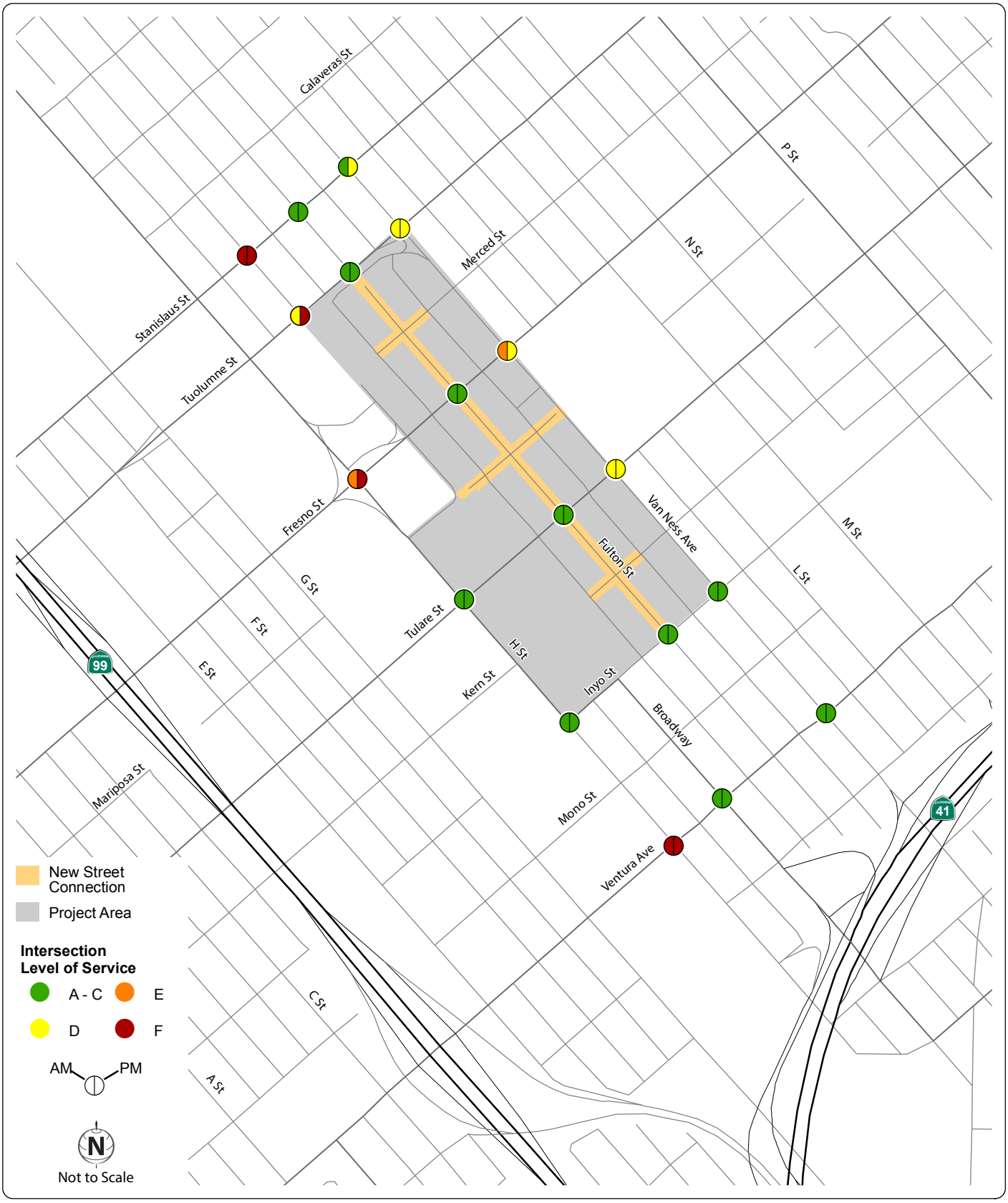
Notes: [1]Cumulative Plus Project: Pedestrian Mall alternative would have the same traffic operations as Cumulative No Project Conditions.

[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

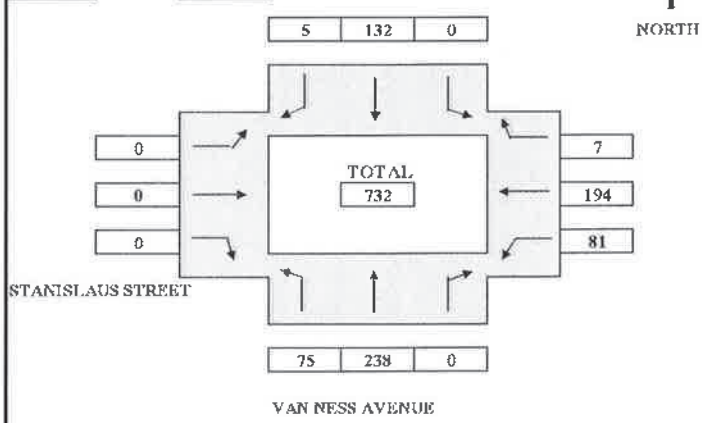
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

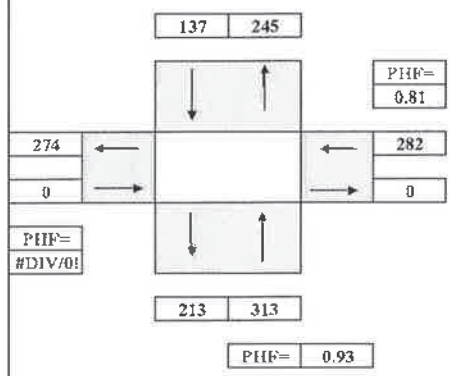
PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	STANISLAUS STREET	CITY:	FRESNO	FILE:	2911072-13AM

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*

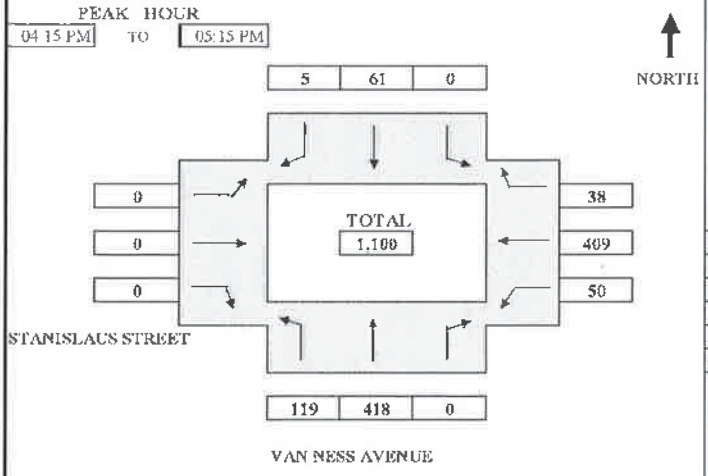
Telephone: (510)232-1271 Fax: (510)232-1272

B.A.Y.M.E.T.R.I.C.S.

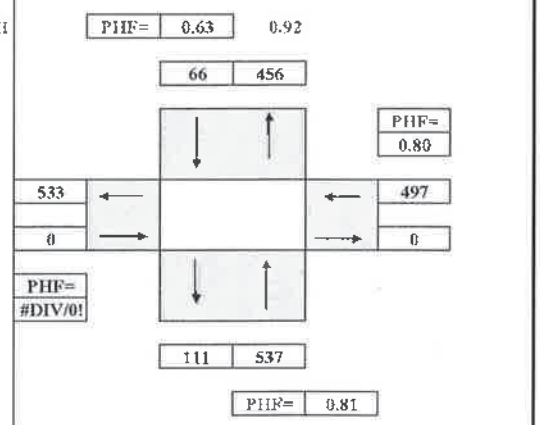
INTERSECTION TURNING MOVEMENT SUMMARY

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

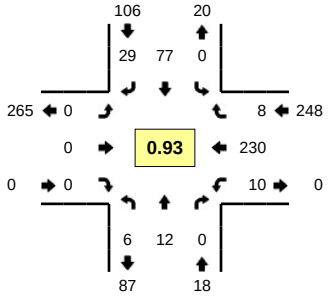
LOCATION: Fulton St -- Stanislaus St

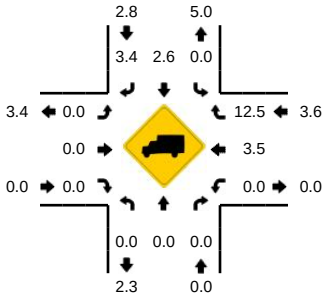
CITY/STATE: Fresno, CA

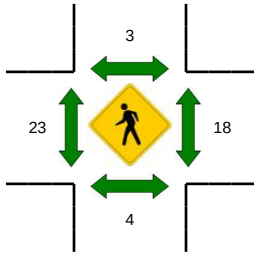
QC JOB #: 10705101

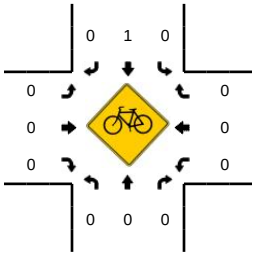
DATE: Thu, Jan 26 2012

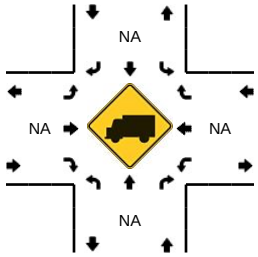
Peak-Hour: 7:55 AM -- 8:55 AM
Peak 15-Min: 8:00 AM -- 8:15 AM

