Subsequent Draft Initial Study/Proposed Mitigated Negative Declaration

Fresno Bus Rapid Transit Project

September 2013

Prepared For:
Fresno Area Express (FAX)
12223 G Street
Fresno, California 93706
Contact: John Downs, Transportation Planning Manager

Prepared By:
Impact Sciences, Inc.
803 Camarillo Springs Road, Suite C
Camarillo, California
805-437-1900
Contact: Jessica Kirchner Flores, AICP, Senior Project Manager

This statement is prepared in compliance with the California Environmental Quality Act
TABLE OF CONTENTS

1.0 PROJECT INFORMATION.................................................................................................................................1

2.0 INTRODUCTION................................................................................................................................................2
  2.1 Initial Study/Mitigated Negative Declaration .........................................................................................2
  2.2 Background CEQA Documents .............................................................................................................2
  2.3 Justification for Subsequent MND ..........................................................................................................3
  2.4 Public and Agency Review .....................................................................................................................5
  2.5 Project Approvals ..................................................................................................................................5
  2.6 Organization of the Initial Study ...........................................................................................................5

3.0 PROJECT DESCRIPTION....................................................................................................................................7
  3.1 Project Summary .....................................................................................................................................7
  3.2 Proposed Project Identified in the 2012 Mitigated Negative Declaration .............................................8
  3.3 Currently Proposed Modifications .........................................................................................................10
  3.4 Project Background and Objectives .......................................................................................................11
  3.5 Project Site and Surrounding Uses ........................................................................................................11
  3.6 Construction Schedule and Activities ....................................................................................................12

4.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: ......................................................................13

5.0 DETERMINATION .........................................................................................................................................14

6.0 EVALUATION OF ENVIRONMENTAL IMPACTS....................................................................................15
  6.1 Aesthetics ...........................................................................................................................................16
  6.2 Agricultural Resources .........................................................................................................................18
  6.3 Air Quality ..........................................................................................................................................20
  6.4 Biological Resources ...........................................................................................................................25
  6.5 Cultural Resources ................................................................................................................................27
  6.6 Greenhouse Gases ...............................................................................................................................32
  6.7 Geology and Soils .................................................................................................................................36
  6.8 Hazards and Hazardous Materials ......................................................................................................38
  6.9 Hydrology and Water Quality ..............................................................................................................41
  6.10 Land Use and Planning .........................................................................................................................44
  6.11 Mineral Resources ..............................................................................................................................49
  6.12 Noise ..................................................................................................................................................50
  6.13 Population and Housing ......................................................................................................................53
  6.14 Public Services ....................................................................................................................................54
  6.15 Recreation ..........................................................................................................................................56
  6.16 Transportation and Traffic ..................................................................................................................57
  6.17 Utilities and Service Systems ...............................................................................................................67

7.0 MANDATORY FINDINGS OF SIGNIFICANCE .........................................................................................69

8.0 MITIGATION MEASURES...........................................................................................................................71

9.0 REFERENCES ............................................................................................................................................74

10.0 REPORT PREPARERS ...............................................................................................................................75
Appendices

A  Fehr and Peers, Fresno BRT Transportation Impact Analysis – Without BAT Lanes Scenario, August 2013

Appendices for the Final MND are incorporated by reference and are available for review at the FAX office listed on the cover of this document.

LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regional Location Map</td>
</tr>
<tr>
<td>2</td>
<td>Fresno BRT Route Map</td>
</tr>
</tbody>
</table>

LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Subsequent Environmental Review</td>
</tr>
<tr>
<td>2</td>
<td>Estimated Unmitigated Operational Emissions</td>
</tr>
<tr>
<td>3</td>
<td>Cumulative Future Plus Project Carbon Monoxide Concentrations</td>
</tr>
<tr>
<td>4</td>
<td>Land Use Policy Consistency Analysis</td>
</tr>
<tr>
<td>5</td>
<td>Peak Hour Intersection Operations – Baseline Plus Project Conditions With Mitigation</td>
</tr>
</tbody>
</table>
1.0 PROJECT INFORMATION

Project Title: Fresno Bus Rapid Transit Project

Lead Agency: City of Fresno, Department of Transportation/FAX

Location: City of Fresno

Applicant: Fresno Area Express (FAX)
2223 G Street
Fresno, California 93706

Existing General Plan

Land Use Designation: The project site is designated as expressway principal transit route in the General Plan and an expressway on land use maps.

Existing Zoning: The project site is zoned for transportation uses.

On-Site Land Uses The project is located within the existing street right-of-way.

Surrounding Land Uses Land uses along the eastern portion of the corridor (Kings Canyon Road) are large scale commercial and newly developing land uses including medium density residential, apartment and shopping centers, government offices, medical center, and downtown office, civic, and governmental land uses. The northern portion of the corridor (Blackstone Avenue) includes major generators (regional medical center, medical libraries, Fresno City College, large shopping centers, and a major FAX transit center). Other uses include office, commercial, and retail uses.

Description of Project: See Project Description in Section 3 of this Initial Study.

Interested and Responsible Agencies: None
2.0 INTRODUCTION

2.1 Initial Study/Mitigated Negative Declaration

The purpose of this Subsequent Initial Study/Mitigated Negative Declaration (IS/MND) is to identify the potential environmental impacts associated with the modifications to the proposed Bus Rapid Transit (BRT) project and to describe measures that will avoid or mitigate impacts to a less than significant level. The IS/MND includes information to substantiate the conclusion made regarding the potential of the proposed project to result in significant environmental impacts and provides the basis for input from public agencies, organizations, and interested members of the public. Pursuant to Section 15367 of the California Environmental Quality Act (CEQA) Guidelines, the City of Fresno is the Lead Agency for the proposed project, and as such, has primary responsibility for approval or denial of the proposed project.

The IS/MND has been prepared in accordance with CEQA Statutes and Guidelines, including Section 15070-15075 of the State CEQA Guidelines. Pursuant to Public Resources Code (PRC) Section 21157.1 and State CEQA Guidelines Section 15177, this project has been evaluated with respect to each item on the State CEQA Guidelines Appendix G environmental checklist to determine whether this project may cause a significant impact. The analysis contained in this Initial Study concludes that the proposed project would result in the following categories of impacts, depending on the environmental issue involved: no impact; less than significant impact; or less than significant with project-level mitigation incorporated. Therefore, preparation of a Mitigated Negative Declaration is appropriate. The IS/MND has concluded that the purposed project would not result in any adverse effects which fall within the “Mandatory Findings of Significance” contained in Section 15065 of the State CEQA Guidelines.

2.2 Background CEQA Documents

The activities associated with the Fresno BRT project were evaluated in the following CEQA document:

Draft Initial Study/Mitigated Negative Declaration for the Fresno BRT Project (December 2012)

The Draft MND was prepared to evaluate the potential impacts associated with the Fresno BRT project. The project included evaluation of an approximately 15.7-mile BRT line connecting the major north-south corridor (Blackstone Avenue) and a major east-west corridor (Ventura Avenue and Kings Canyon Road) in the City of Fresno. The project included about 3 miles of semi-dedicated lanes in the form of exclusive business access transit (BAT) lanes on Ventura Avenue/Kings Canyon Road from Parallel Avenue to Winery Avenue eastbound and from Dearing Avenue to Parallel Avenue westbound.
Final Initial Study/Mitigated Negative Declaration for the Fresno BRT Project (January 2013)

The Final MND was approved by the City Council in January 2013. Three comments were received on the Draft MND.

2.3 Justification for Subsequent MND

The City was the lead agency responsible for preparing the MND and is the public agency that has the primary responsibility for approving the currently proposed project modifications. Therefore, the City is the appropriate lead agency to evaluate the potential environmental effects of the currently proposed project modifications that are the subject of this Subsequent MND. Based on the information contained herein, the City has determined that a Subsequent MND is the appropriate document for the proposed modifications for the BRT project.

This Subsequent MND for the proposed Fresno BRT project has been prepared in accordance with the requirements of CEQA and its guidelines for implementation. This MND is supported by an Initial Study that was prepared to evaluate the proposed project’s potential to result in significant impacts to the environmental. State CEQA Guidelines Section 15063(c) states that the purposes of an Initial Study are to:

- Provide the Lead Agency with information to use as the basis for deciding whether to prepare an EIR or Negative Declaration
- Enable an applicant or Lead Agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby enabling the project to qualify for a Negative Declaration
- Assist in the preparation of an EIR, if one is required
- Facilitate environmental assessment early in the design of the project
- Provide documentation of the factual basis for the finding in a Negative Declaration that a project will not have a significant effect on the environment
- Eliminate unnecessary EIRs
- Determine whether a previously prepared EIR could be used with the project

According to Article 6 (Negative Declaration Process) and Section 15070 (Decision to Prepare a Negative Declaration or Mitigated Negative Declaration) of the State CEQA Guidelines, a public agency shall prepare a negative declaration or mitigated negative declaration for a project subject to CEQA when:

- the initial study shows there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or
the initial study identifies potentially significant effects, but:

- revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and

- there is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

Based on the analysis in the project’s Initial Study, all potential project-related environmental impacts can be reduced to less than significant levels with the incorporation of mitigation measures. Therefore, adoption of a MND will satisfy the requirements of CEQA. The mitigation measures included in this Subsequent MND are designed to reduce or eliminate the potentially significant environmental impacts described in the Initial Study. Where a measure described in this document has been previously incorporated into the project, either as a specific project design feature or as an applicant-proposed measure, this is noted in the discussion. Mitigation measures are structured in accordance with the criteria in Section 15370 of the State CEQA Guidelines.