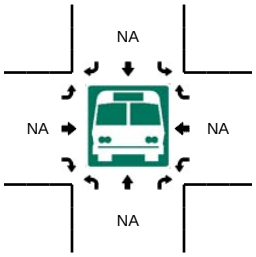












5-Min Count Period Beginning At	Fulton St (Northbound)				Fulton St (Southbound)				Stanislaus St (Eastbound)				Stanislaus St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	3	1	0	0	0	0	0	0	6	0	0	10	
7:05 AM	0	0	0	0	0	3	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

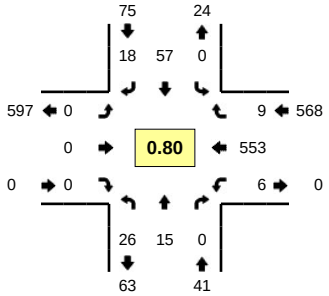
LOCATION: Fulton St -- Stanislaus St

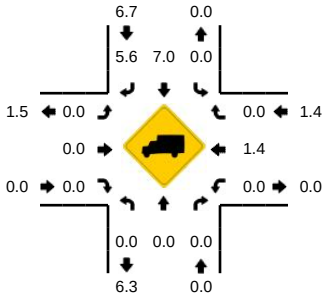
CITY/STATE: Fresno, CA

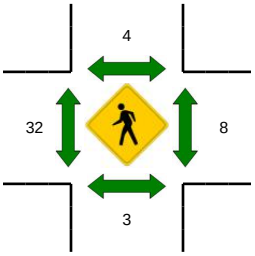
QC JOB #: 10705102

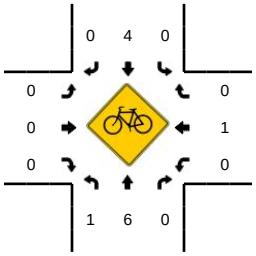
DATE: Thu, Jan 26 2012

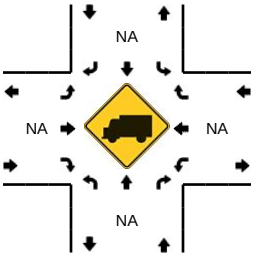
Peak-Hour: 4:35 PM -- 5:35 PM
Peak 15-Min: 5:00 PM -- 5:15 PM

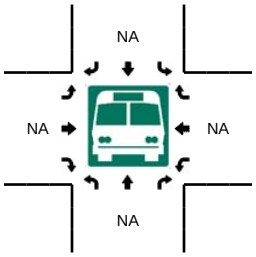












5-Min Count Period Beginning At	Fulton St (Northbound)				Fulton St (Southbound)				Stanislaus St (Eastbound)				Stanislaus St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	2	0	0	0	7	2	0	0	0	0	0	0	38	0	0	49	
4:05 PM	1	0	0	0	0	4	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

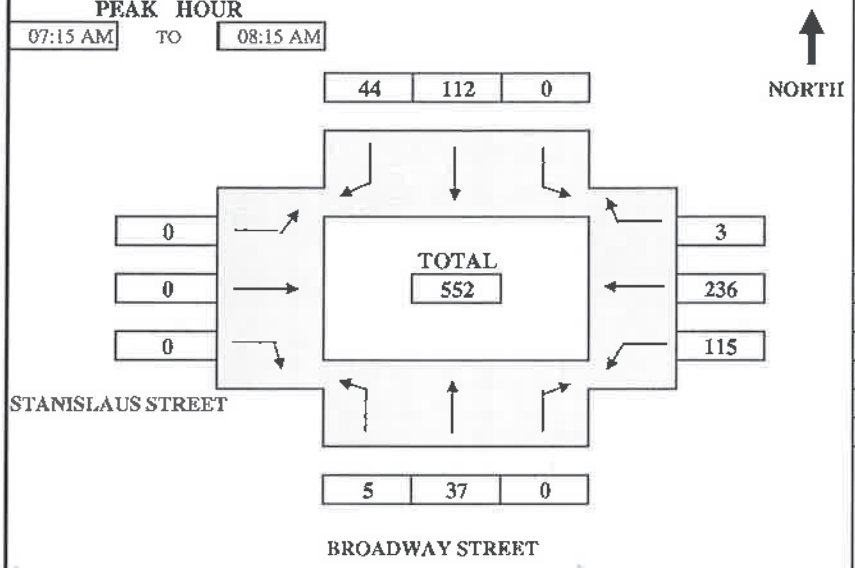
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

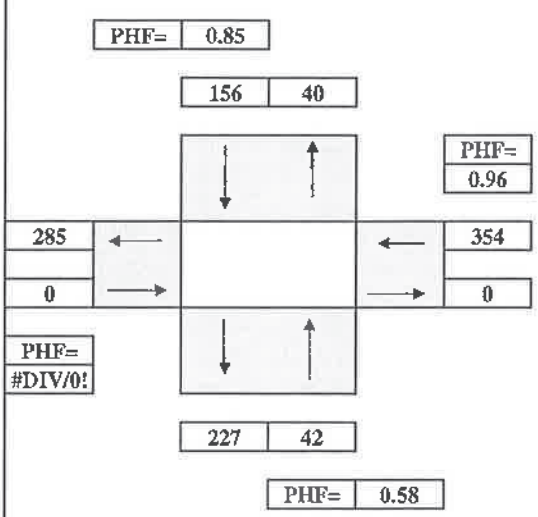
PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	BROADWAY STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	STANISLAUS STREET	CITY:	FRESNO	FILE:	2911072-2AM

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

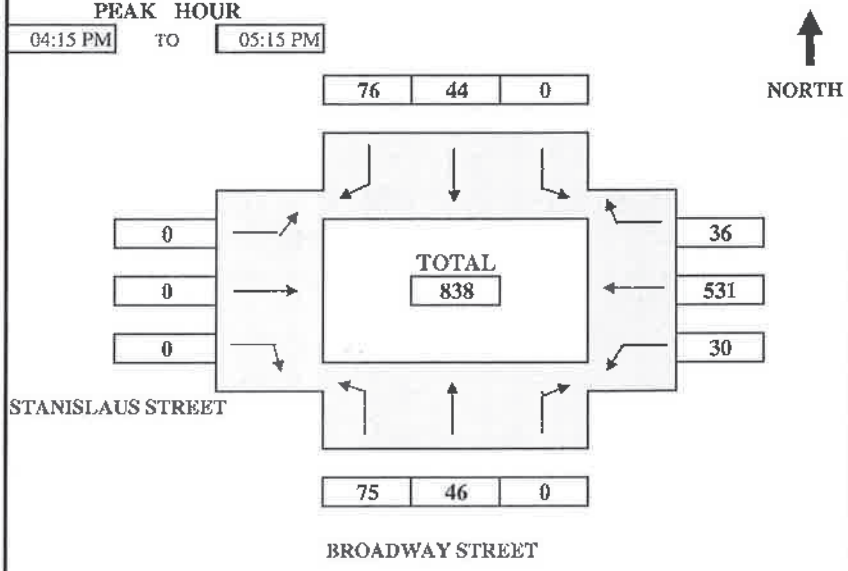
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

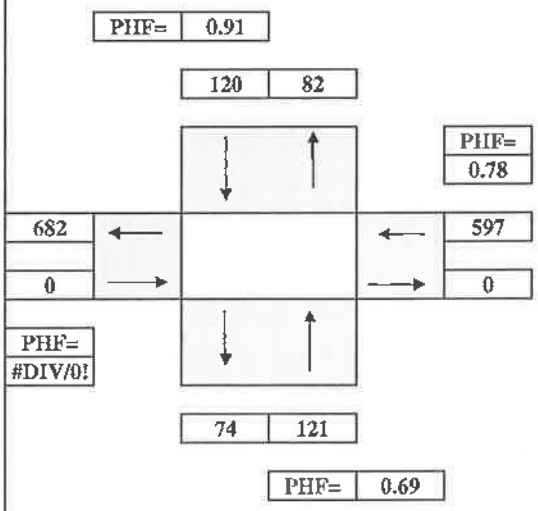
PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	BROADWAY STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	STANISLAUS STREET	CITY:	FRESNO	FILE:	2911072-2PM

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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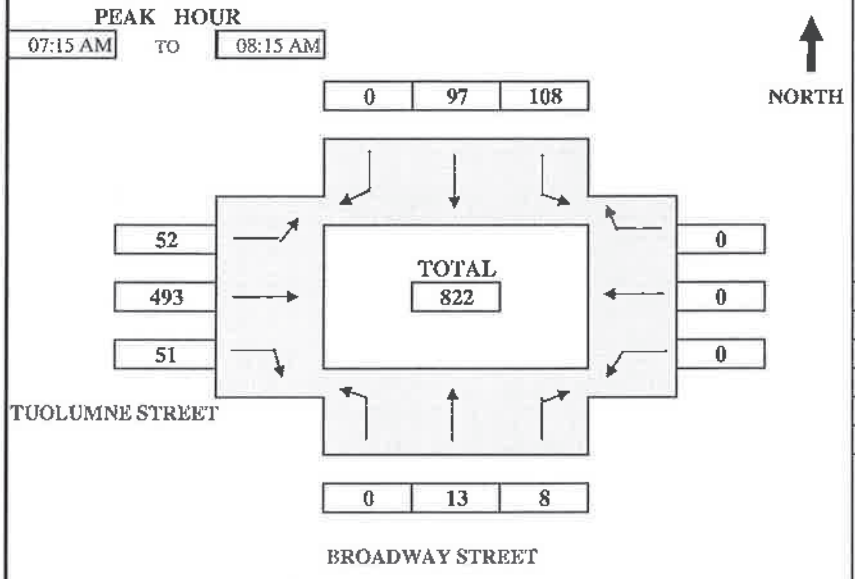
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

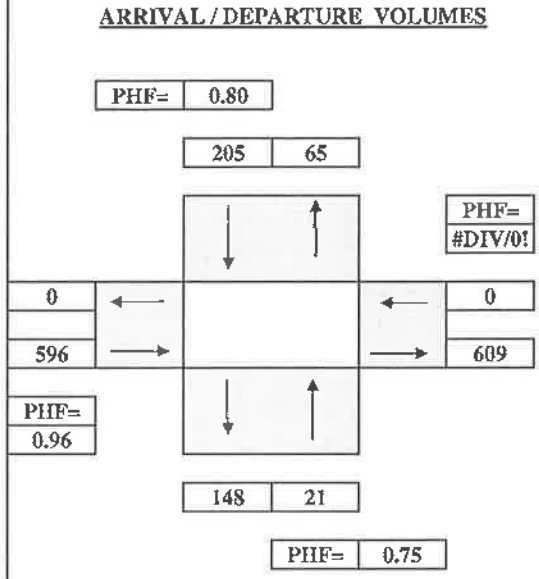
PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	BROADWAY STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	TUOLUMNE STREET	CITY:	FRESNO	FILE:	2911072-3AM

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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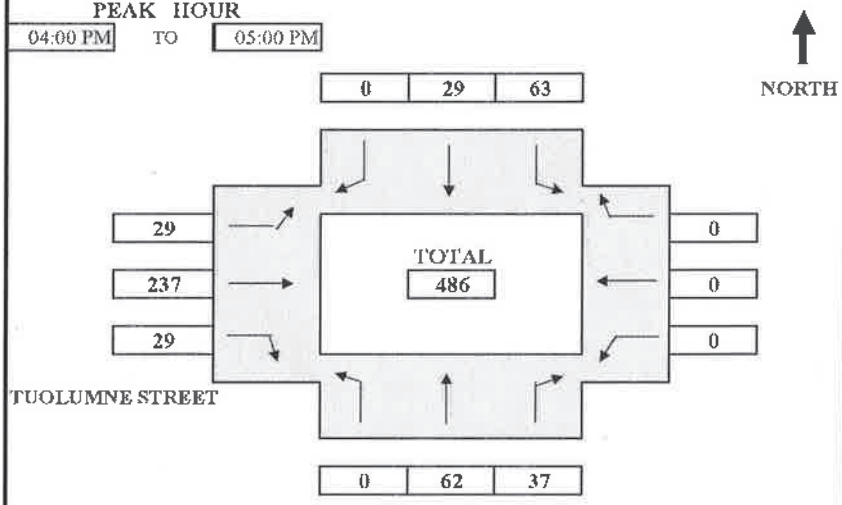
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

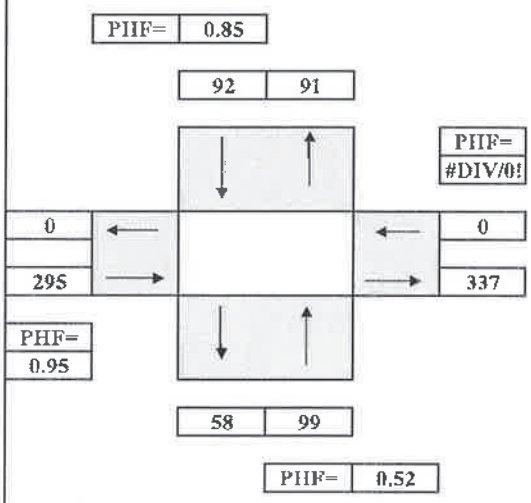
PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	BROADWAY STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	TUOLUMNE STREET	CITY:	FRESNO	FILE:	2911072-3PM

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

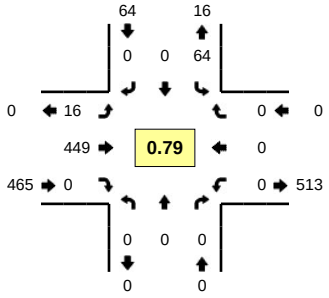
LOCATION: Fulton St -- Tuolumne St

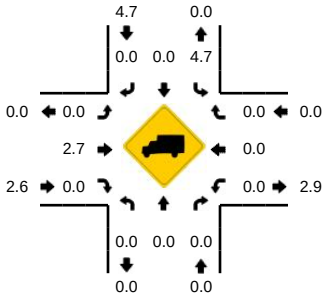
CITY/STATE: Fresno, CA

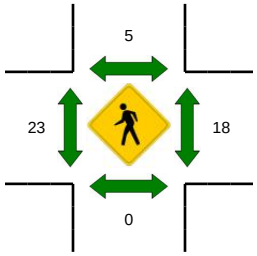
QC JOB #: 10705103

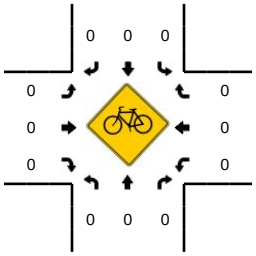
DATE: Thu, Jan 26 2012

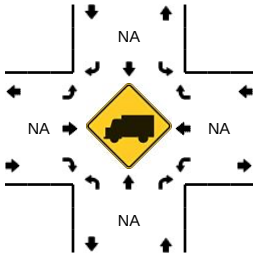
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

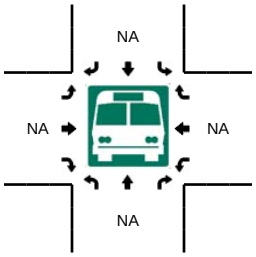












5-Min Count Period Beginning At	Fulton St (Northbound)				Fulton St (Southbound)				Tuolumne St (Eastbound)				Tuolumne St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	2	0	0	0	0	26	0	0	0	0	0	0	28	
7:05 AM	0	0	0	0	0	0	0	0	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

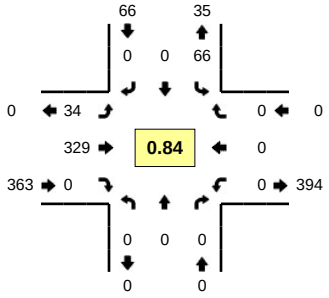
LOCATION: Fulton St -- Tuolumne St

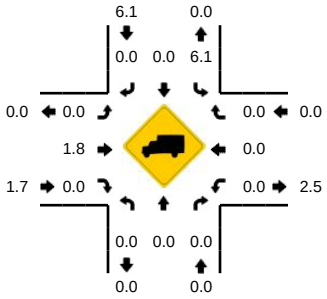
CITY/STATE: Fresno, CA

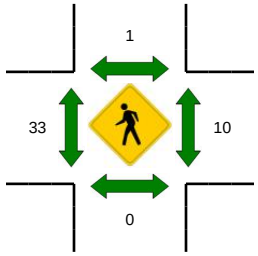
QC JOB #: 10705104

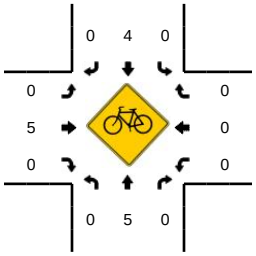
DATE: Thu, Jan 26 2012

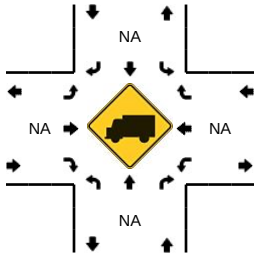
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:55 PM -- 5:10 PM

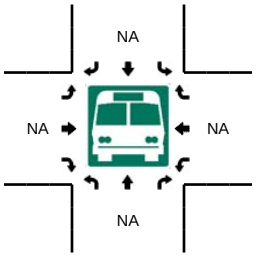












5-Min Count Period Beginning At	Fulton St (Northbound)				Fulton St (Southbound)				Tuolumne St (Eastbound)				Tuolumne St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	5	0	0	0	0	16	0	0	0	0	0	0	21	
4:05 PM	0	0	0	0	3	0	0	0	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

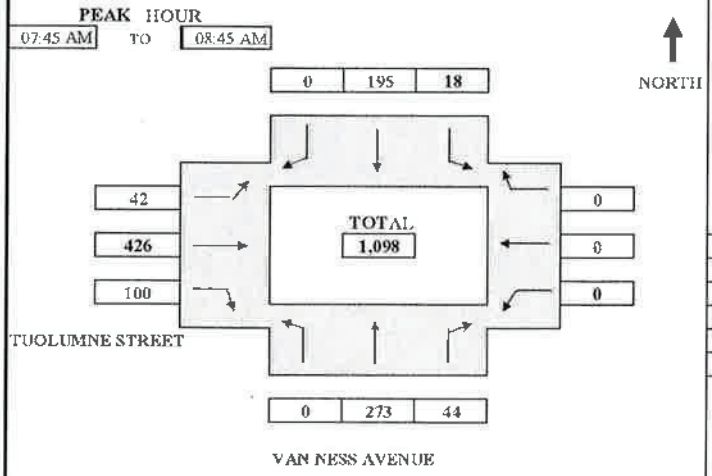
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

B.A.Y.M.E.T.R.I.C.S.