State CEQA Guidelines require the completion of either a Subsequent Mitigated Negative Declaration or an Addendum to a Mitigated Negative Declaration when changes outside the scope of the original project are proposed and were not covered in the original Mitigated Negative Declaration (State CEQA Guidelines §§ 15162, 15164). Table 1 describes the conditions under which these additional documents are required. A Subsequent MND is subject to the same notice and public review as the original document, while an Addendum to a MND need not be circulated for public review but should be attached to the adopted MND. The City of Fresno has prepared a Subsequent MND for the Fresno BRT project because of substantial changes to what was originally proposed and to allow for full public participation.

<table>
<thead>
<tr>
<th>Document</th>
<th>Description of When Supplemental Review is Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsequent Negative Declaration</td>
<td>• Substantial changes are proposed that would involve new, significant environmental effects or increase the severity of previously identified effects</td>
</tr>
<tr>
<td></td>
<td>• Substantial changes to the circumstances under which the project is undertaken arise</td>
</tr>
<tr>
<td></td>
<td>• New information of substantial importance is presented that reveals (1) new significant environmental impacts (2) more severe effects of identified impacts, (3) mitigation measures or alternatives that are found to be feasible that would reduce impacts but the proponent declines to adopt, or (4) new mitigation measures that would reduce impact but the proponent declines to adopt</td>
</tr>
<tr>
<td>Addendum to a Negative Declaration</td>
<td>• Only minor technical changes or additions are necessary</td>
</tr>
<tr>
<td></td>
<td>• Changes are required that would not trigger new or more severe environmental effects</td>
</tr>
</tbody>
</table>

State CEQA Guidelines Section 15132, 15164
2.4 Public and Agency Review

This Initial Study and Mitigated Negative Declaration is available for review at the following locations:

- FAX offices:
  2223 G Street
  Fresno, California 93706
  (559) 621-RIDE (7433)

The document is also available on FAX’s website at:
http://www.fresno.gov/DiscoverFresno/PublicTransportation/Plans/

2.5 Project Approvals

As a public agency principally responsible for approving or carrying out the proposed project, the City of Fresno, Department of Transportation/FAX is the Lead Agency under CEQA and is responsible for adopting the environmental document and approving the proposed project. The discretionary approval would be required from the City Council. Approval of the Fresno Bus Rapid Transit Project is anticipated to occur at the same time as the CEQA document adoption.

2.6 Organization of the Initial Study

This Initial Study is organized into the following sections:

Section 1 – Project Information: provides summary background information about the proposed project, including project location, lead agency, and contact information.

Section 2 – Introduction: summarizes the scope of the document, the project’s review and approval processes, and the document’s organization.

Section 3 – Project Description: presents a description of the proposed project, including the need for the project, the project’s objectives, and the elements included in the project.

Section 4 – Environmental Factors Potentially Affected: addresses whether this Initial Study identifies any environmental factors that involve a significant or potentially significant impact that cannot be reduced to a less than significant level.

Section 5 – Determination: indicates whether impacts associated with the proposed project would be significant and what, if any, additional environmental documentation is required.
Section 6 – Evaluation of Environmental Impacts: contains the Environmental Checklist form for each resource area. The checklist is used to assist in evaluating the potential environmental impacts of the proposed project. This section also presents a background summary for each resource area, and an explanation of all checklist answers.

Section 7 – Mandatory Findings of Significance: indicates whether implementation of the proposed project would result in significant environmental impacts.

Section 8 – Mitigation Measures: lists all mitigation measures proposed to be included as part of the proposed project.

Section 9 – References: lists references used in the preparation of this document.

Section 10 – Report Preparers: lists the names of individuals involved in the preparation of this document.
3.0 PROJECT DESCRIPTION

3.1 Project Summary

The proposed project is an approximately 15.7-mile bus rapid transit (BRT) line connecting the major north-south corridor (Blackstone Avenue) and a major east-west corridor (Ventura Avenue and Kings Canyon Road) in the City of Fresno. Figure 1 shows the regional location of the project. The BRT vehicles would operate in mixed-flow traffic lanes and have access to queue jump lanes at target intersections. All intersections excluding those with a queue jump configuration will have a Transit Signal Priority (TSP) device. These devices are an operational improvement that use technology to reduce dwell time for transit vehicles at stoplights, by holding green lights longer or shortening red lights. Fresno Area Express would deploy low-floor, low emission, 60-foot articulated compressed natural gas (CNG) buses (or CNG-hybrid) as part of the proposed project. Figure 2 provides a map of the proposed alignment.

The project would replace major segments of existing FAX routes 28 and 30. Current bus service along both routes occurs at a frequency of 20-minute headways; Route 28 serves Kings Canyon Road/Ventura Avenue and north of downtown is parallel to Blackstone Avenue until Shields Avenue. It also serves Shaw Avenue between 1st Avenue and Sunnyside Road. Route 30 is both the third highest ridership and third most productive route; it operates along Blackstone Avenue. There are two major transit centers located along the proposed BRT route: Manchester Transit Center off Blackstone Avenue north of Dayton Avenue, and the Downtown Transit Center at Courthouse Park.

The proposed project would also construct new transit stations for the BRT line with greater spacing than currently provided on Routes 28 and 30. There are 27 stops or pairs of stops along the BRT line. Except for the two termini and Manchester Center, each BRT station has a stop in each travel direction. Thus there are physically 51 bus stop locations. A BRT bus will typically make 27 stops in each direction, including the originating stop/terminus, all intermediate stops, and the destination stop/terminus. During lighter travel periods, buses may stop only when there are passengers intending to board or alight. In some cases, the proposed BRT stations would feature platforms that permit BRT vehicles to stop in the outside travel lane without pulling out of traffic. Where these stations are located on the far side of an intersection, it may reduce the throughput of traffic by causing traffic to queue behind the BRT vehicle or switch to adjacent lanes.
3.2 Proposed Project Identified in the 2012 Mitigated Negative Declaration

The 2012 MND evaluated the project with the inclusion of about 3 miles, or 20 percent of the 15.7-mile corridor, of semi-dedicated lanes. The BRT vehicles would use exclusive business access transit (BAT) lanes on Ventura Avenue/Kings Canyon Road from Parallel Avenue to Winery Avenue eastbound and from Dearing Avenue to Parallel Avenue westbound. All intersections excluding those with a queue jump configuration would have a Transit Signal Priority (TSP) device. While on-street parking is prohibited west of Chestnut Avenue, implementation of the proposed BAT lanes on Ventura Avenue/Kings Canyon Road would require removing existing on-street parking west of Chestnut Avenue.

3.3 Currently Proposed Modifications

The City of Fresno is proposing to proceed with the 15.7-mile BRT corridor; however, the BAT or semi-dedicated bus lanes would not be included in the project. As such, the BRT vehicles would operate in mixed flow lanes through the entire corridor. The project would continue to utilize queue jump and TSP features at selected intersections, but would not require removing existing on-street parking.

Three main elements of Intelligent Transportation Systems Elements (ITS) would be implemented as part of the proposed project: (1) queue jump lanes at key intersections, (2) TSPs, and (3) real-time bus arrival information displayed (and announced) at stations as well as available on the internet. All signalized intersections in the Blackstone Avenue and Ventura Avenue-Kings Canyon Road BRT corridors will be upgraded to contain traffic signal coordination and transit signal priority (TSP). Queue jump operations are currently proposed at the following locations:

- Blackstone Avenue/Dayton Avenue – Leaving Transit Center
- Abby Street/Belmont Avenue – Northbound
- Winery Avenue/Kings Canyon Road – Eastbound

As discussed above, all other study intersections would incorporate TSP into signal operations.

All stations will include a custom bus shelter, ticket vending machines, benches, security technologies, electronic real-time arrival sign, information kiosk, and bike racks. Level-boarding platforms are proposed at stations. The level-boarding platforms will be constructed to American with Disabilities Act (ADA) standards and will be designed to work with existing or future BRT vehicles.
Parking

As noted above, BRT vehicles would operate in existing mixed-flow traffic lanes and queue jump lanes, as the vehicles approach particular signalized intersections. The preferential BRT queue jump lanes will not require the removal of existing on street parking as the queue jump lanes will be installed in existing right hand turn lanes.

3.4 Project Background and Objectives

The primary goals of the proposed project include the following:

- **Improve Transit Service and Better Accommodate Existing Bus Ridership** – The project would improve speed and reliability of service to current riders, including large numbers of minority, low-income, and transit-dependent residents, by offering higher frequency service, reduced travel time, and greater schedule reliability. The proposed project would provide a connection between the Southeast Growth Area (anticipated to add up to 55,000 new residents by 2025), Downtown Fresno, and north Fresno.

- **Increase Transit Ridership by Providing a Viable and Competitive Transit Alternative to the Private Automobile** – The project would attract new riders and reduce single occupant automobile use by providing a rail-like experience by improving transit service and facilities along the corridor. The project would improve the two factors most important in attracting motorists to transit service: competitive transit travel times and a high degree of reliability.