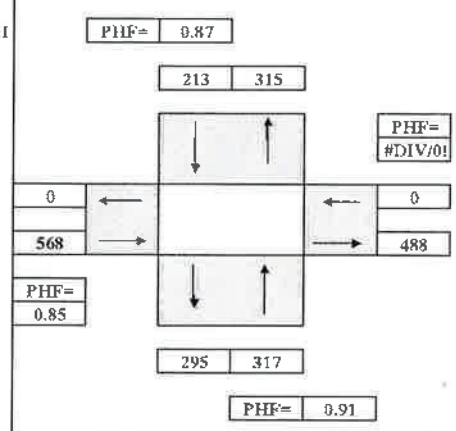
INTERSECTION TURNING MOVEMENT SUMMARY

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*

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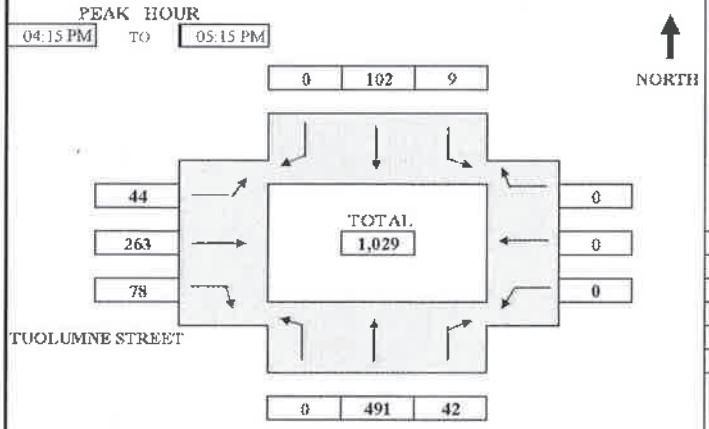
B.A.Y.M.E.T.R.I.C.S.

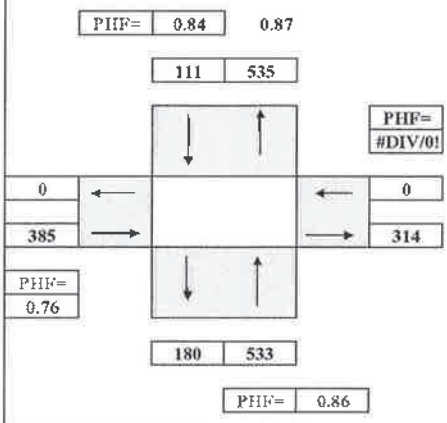
INTERSECTION TURNING MOVEMENT SUMMARY

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:	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*

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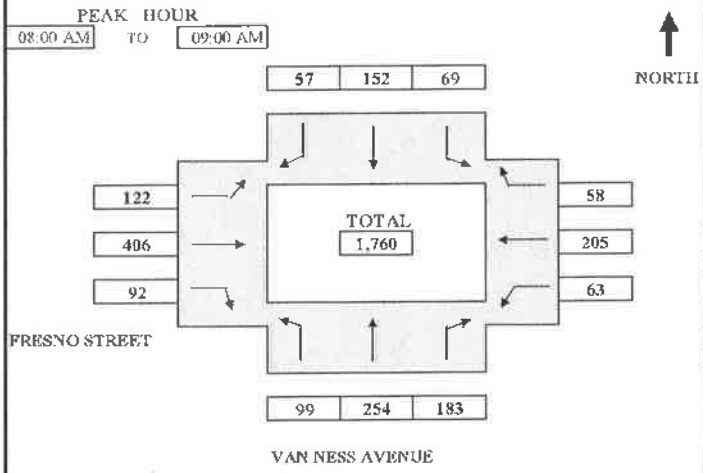
B.A.Y.M.E.T.R.I.C.S.

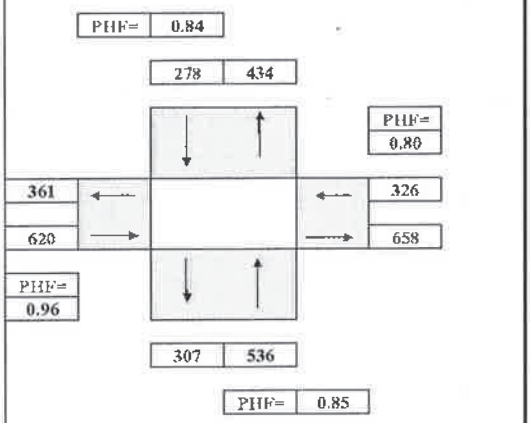
INTERSECTION TURNING MOVEMENT SUMMARY

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:	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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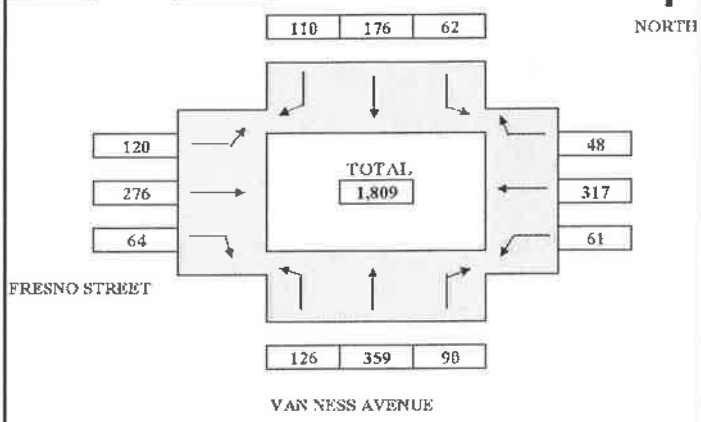
B.A.Y.M.E.T.R.I.C.S.

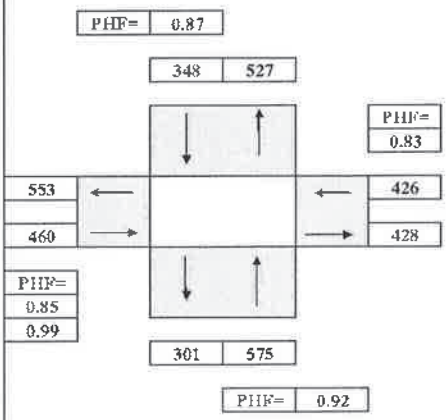
INTERSECTION TURNING MOVEMENT SUMMARY

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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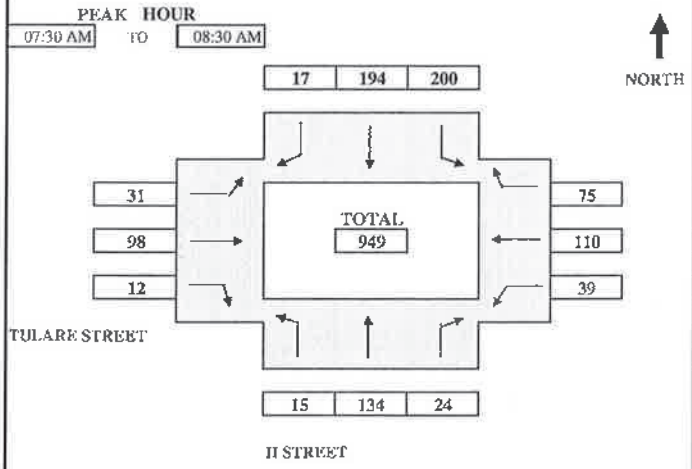
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

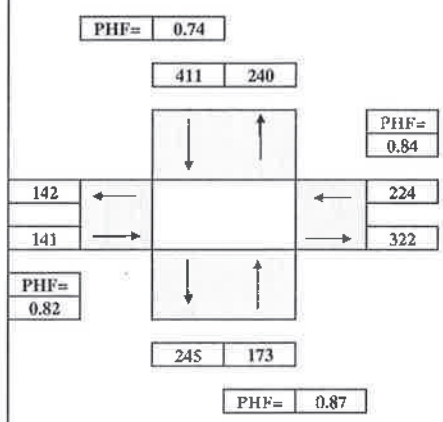
PROJECT:	HST PROJECT	SURVEY DATE:	11/12/2009	DAY:	THURSDAY
N-S APPROACH:	H STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	TULARE STREET	CITY:	FRESNO	FILE:	2911072-44AM

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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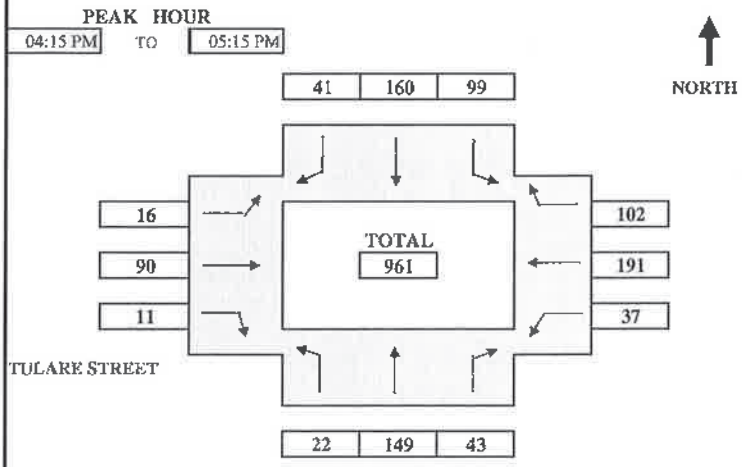
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

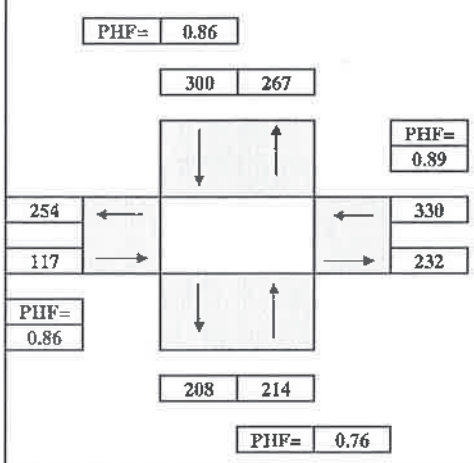
PROJECT:	HST PROJECT	SURVEY DATE:	11/12/2009	DAY:	THURSDAY
N-S APPROACH:	H STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	TULARE STREET	CITY:	FRESNO	FILE:	2911072-44PM

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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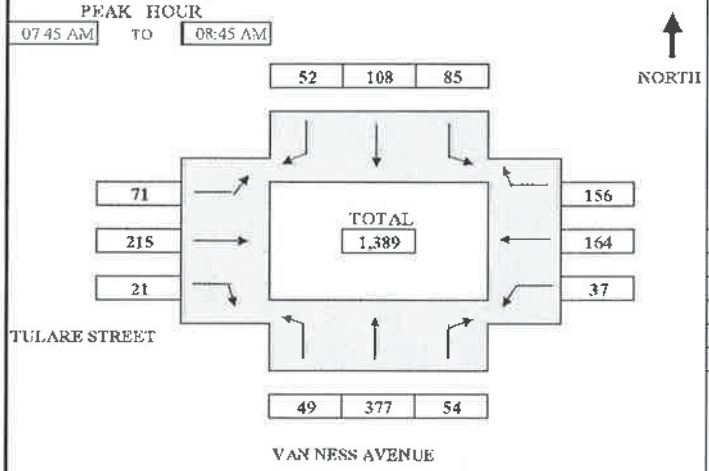
B.A.Y.M.E.T.R.I.C.S.