- **Provide Another Catalyst to Changing the Patterns of Development in Fresno County** – Growth in the Fresno-Clovis metropolitan area has been predominantly low density, with sprawl consuming valuable cropland. The BRT project will encourage redevelopment of underdeveloped land along the corridor.

Two formal and six informal public meetings were held to solicit community input on the proposed BRT lines in April and May of 2009. Attendees at these meetings included current transit users, potential transit users, interested City employees, and others who were simply interested in the plans. One meeting provided a Spanish-language translator, and another provided a Hmong-language translator. The design for the proposed project incorporated input from community comments on plan alternatives.

3.5 Project Site and Surrounding Uses

FAX is the public transit service provider in Fresno and also has routes extending into Clovis. FAX carries about 18.05 million passengers (unlinked trips) annually, all on fixed-route services. The proposed BRT corridor contains two of FAX’s top three routes (Routes 28 and 30) in terms of ridership and their
productivity ranking (based on a composite of passengers per hour and per mile, cost per passenger, cost per hour, and fares as a percentage of operating costs).

Route 28 currently carries 2,343 average weekday boardings and Route 30 currently carries 4,841 average weekday boardings per day for a combined total of nearly 7,200 weekday boardings. It is estimated that passenger boardings would increase to 14,500 with present bus infrastructure. With construction of the proposed BRT infrastructure it is estimated that between 23,400 and 29,600 passenger boardings could be accommodated.

Land uses along the eastern portion of the corridor (Kings Canyon Road) are large scale commercial and newly developing land uses including medium density residential, apartment and shopping centers, government offices, medical center, and downtown office, civic, and governmental land uses. The northern portion of the corridor (Blackstone Avenue) includes major generators (regional medical center, medical libraries, Fresno City College, large shopping centers, and a major FAX transit center). Other uses include office, commercial, and retail uses.

3.6 Construction Schedule and Activities

The proposed project includes minimal construction activities. The project would be constructed entirely at-grade, with no tunnels, bridges, or other aerial structures and would occur entirely within the existing right-of-way. There are no right-of-way or property acquisitions included as part of the proposed project. Construction would consist primarily of the bus shelters and associated amenities, as well as minor modifications to the existing right-of-way such as to curbs, street trees, or existing driveway ingress/egress points.

Construction of the proposed project is anticipated to being in the spring of 2014 and the project would be operational by 2015.
4.0 **ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

The environmental factors checked below would be potentially affected by this project involving at least one impact that is a “Less than Significant Impact with Mitigation” as indicated by the checklist on the following pages.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mitigation Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetics</td>
<td></td>
</tr>
<tr>
<td>Air Quality</td>
<td>X</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Geology and Soils</td>
<td>X</td>
</tr>
<tr>
<td>Hydrology and Water Quality</td>
<td></td>
</tr>
<tr>
<td>Mineral Resources</td>
<td></td>
</tr>
<tr>
<td>Population and Housing</td>
<td></td>
</tr>
<tr>
<td>Recreation</td>
<td>X</td>
</tr>
<tr>
<td>Utilities and Service Systems</td>
<td></td>
</tr>
<tr>
<td>Agricultural Resources</td>
<td></td>
</tr>
<tr>
<td>Biological Resources</td>
<td></td>
</tr>
<tr>
<td>Greenhouse Gases</td>
<td></td>
</tr>
<tr>
<td>Hazards</td>
<td></td>
</tr>
<tr>
<td>Land Use and Planning</td>
<td></td>
</tr>
<tr>
<td>Noise</td>
<td></td>
</tr>
<tr>
<td>Public Services</td>
<td></td>
</tr>
<tr>
<td>Transportation/Circulation</td>
<td></td>
</tr>
<tr>
<td>Mandatory Findings of Significance</td>
<td></td>
</tr>
</tbody>
</table>
5.0 DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

X I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the proposed proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measure based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT will be prepared.

Signature: Date: 10/17/12

Bruce A. Rudd, Acting Director of Transportation
City of Fresno
6.0 EVALUATION OF ENVIRONMENTAL IMPACTS

This section includes an evaluation of impacts based on the *State CEQA Guidelines* Appendix G Environmental Checklist. Each checklist item is explained in the discussion following the checklist and, if necessary, mitigation measures are provided to reduce impacts to a less than significant level. In accordance with CEQA, all answers take into account the whole of the action, including on- and off-site effects, cumulative and project level; direct and indirect effects, and effects from both construction and operation of any new development.

Each checklist criterion is marked to identify whether there is an environmental impact.

- A “No Impact” response indicates that there is no impact.
- A “Less Than Significant Impact” response means that while there is some impact, the impact is below the threshold of significance defined by the City.
- A “Less Than Significant Impact with Mitigation” response indicates that a new impact has been identified in the course of this analysis and mitigation measures have been provided in this Initial Study to reduce a potentially significant impact to a less than significant level.

If a significant impact is identified that could not be reduced to a less than significant level, the box “Potential Significant Impact” would be checked. According to CEQA, if such an impact were identified, an Initial Study would not be sufficient to approve the project, and an Environmental Impact Report (EIR) would be necessary. No such impacts have been identified in the course of preparing this Initial Study.
6.1 Aesthetics

<table>
<thead>
<tr>
<th>AESTHETICS – Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Have a substantial adverse effect on a scenic vista?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c. Substantially degrade the existing visual character or quality of the site and its surroundings?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>d. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to aesthetics. As described below, the proposed project would have less than significant impacts to aesthetics, which is consistent with the Final MND. Therefore, the proposed project would not result in any new potentially significant aesthetic effects that were not identified in the Final MND or a substantial increase in the severity of any previously identified significant aesthetic effects.

Discussion

a.—b. No Impact. There are no designated State Scenic Highways located within or adjacent to the project area. Blackstone Avenue and Kings Canyon Road are designated as scenic expressways in the City’s General Plan Land Use Map. Other scenic resources within the area surrounding the project include historic structures (see discussion in Subsection 6.5a, below) and street trees.

The project involves changes to existing bus service within an urbanized area. The proposed project would not require the construction of structures other than bus stops, which would include shelter structures. All project construction would occur within existing rights-of-way, and would not affect scenic resources such as historic structures located beyond the City’s right-of-way. Street trees located within the City’s right-of-way would be avoided whenever possible when siting bus shelters. The project area is a highly urbanized area, and the construction of bus shelters would not substantially alter views or affect the visual character of the area. Therefore, no impact to aesthetics would occur.

c. No Impact. Implementation of the proposed project would not result in a substantial change in the visual character or land use of the project site, since all improvements would be made within existing rights-of-way. The proposed project would be consistent with applicable General Plan and zoning designations and would be compatible with existing surrounding land uses as it utilizes existing roads and follows an existing bus route. Hardscape improvements would include passenger platforms and associated transit-related furniture, such as benches, shelters, ticket vending machines...
and traffic lanes and signals. Implementation of the proposed project would have an overall positive effect on the visual character of the site as the new bus stations, intersection improvements, and deployment of specialized buses would be consistent with and integrate with surrounding land uses (e.g., residential, commercial, institutional, etc.). The visual character of the project site would be altered during construction activities; however, this would be temporary. Therefore, the proposed project would not result in visual impacts related to visual character or quality of the site or its surroundings.

d. Less than Significant. The project site is located in the City of Fresno and is surrounded by urban development that currently includes streetlights along roadways, and adjacent institutional/commercial/residential uses. Project lighting would consist of lighting at stations. The addition of project lighting would contribute incrementally to urban light sources but would not create a new source of substantial light or glare. Proposed lighting would be directional and/or shielded to minimize spillover into surrounding land uses. This type of lighting is currently in use along the proposed BRT route and would represent a negligible addition relative to the existing facility lighting. Therefore, a less than significant impact related to lighting and glare is anticipated as a result of the proposed project.
6.2 Agricultural Resources

<table>
<thead>
<tr>
<th>AGRICULTURAL RESOURCES – Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>d. Result in the loss of forest land or conversion of forest land to non-forest use?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project, or new information of substantial importance since the Final MND that would result in any new significant environmental effects, or substantial increases in the severity of previously identified significant effects related to agriculture or forest resources. As described below, the proposed project would have no impacts to agriculture resources, which is consistent with the Final MND. Forest resources were not analyzed in the Final MND and were not commonly analyzed in CEQA documents at the time the Final MND was prepared and adopted. Information about forestry resources could have been known with the exercise of reasonable diligence at the time the Final MND was adopted. However, the proposed project would not result in any significant effects related to forestry resources. Therefore, the new information related to forest resources would not result in a new potentially significant environmental effect that was not identified in the Final MND.