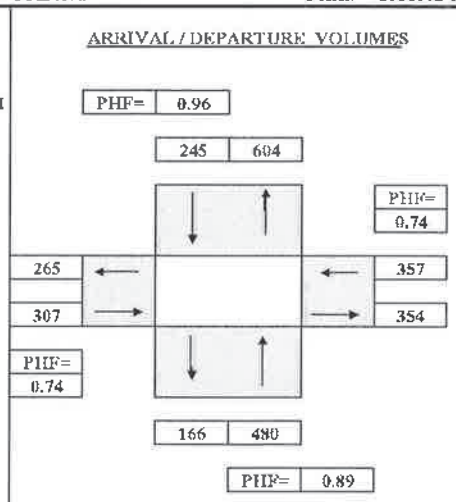
INTERSECTION TURNING MOVEMENT SUMMARY

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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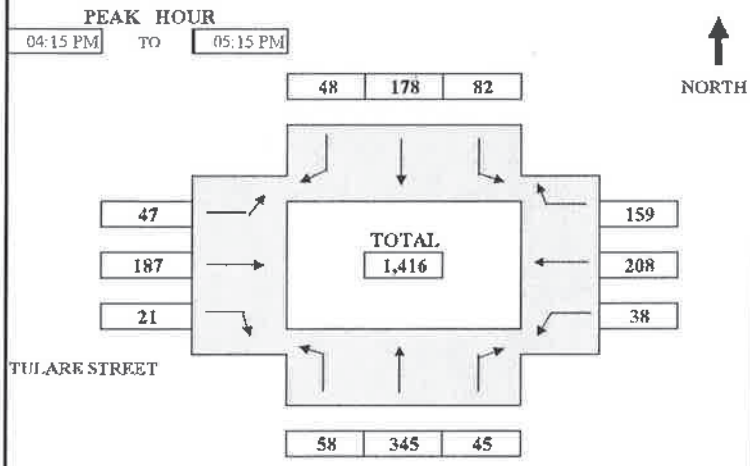
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

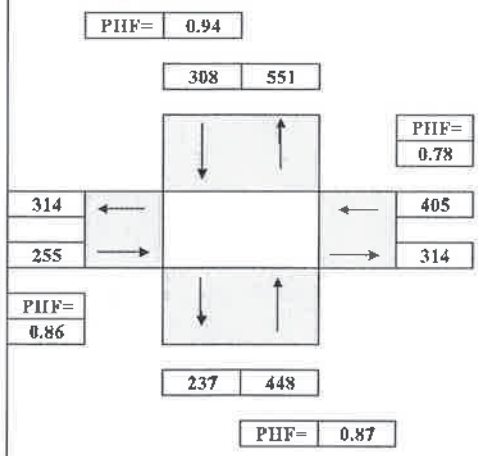
PROJECT:	HST PROJECT	SURVEY DATE:	11/3/2009	DAY:	TUESDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	TULARE STREET	CITY:	FRESNO	FILE:	2911072-16PM

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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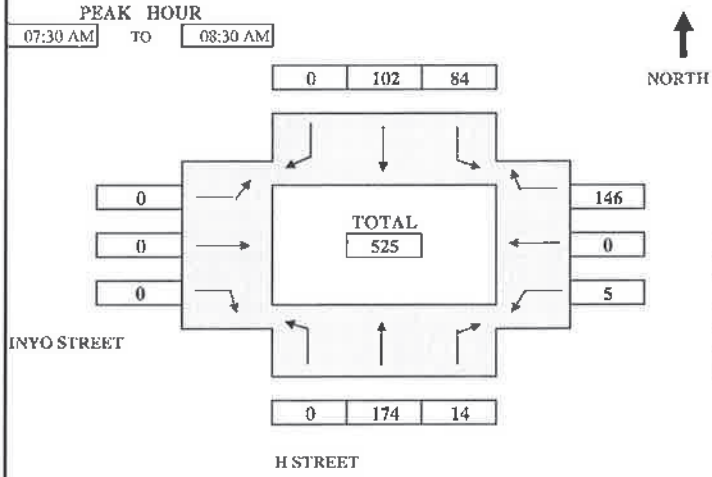
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

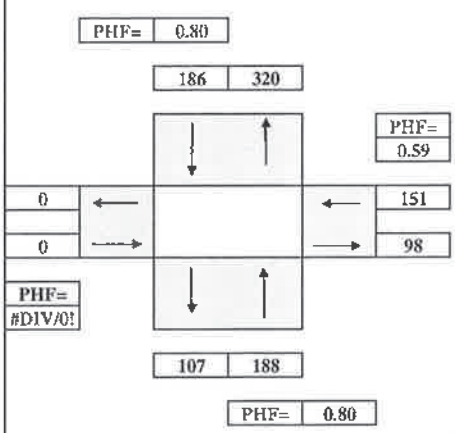
PROJECT:	HST PROJECT	SURVEY DATE:	11/12/2009	DAY:	THURSDAY
N-S APPROACH:	H STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	INYO STREET	CITY:	FRESNO	FILE:	2911072-75AM

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*

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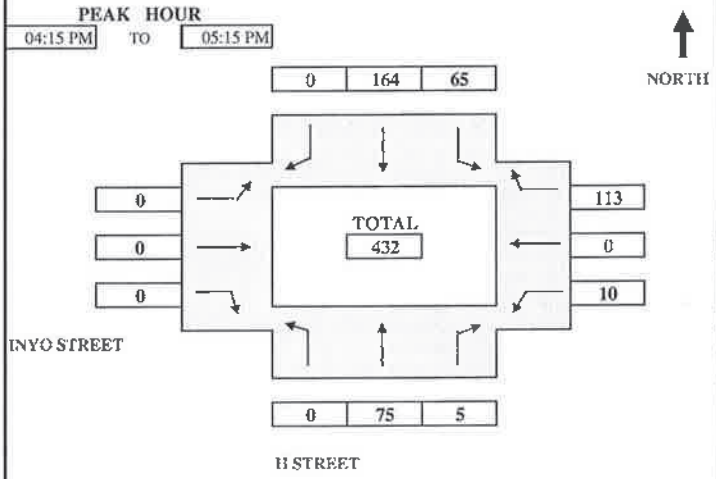
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

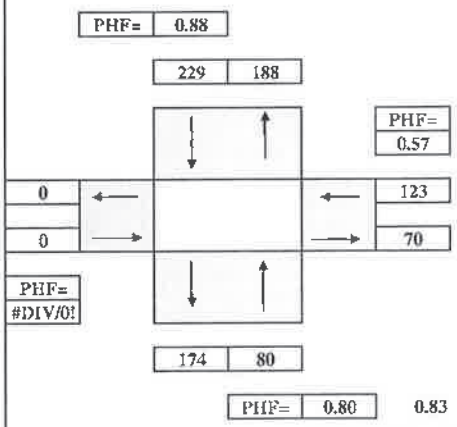
PROJECT:	HST PROJECT	SURVEY DATE:	11/12/2009	DAY:	THURSDAY
N-S APPROACH:	H STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	INYO STREET	CITY:	FRESNO	FILE:	2911072-75PM

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

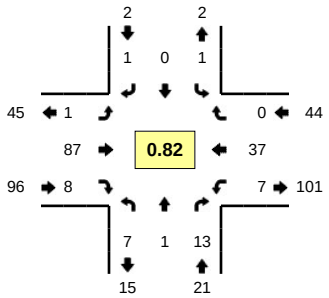
LOCATION: Fulton St -- Inyo St

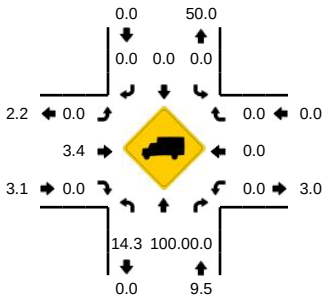
CITY/STATE: Fresno, CA

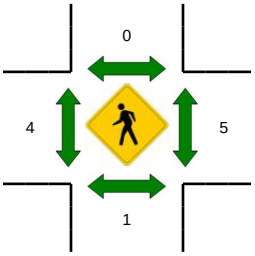
QC JOB #: 10705105

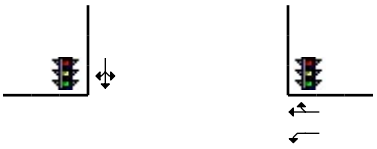
DATE: Thu, Jan 26 2012

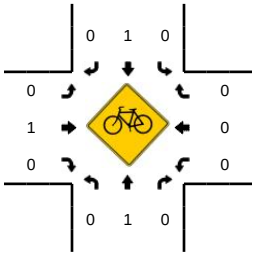
Peak-Hour: 7:50 AM -- 8:50 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