Discussion

a.–b. No Impact. The proposed project is located within a highly urbanized portion of the City of Fresno. Surrounding land uses include large scale commercial, and newly developing land uses such as medium density residential, apartments, and shopping centers. The project would serve developed areas and would be constructed entirely within the existing right-of-way and therefore would not directly convert lands to other uses. The proposed project would not introduce a new adjacent use that could be incompatible with the current uses. Rather, the proposed project would provide the same type of activity that currently exists. The proposed project route does not contain agricultural
resources, is not zoned for agricultural uses, and is not the subject of a Williamson Act contract. Therefore, no impacts to agricultural resources would occur.

c–d. No Impact. There are no forest lands or timberlands (or lands zoned as such) in the project area. The project would not result in the loss of forest land or conversion of forest land to non-forest use.

e. No Impact. The existing environment is designated as Urban and Built UP Land on maps prepared pursuant to the Farmland Mapping and Monitoring Program and does not include conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.
6.3 Air Quality

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Conflict with or obstruct implementation of the applicable air quality plan?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>d. Expose sensitive receptors to substantial pollutant concentrations?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>e. Create objectionable odors affecting a substantial number of people?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to air quality. As described below, the proposed project would have less than significant impacts to the region’s air quality, which is consistent with the Final MND. Therefore, the proposed project would not result in any new potentially significant air quality effects that were not identified in the Final MND or a substantial increase in the severity of any previously identified significant air quality effects.

**Discussion**

a. Less than Significant Impact. The proposed project is located within the San Joaquin Valley Air Basin (SJVAB) and, therefore, falls under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). In conjunction with the San Joaquin Council of Governments (SJCOG), the SJVAPCD is responsible for formulating and implementing air pollution control strategies. The SJVAPCD’s most recent air quality plans are the 2007 PM10 (respirable particulate matter) Maintenance Plan, the 2008 PM2.5 (fine particulate matter) Plan, and the 2007 Ozone Plan. These plans establish a comprehensive air pollution control program leading to the attainment of state and federal air quality standards in the SJVAB, which is in non-attainment for ozone (O₃), PM10, and PM2.5. The plans also address the requirements set forth in the state and federal Clean Air Acts.

Potential impacts on local and regional air quality are anticipated to be less than significant, falling below SJVAPCD thresholds as a result of the nature and small scale of the proposed project. Implementation of the proposed project would fall below the SJVAPCD significance thresholds for
both short-term construction and long-term operational emissions, as discussed below. Because construction and operation of the project would not exceed the SJVAPCD significance thresholds, the proposed project would not increase the frequency or severity of existing air quality violations, and neither cause or contribute to new air quality violations, nor delay timely attainment of air quality standards or the interim emission reductions specified in the air plans.

Therefore, for these reasons, the proposed project would be consistent with the applicable air quality plans. Based on the above discussion, the proposed project would not conflict with applicable regional plans or policies adopted by agencies with jurisdiction over the project and would be less than significant. No further analysis is needed.

b. Less than Significant Impact. A project may have a significant impact if project-related emissions would exceed federal, state, or regional standards or thresholds, or if project-related emissions would substantially contribute to an existing or projected air quality violation. Significance thresholds developed by the SJVAPCD are:

- Compliance for SJVAPCD Regulation VIII for all construction activities;
- Emissions of reactive organic gas (ROG) or oxides of nitrogen (NOx) exceeding 10 tons per year (tpy) during project operation.

Construction activities associated with new development occurring in the project areas could temporarily increase localized PM10, PM2.5, volatile organic compound (VOC), nitrogen oxides (NOx), sulfur oxides (SOx), and carbon monoxide (CO) concentrations in the project vicinity. The primary source of construction-related CO, SOx, VOC, and NOx emission is gasoline and diesel-powered, heavy-duty mobile construction equipment. Primary sources of PM10 and PM2.5 emissions are generally clearing and demolition activities, grading operations, construction vehicle traffic on unpaved ground, and wind blowing over exposed surfaces.

Construction activities associated with the proposed project would consist primarily of striping road surfaces, construction of bus shelters, and modification or construction of curbs and sidewalks. These activities would not require any substantial use of heavy-duty construction equipment and little or no demolition or grading. Consequently, emissions would be minimal. Furthermore, all construction activities would occur in compliance with SJVAPCD Regulation VIII. Therefore, construction emissions would be less than significant without mitigation.

Operational emissions would be generated by mobile sources as a result of normal operation of the project. Area source emissions are typically generated by the consumption of natural gas for space and water heating devices (including residential water heater and boilers), fuel combustion from landscaping equipment, and the application of architectural coatings. None of these sources are included as part of the project.

The proposed project would result in additional vehicle trips, specifically the buses operating as part of the BRT service. These trips would, in part, replace trips made as part of an existing bus route; however, the existing trips have not been included in this analysis. Inclusion of the existing trips would result in a reduced impact as emissions from existing service would be subtracted from the emissions from the proposed project. According to SJVAPCD, a project’s operational emissions are considered to cause a significant impact to air quality in the region if they would exceed the
thresholds of significance for ROG and NOx. The operational emissions associated with the proposed project were estimated using emission factors for City buses using natural gas as a fuel. Total emissions assumed 130 trips per day over a 15.7-mile route. Table 2, Estimated Unmitigated Operational Emissions, shows the pollutant emissions associated with operation of the proposed project.

### Table 2
Estimated Unmitigated Operational Emissions

<table>
<thead>
<tr>
<th>Emissions Source</th>
<th>Maximum Emissions in Tons per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ROG</td>
</tr>
<tr>
<td>Annual Emissions</td>
<td></td>
</tr>
<tr>
<td>Mobile Sources</td>
<td>1.68</td>
</tr>
<tr>
<td>SJVAPCD Threshold</td>
<td>10</td>
</tr>
<tr>
<td>Exceeds Threshold?</td>
<td>NO</td>
</tr>
</tbody>
</table>


As shown in Table 2, operational emissions associated with implementation of the proposed project would not exceed the SJVAPCD thresholds for significance for any pollutant. Projects that generate emissions below the thresholds of significance would not be considered to contribute a substantial amount of air pollutant to regional air quality. Therefore, operational-related impacts would be less than significant.

c. Less than Significant Impact. According to the SJVAPCD guidance, projects that are within the emission thresholds identified above for construction and operation should be considered less than significant on a cumulative basis. As discussed, emissions associated with construction activities of the proposed project would be minimal and in compliance with Regulation VIII and therefore would not cause an individually significant impact. Likewise, as shown in Table 2, emissions associated with the operation of the proposed project would not exceed any of the SJVAPCD operational thresholds of significance and therefore would not cause an individually significant impact. Since both construction and operational emissions are below the thresholds of significance, the proposed project would not result in a cumulatively considerable impact. No further analysis is necessary.

d. Less than Significant Impact. The project would not include any substantial sources of toxic air contaminants (TACs) such as diesel particulate matter or other substances known to have serious health impacts.

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed state standards are termed CO “hotspots.” The SJVAPCD recommends the use of CALINE4, a dispersion model developed by Caltrans for predicting CO concentrations near roadways, as the preferred method of estimating pollutant concentrations at various locations. CALINE4 adds roadway-specific CO emissions calculated from peak traffic volumes to ambient CO air concentrations. For this analysis, CO concentrations were calculated based on a simplified CALINE4 screening procedure developed by the Bay Area Air Quality Management District (BAAQMD), which is accepted by the SJVAPCD as
long as the screening procedure is used in accordance with BAAQMD methodologies. This methodology assumes worst-case conditions (i.e., wind direction is parallel to the primary roadway, 90° to the secondary road; wind speed of less than 1 meter per second; and extreme atmospheric stability) and provides a screening of maximum, worst-case, CO concentrations.

Maximum CO concentrations were calculated for peak hour traffic volumes at the two local intersections impacted by increased traffic by degrading the level of service (LOS) of the intersection to E or F. The traffic volumes used to calculate maximum CO concentrations, obtained from the traffic impact analysis, represent the future growth in ambient traffic plus traffic generated from the proposed project. The results of these calculations are presented in Table 3, for representative locations 0 and 25 feet from each roadway.

<table>
<thead>
<tr>
<th>Intersection</th>
<th>0 Feet</th>
<th></th>
<th>25 Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-Hour</td>
<td>8-Hour</td>
<td>1-Hour</td>
</tr>
<tr>
<td>Blackstone Avenue at Herndon Avenue</td>
<td>5.3</td>
<td>3.1</td>
<td>4.3</td>
</tr>
<tr>
<td>Blackstone Avenue at Bullard Avenue</td>
<td>4.3</td>
<td>2.4</td>
<td>3.7</td>
</tr>
<tr>
<td>Exceeds state 1-hour standard of 20 ppm?</td>
<td>NO</td>
<td>—</td>
<td>NO</td>
</tr>
<tr>
<td>Exceeds federal 1-hour standard of 35 ppm?</td>
<td>NO</td>
<td>—</td>
<td>NO</td>
</tr>
<tr>
<td>Exceeds state 8-hour standard of 9.0 ppm?</td>
<td>—</td>
<td>NO</td>
<td>—</td>
</tr>
<tr>
<td>Exceeds federal 8-hour standard of 9 ppm?</td>
<td>—</td>
<td>NO</td>
<td>—</td>
</tr>
</tbody>
</table>

Source: Impact Sciences, Inc. Emissions calculations are provided in Appendix A of the Final MND.