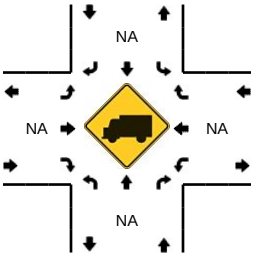


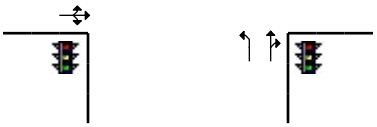


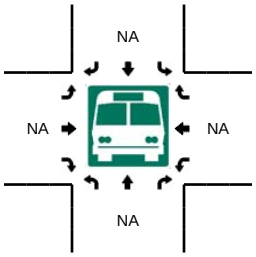












5-Min Count Period Beginning At	Fulton St (Northbound)				Fulton St (Southbound)				Inyo St (Eastbound)				Inyo St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	0	4	
7:05 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	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

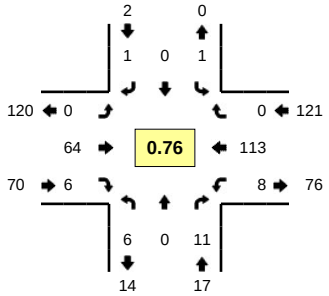
LOCATION: Fulton St -- Inyo St

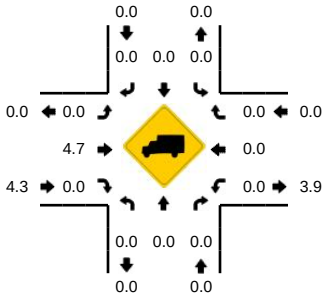
CITY/STATE: Fresno, CA

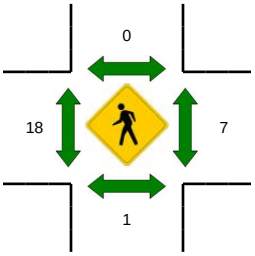
QC JOB #: 10705106

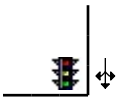
DATE: Thu, Jan 26 2012

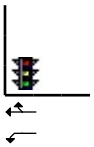
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

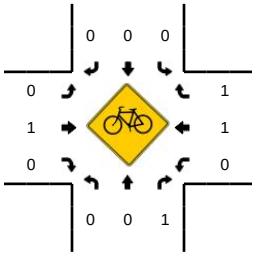


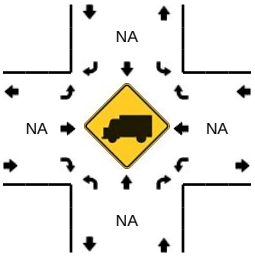


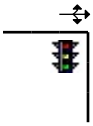


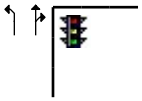


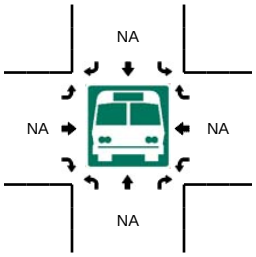












5-Min Count Period Beginning At	Fulton St (Northbound)				Fulton St (Southbound)				Inyo St (Eastbound)				Inyo St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	0	9	0	0	1	5	0	0	15	
4:05 PM	0	0	0	0	0	0	0	0	0	6	0	0	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

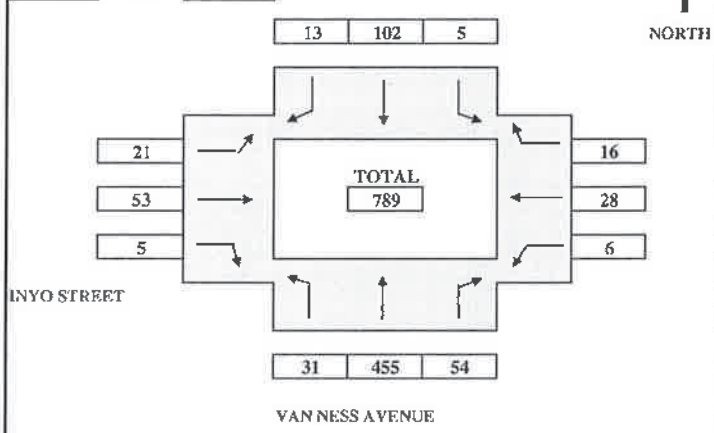
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

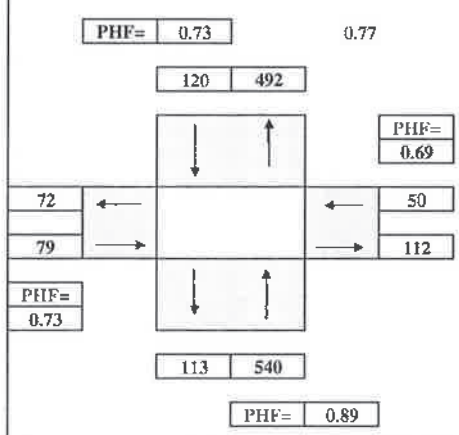
PROJECT:	HST PROJECT	SURVEY DATE:	11/5/2009	DAY:	THURSDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	INYO STREET	CITY:	FRESNO	FILE:	2911072-74AM

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*

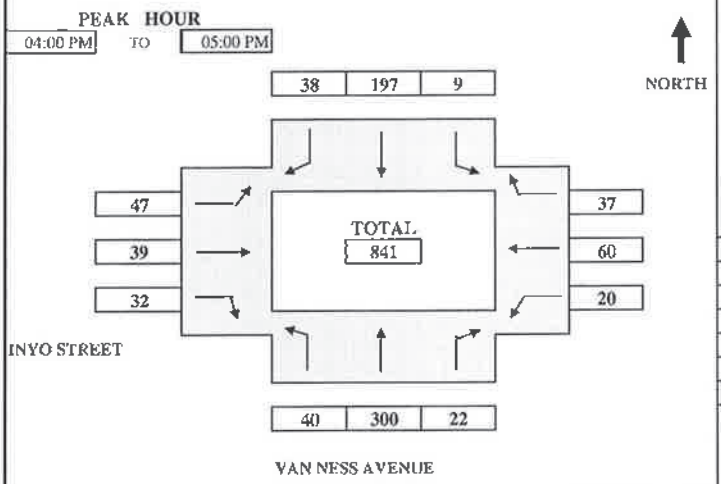
Telephone: (510)232-1271 Fax: (510)232-1272

B.A.Y.M.E.T.R.I.C.S.

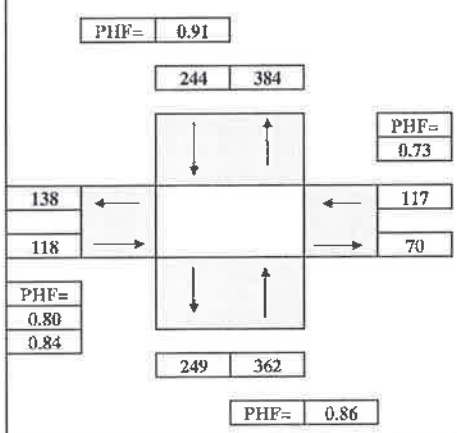
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HST PROJECT	SURVEY DATE:	11/5/2009	DAY:	THURSDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	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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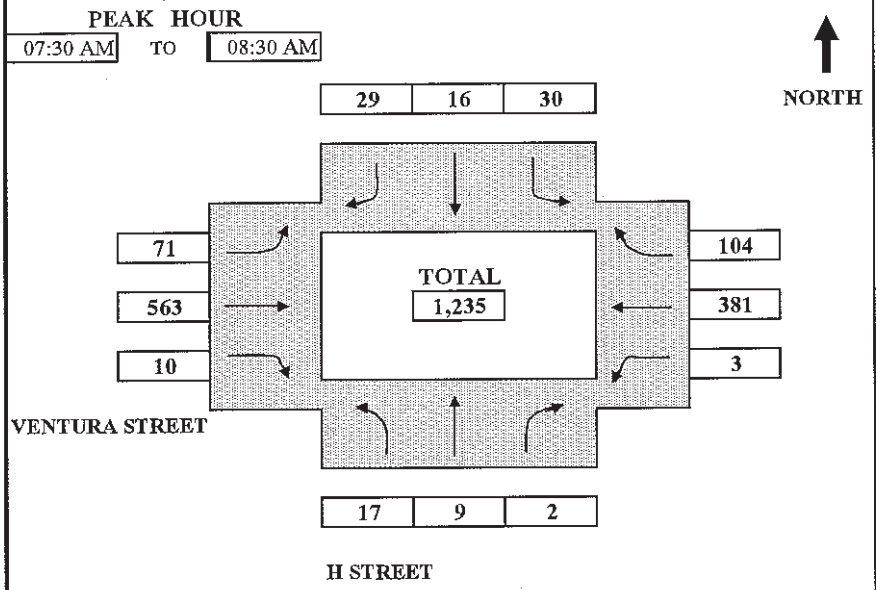
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