As shown, the simplified CALINE4 screening procedure shows that, under worst-case conditions, CO concentrations at the impacted intersections would not exceed the federal or state 1-hour or 8-hour CO standards under future cumulative conditions plus the proposed project. Based on this analysis, the proposed project would not cause or contribute to the formation of CO hotspots at impacted intersections and impacts would be less than significant. The revised traffic study for the proposed project has included an additional intersection with traffic impacts. As the intersection operates at an LOS level below D, guidance recommends that a CO hotspots analysis be performed. However, CO hotspots form at intersections where traffic is congested. The traffic study shows that with mitigation the impacted intersection would have reduced wait times compared with existing conditions, thus reducing congestion. Since traffic congestion would be reduced, the potential for CO hotspots would also be reduced. Consequently, the proposed project would have a less than significant impact with regard to CO hotspots. Therefore, the project's impact on human health would be less than significant. This is consistent with the findings in the Final MND. No further analysis is required.

e. Less than Significant Impact. A project-related significant adverse effect could occur if construction or operation of the proposed project would result in generation of odors that would be perceptible in nearby sensitive areas.
Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage treatment facilities and landfills. The proposed project does not include any land uses associated with odor issues, and so no objectionable odors are anticipated. Therefore, impacts associated with objectionable odors would be less than significant.
6.4 Biological Resources

<table>
<thead>
<tr>
<th>BIOLOGICAL RESOURCES – Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to biological resources. As described below, the proposed project would have less than significant impacts to the City’s biological resources with implementation of Mitigation Measure BIO 1. This is consistent with the Final MND. Therefore, the proposed project would not result in any new potentially significant biological resources effects that were not identified in the Final MND or a substantial increase in the severity of any previously identified significant biological resources effects.
Discussion

a. No Impact. The proposed project is located entirely within an existing developed roadway right-of-way within a highly urbanized area. No candidate, sensitive, or special status species are expected to occur on the project site. Thus, no impacts to sensitive species would occur.

b. No Impact. Development of the proposed project would not impact any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife (CDFW) or US Fish and Wildlife Service (USFWS).

c. No Impact. No federal or state jurisdictional areas occur within the limits of construction and operation of the proposed project. Therefore, no impacts to federally protected wetlands (as defined by Section 404 of the Clean Water Act) would occur.

d. No Impact. The project site is located in an urban area within the City of Fresno that is designated in applicable land use plans as an expressway. The site is not within a designated preserve area, nor is it contiguous with a wildlife corridor. The proposed project would utilize existing roads and not require the expansion of widening of these roads. Therefore, no associated impacts would occur.

e. Less than Significant with Mitigation. The proposed project site is paved and landscaped. Trees within the project site consist of landscape trees along the roadways, and landscaping associated with commercial properties along the project alignment. The City of Fresno does not have specific ordinances related to the protection of trees, although the Open Space Element of the General Plan directs the County to ensure landmark trees are preserved and the Scenic Highways Element requires County road improvement projects on scenic roads to preserve mature trees. The proposed project is not located on a scenic road and therefore, the policy related to mature trees would not be applicable.

As part of the proposed project, it is anticipated that 35 street trees would be removed along the 13.5-mile corridor to accommodate curb modifications or station construction. The removal of any landmark trees would be a significant impact. The following mitigation measure from the Final MND applies to the proposed project and will be implemented to ensure potential biological resources impacts remain less than significant.

BIO 1: The City shall retain a certified arborist to evaluate the trees being considered for removal. The arborist shall provide the City with a report including recommendations related to the removal of any landmark trees. The City shall comply with the recommendations of the report when removing landmark trees associated with the proposed BRT project.

f. No Impact. The proposed project is not located within the boundaries of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or a designated Significant Ecological Area. Therefore, the proposed project would not conflict with an adopted habitat plan.
6.5 Cultural Resources

<table>
<thead>
<tr>
<th>Cultural Resources – Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d. Disturb any human remains, including those interred outside of formal cemeteries</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to cultural resources. As described below, the proposed project would have less than significant impacts to the City’s cultural resources with implementation of **Mitigation Measures CUL 1, CUL 2, and CUL 3**, as identified in the Final MND. This is consistent with the Final MND. Therefore, the proposed project would not result in any new potentially significant cultural resources effects that were not identified in the Final MND or a substantial increase in the severity of any previously identified significant cultural resources effects.

**Discussion**

a. Less than Significant with Mitigation. CEQA states that a project would normally have a significant impact on historic resources if it would result in a substantial adverse change in the significance of a historic resource.

Thus, an evaluation of project impacts under CEQA requires a two-part inquiry: (1) a determination of whether the project site contains or is adjacent to a historic resource or resources, and if so, (2) a determination of whether the proposed project will result in a “substantial adverse change” in the significance of the historical resource or resources.

The proposed project will provide for TSPs, ticket vending machines at all stations; and design and installation of 51 new bus shelters along the corridor. The curb at the existing bus stops will be raised to approximately 14 inches to create elevated platforms for a smoother, safer transition for passengers and some curbs will be extended into the street pavement as bulb-outs. All proposed work will occur within the City’s public right-of-way with no new property acquisitions or demolition of any buildings or structures.

CEQA defines a historic resource as a resource listed in, or determined eligible for listing, in the California Register of Historical Resources. All properties on the California Register are to be
considered under CEQA. However, because a property does not appear on the California Register does not mean it is not significant and therefore exempt from CEQA consideration. All resources determined eligible for the California Register are also to be considered under CEQA.

The courts have interpreted CEQA to create three categories of historic resources:

- Mandatory historical resources are resources “listed in, or determined to be eligible for listing in, the California Register of Historical Resources.”

- Presumptive historical resources are resources “included in a local register of historical resources, as defined in subdivision (k) of Section 5020.1, or deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1” of the Public Resources Code, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant.

- Discretionary historical resources are those resources that are not listed but determined to be eligible under the criteria for the California Register of Historical Resources.

To simplify the first three definitions provided in the CEQA statute, an historic resource is a resource that is:

- Listed in the California Register of Historical Resources (California Register);

- Determined eligible for the California Register by the State Historical Resources Commission; or

- Included in a local register of historic resources.

Properties formally determined eligible for listing in the National Register of Historic Places are automatically listed in the California Register.

Section 15064.5 of the *State CEQA Guidelines* supplements the statute by providing two additional definitions of historical resources, which may be simplified in the following manner. A historic resource is a resource that is:

- Identified as significant in an historical resource survey meeting the requirements of Public Resources Code 5024.1 (g);

- Determined by a Lead Agency to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Generally, this category includes resources that meet the criteria for listing on the California Register (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852).

The fact that a resource is not listed in, or determined eligible for listing in, the California Register, not included in a local register of historic resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, does not preclude a lead agency from determining that the resource may be an “historic resource” for purposes of CEQA.

The route for the Fresno BRT traverses a varied cross-section of Fresno’s built environment. It includes the largely commercial corridor along Blackstone Avenue north of Downtown Fresno, commercial and civic/institutional areas of Downtown Fresno, and the Ventura Avenue/Kings...
Canyon Road corridor east of Downtown. Downtown and its immediately surrounding areas contain some of the oldest portions of the City including the area originally platted in 1872. In the early 20th Century, streetcar lines along both Blackstone Avenue and Ventura Boulevard helped encourage development north and east of Downtown. Many properties located adjacent to the proposed corridor, particularly within the Downtown area, have been designated as historic resources by the City of Fresno and several have been listed on the National Register of Historic Places and the California Register of Historical Resources. Others have been previously identified as possessing evidence of historic significance. Property types located along the proposed corridor that have been identified as historically significant include late 19th and early 20th century residential properties, early 20th century commercial properties, Depression Era civic and institutional properties as well as examples of mid-20th century development.

CEQA states that a project would normally have a significant impact on historic resources if it would result in a substantial adverse change in the significance of a historic resource. According to State CEQA Guidelines, a substantial adverse change in the significance of a historic resource means demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. The State CEQA Guidelines go on to state that “[t]he significance of an historic resource is materially impaired when a project … [d]emolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources… local register of historic resources… or its identification in a historic resources survey.”

Based on existing documentation, the majority of identified historic and potential historic resources located adjacent to the proposed project area are located outside the public right-of-way. As noted in the project description, all proposed work will occur within the public right-of-way and no buildings or structures adjacent to the public right-of-way will be demolished, relocated, or altered as part of the proposed project. Therefore, the project will not result in any significant impacts to any historic or potential historic resources located adjacent to the proposed transit corridor.

The proposed project will include design and installation of 51 new bus shelters along the proposed corridor. The curb at the existing bus stops will be raised to approximately 14 inches to create elevated platforms and some curbs will be extended into the street pavement as bulb-outs. This work will require some demolition of existing sidewalks and curbs at strategic locations to allow for the construction of the new bus stops. Because of the construction of new bus stations, historic or potential historic resources located within the public right-of-way could be adversely affected by the project.

Two potential historic resources are located within the public right-of-way. The first of these are the Works Progress Administration (WPA) sidewalks installed in 1941 around the former Fresno City Hall at 2326 Fresno Street. The concrete sidewalk is stamped with the letters WPA and the date 1941. This sidewalk appears to be significant under California Register Criterion 1 as a rare extant example of a street improvement project funded by the Works Progress (later Works Projects) Administration or WPA during the Great Depression. Between 1935 and 1942, the WPA funneled significant financial resources to communities across the United States for the construction of roads, bridges, parks, street improvements, and civic and institutional buildings.
The second potential historic resource located in the public right-of-way is a concrete pylon located at the southeast corner of S. Hazelwood Avenue and E. Ventura Boulevard. The concrete pylon is inscribed with the word HAZELWOOD in block capital letters running vertically. The pylon appears to be a street marker from the early 20th century and may have served to delineate the Hazelwood neighborhood located south and east of Downtown Fresno. As such, the pylon is significant for its association with early neighborhood development in Fresno.