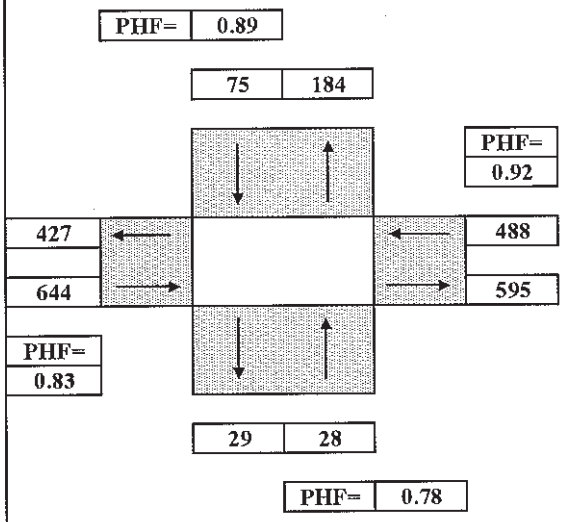
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/10/2011	DAY:	THURSDAY
N-S APPROACH:	H STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	VENTURA STREET	JURISDICTION: FRESNO		FILE:	3103016-3AM

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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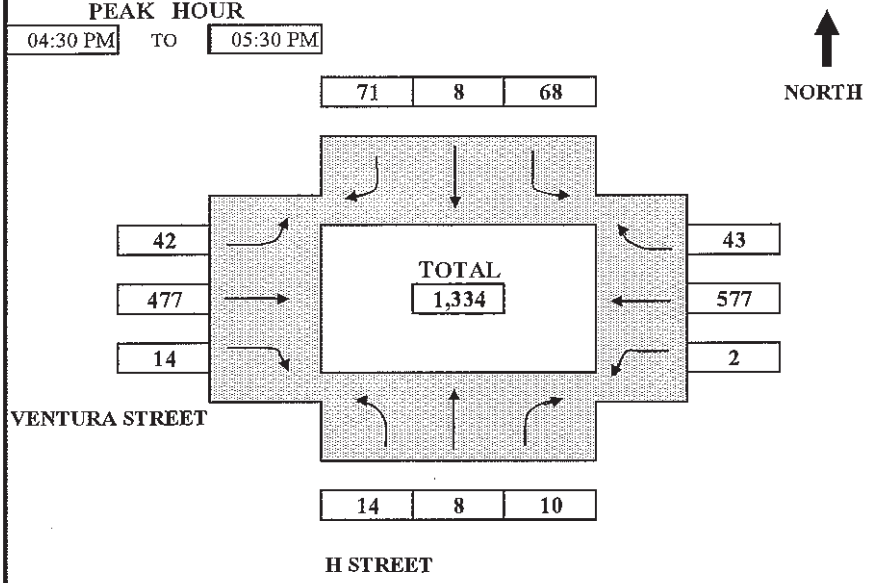
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

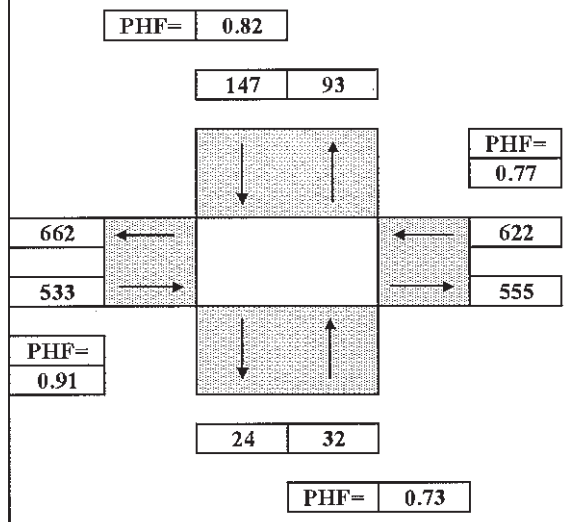
PROJECT:	CALIFORNIA HIGH SPEED TRAIN	SURVEY DATE:	3/10/2011	DAY:	THURSDAY
N-S APPROACH:	H STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	VENTURA STREET	JURISDICTION:	FRESNO	FILE:	3103016-3PM

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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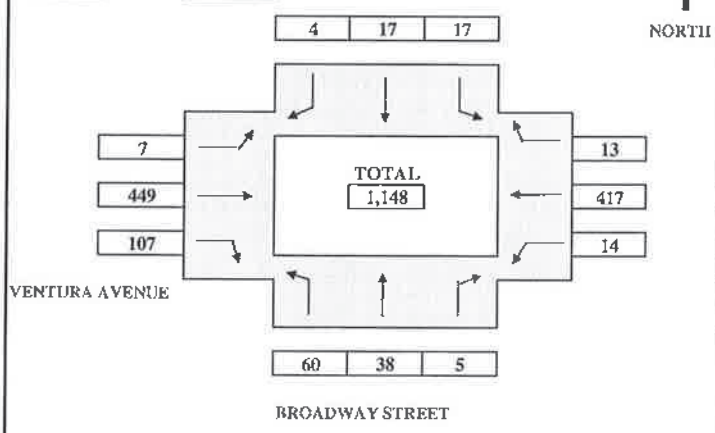
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

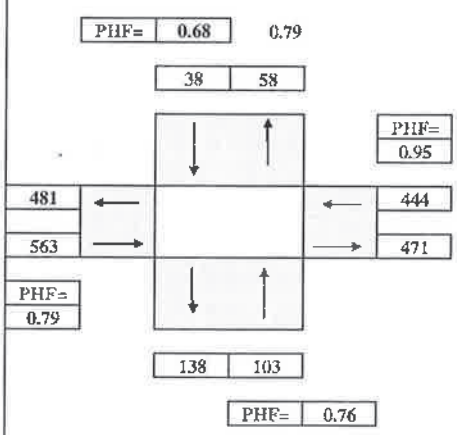
PROJECT:	HST PROJECT	SURVEY DATE:	11/5/2009	DAY:	THURSDAY
N-S APPROACH:	BROADWAY STREET	SURVEY TIME:	7:00 AM	TO	9:00 AM
E-W APPROACH:	VENTURA AVENUE	CITY:	FRESNO	FILE:	2911072-50AM

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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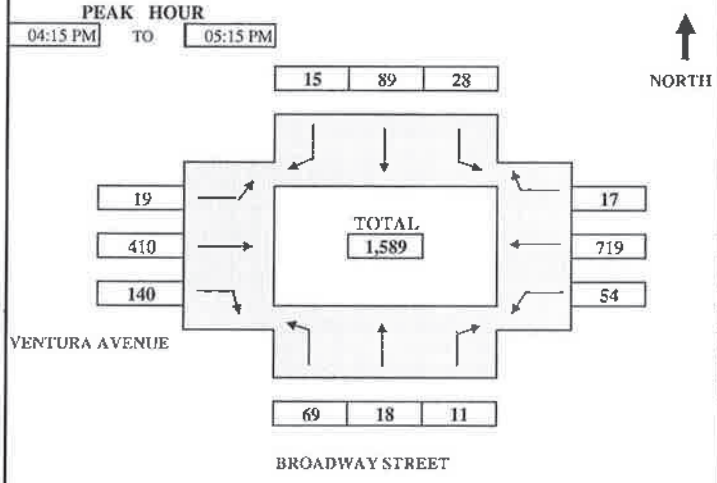
B.A.Y.M.E.T.R.I.C.S.

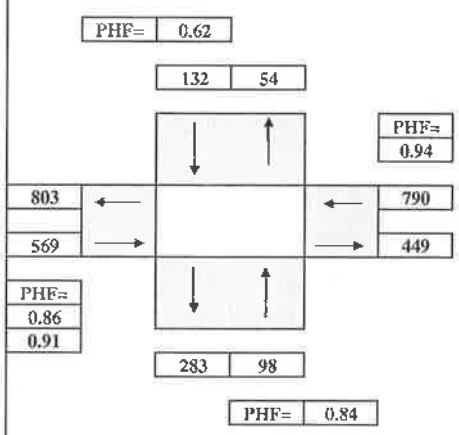
INTERSECTION TURNING MOVEMENT SUMMARY

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*

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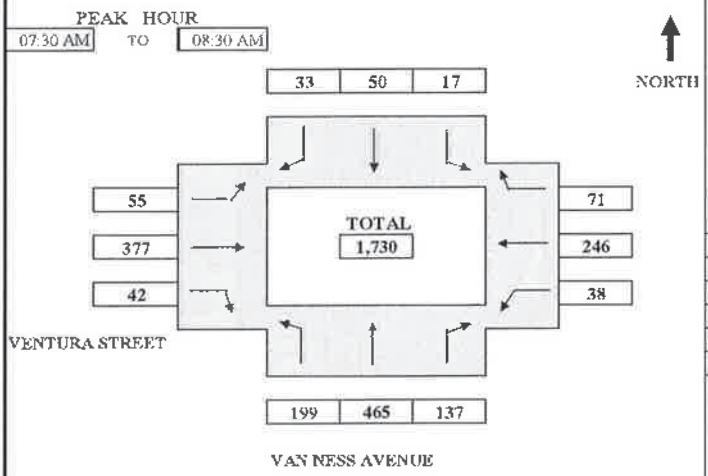
B.A.Y.M.E.T.R.I.C.S.