The WPA sidewalks are extant on Fresno Street, M Street, and N Street. A new BRT station is proposed at the intersection of Fresno and N streets although its exact location has not been determined. Without mitigation to ensure that the WPA sidewalks on Fresno and N streets are protected, construction of a new BRT station at this location has the potential to result in significant impacts to historic resources.

No bus stop is proposed at the corner of S. Hazelwood and E. Ventura Boulevard and the proposed project does not have the potential to affect the Hazelwood pylon.

As discussed above, all work associated with the proposed project will occur within the public right-of-way and no buildings, structures or sites adjacent to the public right-of-way will be demolished, relocated or altered as part of the proposed project. Therefore, the project will not result in significant impacts to any historic or potential historic resources located adjacent to the proposed transit corridor.

The proposed project will include design and installation of a new bus stop at the intersection of Fresno and N streets. Without mitigation, this work has the potential to adversely affect the WPA sidewalks that surround the former Fresno City Hall along Fresno, M, and N streets. Avoiding demolition or alteration of the WPA sidewalks, as proposed in Mitigation Measure CUL 1, will reduce impacts from the proposed project to a less than significant level. The following mitigation measure from the Final MND applies to the proposed project and will be implemented to ensure potential cultural resources impacts remain less than significant.

CUL 1: The proposed bus stop at the intersection of Fresno and N streets should be sited at either the northeast, northwest or southeast corners to avoid demolition or alteration of the WPA sidewalks on the south side of Fresno Street and west side of N Street surrounding the former Fresno City Hall. An alternate location along Fresno Street that does not impact the WPA sidewalks may also be used.

b-d. Less than Significant with Mitigation Incorporation. Due to the developed nature of the project site, it is unlikely buried archeological, paleontological resources or human remains resources exist that could be disturbed during construction of the proposed project. The project site is a paved roadway; the proposed project would be constructed within the existing right-of-way and includes only minor ground disturbing activities. The majority of the construction would include restriping, minor curb modifications, and the construction of the bus shelters. Although the likelihood of discovering buried resources during project construction is considered unlikely, damage to undiscovered resources would be a significant impact. The following mitigation measures from the Final MND applies to the proposed project and will be implemented to ensure potential cultural resources impacts remain less than significant.
CUL 2: In the event any archeological or paleontological resources are discovered, project construction shall be temporarily halted. A qualified archeologist or paleontologist shall be consulted to assess the significance of the resources and to provide proper management recommendation (e.g., resources avoidance or data recovery excavations).

CUL 3: If Native American artifacts or human remains are uncovered during ground disturbing activities, the applicant shall waive any and all claim to ownership and the Most Likely Descendants shall be notified of the find. Any human remains shall be reburied in compliance with California Public Resources Code Section 5097.98(a) and (b).
6.6  Greenhouse Gases

<table>
<thead>
<tr>
<th>GREENHOUSE GASES – Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to the emission of greenhouse gases (GHGs). As described below, the proposed project’s activities would result in short-term emissions of GHGs during construction. However, the BRT proposed project will be a source of reductions for GHG emissions for the area, as it is in compliance with the GHG reduction measures Best Performance Standards (BPS) system. Consequently, emissions are considered to have a less than significant impact, which is consistent with the Final MND. Therefore, the proposed project would not result in any new potentially significant GHG emissions or effects that were not identified in the Final MND or a substantial increase in the severity of any previously identified significant GHG effects.

Discussion

GHG emissions refer to a group of emissions that are believed to affect global climate conditions. These gases trap heat in the atmosphere and the major concern is that increases in GHG emissions are causing global climate change. Global climate change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation, and temperature. Although there is disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, most agree that there is a direct link between increased emission of GHGs and long-term global temperature. What GHGs have in common is that they allow sunlight to enter the atmosphere, but trap a portion of the outward-bound infrared radiation and warm up the air. The process is similar to the effect greenhouses have in raising the internal temperature, hence the name greenhouse gases. Both natural processes and human activities emit GHGs. The accumulation of greenhouse gases in the atmosphere regulates the earth’s temperature; however, emissions from human activities such as electricity generation and motor vehicle operations have elevated the concentration of GHGs in the atmosphere. This accumulation of
GHGs has contributed to an increase in the temperature of the earth’s atmosphere and contributed to global climate change.

The principal GHGs are carbon dioxide (CO$_2$), methane (CH$_4$), nitrous oxide (N$_2$O), sulfur hexafluoride (SF$_6$), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and water vapor (H$_2$O). CO$_2$ is the reference gas for climate change because it is the predominant greenhouse gas emitted. To account for the varying warming potential of different GHGs, GHG emissions are often quantified and reported as CO$_2$ equivalents (CO$_2$e).

In 2005, in recognition of California’s vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide emission of GHG would be progressively reduced, as follows:

- By 2010, reduce greenhouse gas emission to 2000 levels;
- By 2020, reduce greenhouse gas emission to 1990 levels; and
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

In response to Executive Order S-3-05, the Secretary of Cal/EPA created the Climate Action Team (CAT), which, in March 2006, published the Climate Action Team Report to Governor Schwarzenegger and the Legislature (2006 CAT Report). The 2006 CAT Report identified a recommended list of strategies that the state could pursue to reduce climate change greenhouse gas emissions. These are strategies that could be implemented by various state agencies to ensure that the Governor’s targets are met and can be met with existing authority of the state agencies.

In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Section 38500, et seq., or AB 32), which requires the California Air Resources Board (ARB) to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020.

As a central requirement of AB 32, the ARB was assigned the task of developing a Climate Change Scoping Plan that outlines the state’s strategy to achieve the 2020 GHG emissions limits. This Scoping Plan, which was developed by the ARB in coordination with the CAT, includes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce the state’s dependence on oil, diversify the state’s energy sources, save energy, create new jobs, and enhance public health. An important component of the plan is a cap-and-trade program covering 85 percent of the state’s emissions. Additional key recommendations of the Scoping Plan include strategies to enhance and
expand proven cost-saving energy efficiency programs; implementation of California’s clean cars standards; increases in the amount of clean and renewable energy used to power the state; and implementation of a low-carbon fuel standard that will make the fuels used in the state cleaner. Furthermore, the Scoping Plan also proposes full deployment of the California Solar Initiative, high-speed rail, water-related energy efficiency measures, and a range of regulations to reduce emission from trucks and from ships docked in California ports. The Climate Change Scoping Plan was approved by the ARB on December 22, 2008. According to the September 23, 2010 AB 32 Climate Change Scoping Plan Progress Report, 40 percent of the reductions identified in the Scoping Plan have been secured through ARB actions and California is on track to its 2020 goal.

Although not originally intended to reduce GHGs, California Code of Regulations (CCR) Title 24, Part 6: California’s Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California’s energy consumption. Since then, Title 24 has been amended with recognition that energy-efficient buildings require less electricity and reduce fuel consumption, which in turn decreased GHG emissions. The current 2010 Title 24 standards were adopted to respond, amongst other reasons, to the requirements of AB 32. Specifically, new development projects within California after January 1, 2011 are subject to the mandatory planning and design, energy efficiency, water efficiency and conservation, material conservation and resources efficiency, and environmental quality measures of the California Green Building Standards (CALGreen) Code (California Code of Regulations, Title 24, Part 11).

a. Less than Significant. The proposed project would result in short-term emissions of GHGs during construction. These emissions, primarily carbon dioxide (CO$_2$), methane (CH$_4$), and nitrous oxide (N$_2$O), are the result of fuel combustion by construction equipment and motor vehicles. The other primary GHGs (hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) are typically associated with specific industrial sources and are not expected to be emitted by the proposed project. As described in the air quality section, the use of heavy-duty construction equipment would be very limited. Therefore the emissions of CO$_2$ from construction would be minimal.

The project would also result in direct annual emissions of GHGs during operation. Direct emissions of GHG from operation of the proposed project are primarily due to natural gas consumption in the buses used for the BRT service. The project would not result in emissions of GHG from any other sources.

The SJVAPCD does not have a numerical threshold for GHG emissions, but instead uses a point system for determining significance. This point system is based on a list of GHG reduction measures, best performance standards (BPS), applicable to development projects. If a project is found to have applied BPS, it is less than significant. Specific measures included as BPS are listed in the air district’s Climate Change Action Plan.
One of the items frequently included in measures applicable to land use developments is proximity to or other coordination with planned bus rapid transit. That is, developments that encourage residents or employees to make use of the BRT system are awarded points in the BPS system. From this it can be reasoned that the BRT itself, as a portion of the BPS system, must therefore be a recognized source of reductions in GHG emissions for the area and in compliance with BPS. Consequently, emissions are considered to be less than significant.
6.7 Geology and Soils

<table>
<thead>
<tr>
<th>GEOLOGY AND SOILS – Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>ii. Strong seismic ground shaking?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>iii. Seismic-related ground failure, including liquefaction?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>iv. Landslides?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b. Result in substantial soil erosion or the loss of topsoil?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to geology and soils. As described below, the proposed project would have less than significant impacts to geology and soils, which is consistent with the Final MND. Therefore, the proposed project would not result in any new potentially significant geology and soils effects that were not identified in the Final MND or a substantial increase in the severity of any previously identified significant geology and soils effects.

Discussion

a. No Impact. No active earthquake faults or Alquist-Priolo Special Fault Study zones are identified in the Fresno metropolitan area. However, the proposed project would be subject to seismic ground shaking from fault systems in the region. The proposed project is in a topographically flat area that is not subject to landslide hazard, and the well-drained alluvial soils that underlie the City present.
minimal potential for liquefaction during earthquakes. The proposed project does not include the
development of structures other than bus shelters and therefore would not expose any structures to
risk of loss. In addition, the proposed project would only serve existing population and therefore,
would not expose any people to any additional risk. Therefore, no impact related to seismic events
would occur with implementation of the project.

b. No Impact. The proposed project is located in an urbanized area with few areas of exposed soil that
could be subject to erosion. Project construction for bus shelters would occur within the existing
developed right of way and would require little ground disturbance, therefore soil erosion would not
be expected to occur.

c. No Impact. As discussed above, the soils underlying the project area are well-drained alluvial soils
that present minimal potential for liquefaction or geologic instability. Therefore, the proposed project
would not be located on an unstable geologic unit.

d. No Impact. Expansive soils are present in the project area. However, the proposed project does not
include the construction of residential or commercial structures that could be subject to hazards
related to such soils. No impact would occur.

e. No Impact. No wastewater disposal system involving the use of septic tanks, leach fields, or
alternative sewage disposal systems that depend upon appropriate soil regimes are currently in use
at the project site. No associated impacts from wastewater disposal systems would occur.
### 6.8 Hazards and Hazardous Materials

<table>
<thead>
<tr>
<th>HAZARDS AND HAZARDOUS MATERIALS – Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e. For a project located within an airport land use plan or, where such plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>h. Expose people or structures to a significant risk of loss, injury, or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to hazards and hazardous materials. As described below, none of the proposed project’s construction activities or operating services would result in contact with hazards or hazardous materials. As identified in the Final MND, if during construction hazardous materials are discovered Mitigation Measure HAZ 1 will be implemented, which is consistent with the Final MND. Therefore, the proposed project would not result in any new potentially significant hazardous effects that were not identified in the Final MND or a substantial increase in the severity of any previously identified significant hazardous effects.
Discussion

a. Less than Significant Impact. Operation of the proposed project would not involve the routine, use transport, and/or disposal of hazardous materials. The proposed project would consist of bus loading, unloading, and transit areas only and would not require the use or transportation of hazardous materials within the project area. Therefore, no impact related to the transportation of hazardous materials would occur.

b. Less than Significant Impact. Construction of the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Construction-related hazardous materials (fuels, etc.) would be used that could potentially result in adverse environmental impacts through accidental discharges associated with storage, vehicle operation (e.g., refueling), or maintenance.

Significant project-related impacts would be avoided or adequately minimized with implementation of regulatory requirements, industry standards, and Best Management Practices (BMPs). Construction activities would be required to comply with existing regulations related to hazardous waste disposal and short-term water quality impacts related to erosion/sedimentation (e.g., acquisition of an National Pollutant Discharge Elimination System [NPDES] General Construction Activity Storm Water Permit and implementation of a Stormwater Pollution Prevention Plan [SWPPP]). Therefore, the project would not result in any long-term impacts. As a result, no significant impacts to worker and/or public health and safety would occur.

c. Less than Significant Impact. There are a number of schools within 0.25 mile of the proposed BRT route; however, buses are not utilized to transport hazardous material substances. Any potential impact would be avoided through implementation of regulatory requirements, industry standards, and BMPs. Therefore, no significant hazardous materials impacts to schools would result from project implementation.

d. Less than Significant Impact with Mitigation. The proposed project would be developed within existing street rights-of-way. The project would be located adjacent to sites identified as subject to existing hazardous conditions. A records search conducted for the project area indicates that federal and state databases record numerous sites near the project area that are subject to existing hazardous conditions as described in the Final MND. However, the continuing operation of bus service in the area would not create a new hazardous condition or exacerbate an existing hazardous condition. Although the majority of construction activity would occur on paved surfaces within the existing right of way, due to the proximity of leaking underground storage tanks (LUSTs) to the project site, the potential for the release of hazardous materials exists. Adoption of the following mitigation measure shall reduce potentially significant impacts resulting from the hazardous materials sites to less than significant. The following mitigation measure from the Final MND applies to the proposed project and will be implemented to ensure potential hazards and hazardous materials impacts remain less than significant.
HAZ I: Any construction activities at the proposed bus stations shall be monitored for environmental concern, such as impacted soils and/or soil vapor emissions that might threaten public health, the environment, and construction personnel. In addition, any soil designated for removal and/or exportation from the project site should be sampled for waste characterization to identify appropriate disposal methods.

e. - f. No Impact. The project site is located approximately 4 miles west of Fresno Yosemite International Airport and is not within the airport’s influence area. No other private airstrips are located within 2 miles of the project site. Therefore no impact would occur.

g. No Impact. The proposed project would not impair or physically interfere with an adopted emergency response or evacuation plan. Proposed improvements such as upgrading signal equipment would enhance rather than hinder or block traffic flows, and primary access to all major roads would be maintained during construction of the proposed project. During project operation, buses serving stations will briefly block traffic in the curb lane; however, this would not impede the progress of emergency vehicles. Therefore, no associated impacts would occur.

h. No Impact. The proposed project is located in a developed, institutional/commercial/residential area. No wildlands are located in the project vicinity. Therefore, no impacts related to wildland fires would occur.
6.9 Hydrology and Water Quality

<table>
<thead>
<tr>
<th>HYDROLOGY AND WATER QUALITY – Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Violate any water quality standards or waste discharge requirements?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>f. Otherwise substantially degrade water quality?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>h. Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>j. Inundation by seiche, tsunami, or mudflow?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to hydrology or water quality. As described below, the proposed project would have less than significant impacts on the hydrology and water quality, which is consistent with the Final MND. Therefore, the proposed project would not result in any new potentially significant hydrologic resources or water quality effects that were not identified in the Final MND or a substantial increase in the severity of any previously identified significant hydrologic resources or water quality effects.
Discussion

a. Less than Significant Impact. Potential water quality impacts associated with the proposed project would include short-term construction-related erosion/sedimentation and long-term operational storm water discharge. The short-term water quality impacts related to erosion/sedimentation would be less than significant based on conformance with existing regulatory requirements (i.e., acquisition of an NPDES General Construction Activity Storm Water Permit and implementation of a SWPPP).

Long-term water quality impacts associated with the project would include generation of minor quantities of urban contaminants, such as petroleum compounds, metals, and other types of contaminants that typically accumulate on roadways. Long-term water quality impacts would be addressed through compliance with NPDES guidelines for municipal storm water runoff in accordance with requirement of the Central Valley Regional Water Quality Control Board (RWQCB). The RWQCB requires that pollutant discharges and runoff from development are reduced to the maximum extent practicable and that receiving water quality objectives are not violated throughout the life of the project through implementation of source control and structural post-construction BMPs. Implementation of required BMPs would ensure that long-term water quality impacts associated with the proposed project would be less than significant.

b. No Impact. The project does not propose the use of groundwater. The project site is currently covered with impervious surfaces that have low absorption rates. The project would not significantly impact local groundwater recharge due to the relatively small development area involved and the fact that the project would not substantially increase the impervious surface area.

c.—e. Less than Significant Impact. Stormwater management in the project area is the responsibility of the Fresno Metropolitan Flood Control District (FMFCD). FMFCD infrastructure in the area includes street drains, conveyance infrastructure, and flood control basins. The proposed project would be constructed within existing street rights-of-way. As discussed in the project description, some curb alterations may be required, and existing street lanes would be dedicated as BAT lanes. However, the proposed project would not alter existing storm drains or otherwise alter existing drainage patterns in the project area. No new areas of impermeable surfaces would be added as a result of project construction. Therefore, no changes in runoff volumes or drainage patterns is expected.

f. Less that Significant Impact. The proposed project would not substantially degrade water quality. Implementation of standard BMPs during construction, and storm drains, would reduce potential water quality impacts to less than significant.

g. No Impact. The proposed project does not involve construction of residential units or any other substantial structures. Based on Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), the BRT route lies within Zone X, indicating that or these areas have been determined to be inside the 500-year floodplain but outside the 100-year floodplain. The route does traverse stormwater drainage canals that are identified as within the 100-year flood hazard area, but these features are subgrade conveyance infrastructure and would not subject operation of the proposed BRT line to flood hazard during a 100-year storm event. Further, the roads identified for the proposed BRT route are not known to be prone to frequent flooding during typical storm events. Therefore, no associated impacts related to flooding would occur.
h. No Impact. The proposed project does not include any substantial grading or fill that would impede or redirect water flow. In addition, the roads identified for the proposed BRT route are not known to be prone to frequent flooding during typical storm events. No associated impacts related to flooding would occur.

i. No Impact. The project route is not subject to flooding. The project route is not located within the vicinity of any reservoir dam structures. Therefore, the potential for inundation due to dam failure is nonexistent. No associated flooding impacts would occur.

j. No Impact. The project route also is not in close proximity to any large reservoirs or other surface waters. Therefore, the project route would not be subject to inundation impacts from seiches or tsunamis. Additionally, the project site would not be subject to impacts related to inundation by mudflow based on the location and topography in the project area. Therefore, implementation of the proposed project would not result in impacts related to inundation by seiche, tsunami, or mudflow.
6.10 Land Use and Planning

<table>
<thead>
<tr>
<th>LAND USE AND PLANNING – Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant Impact with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Physically divide an established community?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b. Conflict with applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c. Conflict with any applicable habitat conservation plan or natural community conservation plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to the City’s designated land uses. The proposed project as adopted in the Final MND would have required the removal of bicycle lanes that are part of the Fresno Bicycle, Pedestrian, & Trails Master Plan. However, changes to the proposed project as described in this Subsequent MND amend the proposed project and no longer include the removal of any bicycle lanes. Therefore, the proposed project would not result in any new potentially significant land use effects that were not identified in the Final MND, or a substantial increase in the severity of any previously identified significant land use effects.