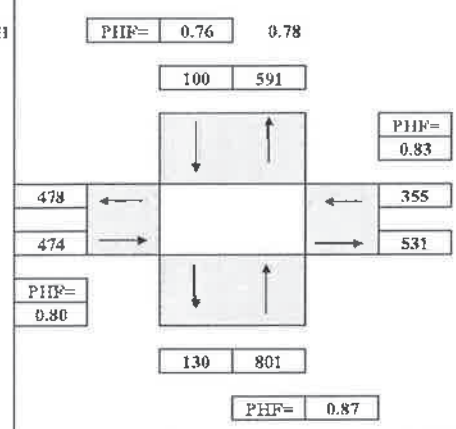
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:	HST PROJECT	SURVEY DATE:	11/5/2009	DAY:	THURSDAY
N-S APPROACH:	VAN NESS AVENUE	SURVEY TIME:	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*

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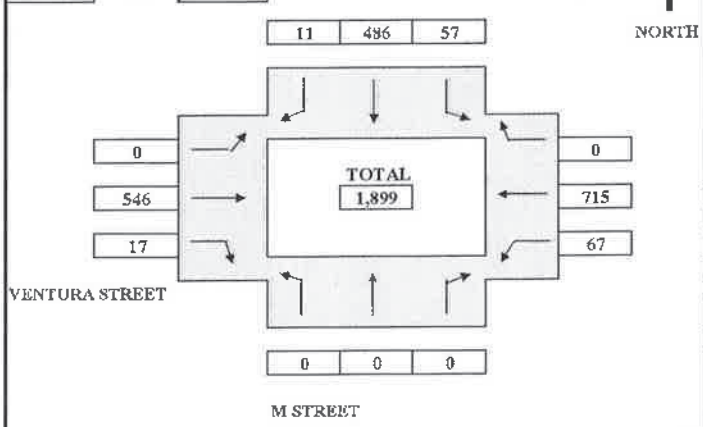
B.A.Y.M.E.T.R.I.C.S.

INTERSECTION TURNING MOVEMENT SUMMARY

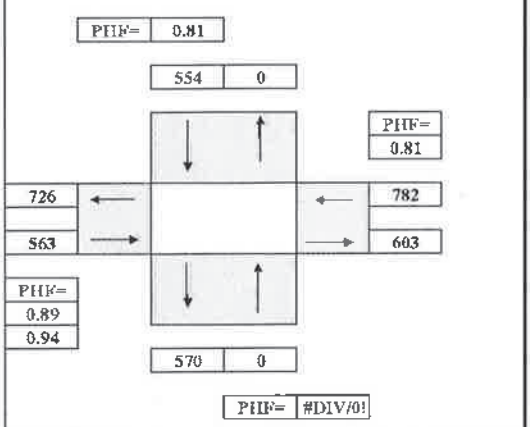
PROJECT:	HST PROJECT	SURVEY DATE:	11/5/2009	DAY:	THURSDAY
N-S APPROACH:	M STREET	SURVEY TIME:	4:00 PM	TO	6:00 PM
E-W APPROACH:	VENTURA STREET	CITY:	FRESNO	FILE:	2911072-21PM

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
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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
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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
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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
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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
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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
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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
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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
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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
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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
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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
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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
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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
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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
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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
815	16	50	4	26	108	540	36	118	95	425	52	165	107	396	35	118	92	386	36	168	111	393	55	202	68	251	38	137
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
845	24	68	3	25	100	420	34	138	81	375	41	180	99	410	43	149	90	365	46	172	111	405	69	216	61	259	47	160
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
1000	38	179	15	61	102	386	46	179	108	374	54	204	130	408	49	194	105	434	65	224	126	468	71	282	68	263	51	177
1015	44	183	12	56	89	372	58	193	97	398	50	200	109	431	65	212	99	422	62	232	98	456	62	273	62	259	36	176
1030	49	174	27	68	98	379	54	204	108	411	45	202	123	460	54	217	129	450	54	232	87	429	67	267	77	274	35	177
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
1200	44	198	29	116	123	471	68	263	116	452	71	238	112	414	49	213	92	397	51	215	121	426	59	270	51	218	32	146
1215	46	192	30	121	147	511	63	261	97	460	45	230	83	399	50	216	108	401	55	205	110	428	69	262	52	231	37	147
1230	50	180	36	124	154	550	44	230	101	452	54	219	88	384	62	223	99	410	60	219	89	422	80	280	72	232	39	148
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
1300	43	191	32	125	149	566	57	234	105	395	58	209	103	381	58	226	111	416	50	224	113	424	60	262	45	213	36	146
1315	50	195	28	123	108	527	65	236	100	398	52	216	93	391	76	252	109	417	64	233	113	427	59	252	50	211	39	148
1330	61	206	26	113	101	474	51	243	92	389	59	221	108	411	52	242	106	424	59	232	98	436	75	247	52	191	21	130
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
1400	70	243	21	109	93	398	54	232	106	387	62	224	109	418	73	258	71	378	71	264	99	405	68	275	47	202	23	120
1415	37	230	38	119	92	382	60	227	94	381	69	241	76	401	48	230	85	354	61	261	79	371	73	289	43	195	25	106
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
1830	17	80	5	31	16	102	7	55	21	98	14	53	16	64	22	56	11	61	12	39	25	105	22	64	21	71	7	49
1845	15	71	11	33	16	84	9	46	13	82	8	48	18	66	19	67	15	53	7	38	22	94	8	65	31	80	14	50
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	

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	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	

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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
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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
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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
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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
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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
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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
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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
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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
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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
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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
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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
1815	4	62	4	35	17	127	9	74	20	134	8	68	14	129	9	67	22	126	12	71	21	108	12	68	12	70	7	35
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
1845	5	25	2	14	8	53	4	30	8	73	6	43	7	59	5	29	11	57	6	31	8	63	4	37	10	58	4	29
1900	6	20	3	10	1	36	1	20	9	50	6	27	4	40	2	22	13	55	5	29	8	49	4	29	7	47	3	22
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
1930	9	29	6	14	6	22	3	11	4	28	1	18	3	24	3	15	5	34	3	16	8	28	5	15	6	30	3	14
1945	6	30	1	13	10	24	5	12	10	30	6	18	6	23	4	14	7	30	2	12	9	29	6	17	20	40	7	17
2000	5	29	4	14	4	27	1	12	3	24	1	13	6	25	1	13	1	18	1	8	10	31	4	17	0	33	0	14
2015	3	23	2	13	5	25	2	11	4	21	1	9	4	19	1	9	5	18	2	8	7	34	1	16	5	31	3	13
2030	2	16	2	9	0	19	0	8	3	20	2	10	7	23	4	10	6	19	3	8	3	29	2	13	4	29	4	14
2045	6	16	6	14	5	14	2	5	7	17	3	7	6	23	2	8	7	19	1	7	6	26	2	9	6	15	2	9
2100	4	15	2	12	2	12	1	5	3	17	2	8	8	25	7	14	1	19	1	7	7	23	6	11	11	26	7	16
2115	7	19	4	14	5	12	5	8	1	14	0	7	3	24	0	13	7	21	1	6	8	24	2	12	4	25	2	15
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
2245	3	13	2	7	5	14	3	7	7	28	4	18	2	12	1	5	4	13	2	6	4	20	1	13	9	26	5	13
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	

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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	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
1000	82	297	66	207	103	393	105	367	97	374	104	347	110	364	104	370	98	341	95	312	120	440	116	393	91	295	84	269
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
1130	92	363	69	269	101	426	99	397	112	393	107	415	99	387	74	361	121	455	115	418	154	493	93	414	85	347	87	316
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
1200	93	338	68	290	123	465	115	446	123	457	90	419	142	454	114	433	132	493	121	419	119	506	110	440	86	341	44	291
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
1230	98	356	98	329	130	505	128	506	123	477	94	391	112	497	99	501	117	477	133	466	132	501	114	480	92	346	87	327
1245	89	364	61	306	127	523	117	492	128	484	124	407	111	482	108	459	111	465	121	501	126	522	118	466	94	367	78	308
1300	104	375	89	327	133	533	151	528	123	484	121	438	121	461	115	460	99	432	117	497	119	522	126	482	85	366	95	359
1315	94	385	91	339	139	529	141	537	106	480	121	460	124	468	130	452	91	418	114	485	144	521	127	485	82	353	84	344
1330	109	396	87	328	138	537	161	570	118	475	138	504	96	452	117	470	102	403	110	462	114	503	132	503	102	363	86	343
1345	111	418	86	353	133	543	156	609	122	469	121	501	115	456	114	476	122	414	114	455	111	488	126	511	110	379	93	358
1400	103	417	101	365	147	557	152	610	128	474	132	512	97	432	100	461	115	430	115	453	130	499	125	510	100	394	85	348
1415	90	413	119	393	118	536	138	607	108	476	104	495	102	410	102	433	112	451	99	438	108	463	111	494	103	415	103	367
1430	71	375	96	402	105	503	104	550	121	479	113	470	111	425	106	422	129	478	119	447	127	476	111	473	84	397	85	366
1445	95	359	115	431	125	495	128	522	112	469	138	487	113	423	106	414	128	484	128	461	127	492	125	472	95	382	101	374
1500	103	359	164	494	118	466	112	482	149	490	101	456	125	451	114	428	130	499	108	454	150	512	109	456	83	365	93	382
1515	76	345	115	490	121	469	134	478	110	492	98	450	100	449	133	459	114	501	127	482	153	557	123	468	84	346	95	374
1530	77	351	87	481	126	490	153	527	99	470	106	443	103	441	101	454	109	481	120	483	111	541	120	477	78	340	78	367
1545	82	338	89	455	164	529	185	584	143	501	129	434	128	456	133	481	134	487	129	484	137	551	144	496	83	328	89	355
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
1700	81	329	80	306	100	535	125	566	126	515	104	515	126	512	125	548	106	524	123	560	120	504	119	547	80	325	85	346
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
1800	61	276	69	300	69	424	80	402	72	462	82	459	79	437	78	463	86	480	67	394	84	473	77	430	69	277	81	295
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			