Discussion

a. No Impact. The proposed project would not be incompatible with all such designations/zones and associated adjacent land uses. Provision of a transit route within the project area would be a compatible and beneficial use. Moreover, implementation of the proposed project would not change existing land uses. The project would be located within existing roadways that currently include bus operations. No new roads, structures, or other improvements would be developed that would divide or separate neighborhoods or physically divide an established community. Therefore, no associated land use impacts would occur.

b. No Impact. The proposed project would not conflict with applicable land use plans, policies, or regulations included in the General Plan. General Plan policies that would apply to the proposed project are shown in Table 4 along with an analysis of the proposed project’s consistency with each policy.
**Table 4**

<table>
<thead>
<tr>
<th>Objective/Policy</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective E-1:</td>
<td>Provide a complete and continuous streets and highways system throughout the Fresno metropolitan area that is safe for vehicle users, bicyclists, and pedestrians and that provides efficient movement of people and goods consistent with the goals of [the General Plan].</td>
</tr>
<tr>
<td>Policy E-1-h:</td>
<td>Participate in the development of freeways and other transportation corridors within the Fresno-Clovis Metropolitan Area as multi-modal transportation corridors. The proposed project would provide express bus service along a major transit route, including connections to two existing transit centers, supporting the provision of multimodal transit service in the City. The project would therefore not conflict with this policy.</td>
</tr>
<tr>
<td>Policy E-1-l:</td>
<td>All commercial and office development should be located with pedestrian, bicycle, and transit facilities. The proposed project would provide transit service along a corridor with substantial commercial and office development. The project would therefore not conflict with this policy.</td>
</tr>
<tr>
<td>Objective E-8:</td>
<td>Provide public transportation opportunities to the maximum number of people in the service area. The proposed project would increase the frequency of bus service while slightly reducing the number of bus stops along the project route. The increased frequency of service would allow FAX to accommodate anticipated growth in bus ridership. The project would therefore not conflict with this policy.</td>
</tr>
<tr>
<td>Policy E-8-a:</td>
<td>Provide a transit system that meets the public transportation needs of the service area. The proposed project would increase the frequency of bus service while slightly reducing the number of bus stops along the project route. The increased frequency of service would allow FAX to accommodate anticipated growth in bus ridership. The project would therefore not conflict with this policy.</td>
</tr>
<tr>
<td>Policy E-8-f:</td>
<td>Provide transit services that serve the elderly and physically impaired. Level-boarding platforms are proposed at the new bus stations proposed by the project. The level-boarding platforms will be constructed to American with Disabilities Act (ADA) standards and will be designed to work with existing or future BRT vehicles. The project would therefore not conflict with this policy.</td>
</tr>
<tr>
<td>Objective E-9:</td>
<td>Provide quality, convenient, and reliable public transportation service through an efficient and effective public transportation system. Transit service is currently available in the project area. The proposed project would increase the frequency of bus service while slightly reducing the number of bus stops along the project route. The increased frequency of service would allow FAX to accommodate anticipated growth in bus ridership. The project would therefore not conflict with this policy.</td>
</tr>
<tr>
<td>Policy E-9-a:</td>
<td>Promote and support the implementation of the principal transit corridor and transit/corridor route network as shown in [General Plan] Exhibit 8</td>
</tr>
<tr>
<td>Policy E-9-b:</td>
<td>Encourage safety, appropriate frequency of bus service, reasonable fares, and the provision of adequate service to satisfy the reasonable transit needs of patrons</td>
</tr>
<tr>
<td>Policy E-9-g:</td>
<td>Public transportation should be cost effective and beneficial</td>
</tr>
<tr>
<td>Policy E-9-h:</td>
<td>Support and participate in the provision of an integrated multimodal transportation system</td>
</tr>
<tr>
<td>Policy E-9-i:</td>
<td>Support implementation of a multimodal transportation system management program to provide safe and efficient intermodal connections and provide the maximum feasible access to multiple modes of transportations throughout the metropolitan area</td>
</tr>
<tr>
<td>Policy E-9-j:</td>
<td>Coordinate service to facilitate multimodal and intersystem transfer</td>
</tr>
<tr>
<td>Policy E-9-k:</td>
<td>Locate and design transportation system improvements to promote the coordination and continuity of all transportation modes and facilities, including park and ride facilities at major activity areas such as the Woodward Park Business Center at Friant Road and Freeway 41</td>
</tr>
<tr>
<td>Objective G-1:</td>
<td>In cooperation with other jurisdictions and agencies in the San Joaquin Valley Air Basin, take necessary actions to achieve and maintain compliance with state and federal air quality standards</td>
</tr>
<tr>
<td>Policy G-1-d:</td>
<td>Continue to implement broad scale general plan strategies to decrease the generation of air pollution through the reduction of vehicle miles traveled, excessive vehicle traffic congestion, and excessive engine idling by implementation of public transportation and other alternatives to private automobile travel</td>
</tr>
<tr>
<td><strong>Objective/Policy</strong></td>
<td><strong>Analysis</strong></td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------</td>
</tr>
</tbody>
</table>
| Policy G-1-k: Continue efforts to improve Fresno Area Express technical performance, emission levels, and system operations, through such measures as:  
  - Select and maintain bus engines, transmissions, fuels, and air conditioning equipment for efficiency and low air pollution emissions  
  - Site new transit centers and other multi-modal transportation transfer facilities to maximize utilization of mass transit  
  - Continue efforts to improve on-time performance, increase frequency of service, extend hours of service, add express bus service, and align routes to capture as much new ridership as possible  
  - Initiate a program to allow employers and institutions (e.g., educational facilities) to purchase blocks of bus passes at a reduced rate to facilitate their incentive programs for reducing single-passenger vehicle use | The proposed project would provide connectivity to two existing multimodal transit centers, and would accommodate a larger number of riders than the existing bus routes. Frequency of service would be increased as part of the project. Therefore, the project would not conflict with this policy. |
| Policy G-1-p: Evaluate and pursue long-range transportation measure that are determined to be effective in reducing air pollution, including the following:  
  - Development of express bus corridors on principal transit routes and light rail service in railroad rights-of-way that are proposed for abandonment in the city  
  - Determine feasibility and pursue implementation of a mass-transit corridor using a fixed or automatic guideway system or other suitable state-of-the-art people-mover technology to support the planned high residential densities and intensive uses in the city's Mid-Rise/High-Rise Corridor along Freeway 41, extending from Freeway 99 northerly to Audobon Drive  
  - Addition of high occupancy vehicle (HOV) travel lanes on freeways serving the Fresno-Clovis-Madera urban area  
  - Identify and pursue measures that enhance the city's ability to obtain or use land for on-site bus turning and parking areas and construct attendant employee and passenger facilities | The proposed bus route is identified in the General Plan as a Principal Transit Route, and would connect to existing multimodal transit centers. The project would not conflict with this policy. |
| Objective H-1: Protect the citizens of the city from the harmful and annoying effects of exposure to excessive noise | As discussed below, the proposed project would increase bus service in the project area, but is not expected to result in perceptible increases in the ambient noise level during operation. The project would be consistent with this policy. |
| Policy H-1-j: Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so that resulting noise levels do not exceed the adopted standards at noise-sensitive land uses |  |
c. No Impact. The project site is not located within any habitat conservation plan or natural community conservation plan. The project site is designated for transportation. In addition, the project site is fully developed and does not contain sensitive habitat or species that would require mitigation. Therefore, impacts related to conflict with adopted habitat conservation plans would not occur.
6.11 Mineral Resources

<table>
<thead>
<tr>
<th>MINERAL RESOURCES – Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>☒</td>
</tr>
<tr>
<td>b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?</td>
<td>❌</td>
<td>❌</td>
<td>❌</td>
<td>☒</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to mineral resources. As described below, the proposed project would have less than significant impacts to mineral resources, which is consistent with the Final MND. Therefore, the proposed project would not result in any new potentially significant mineral resources effects that were not identified in the Final MND or a substantial increase in the severity of any previously identified significant mineral resources effects.

Discussion

a. No Impact. The principal mineral resources in the Fresno area are aggregate materials found along the San Joaquin River corridor. The Fresno General Plan’s Aggregate Mineral Resource Zones (MRZ) Map indicates that the project area is located in MRZ-3, an area with potential but unproven mineral resources. The project site has not been used for mineral resource recovery and is not delineated as a mineral resource recovery site on any land use plans; therefore the proposed project would not change the existing availability of mineral resources that would be of value to the region and residents of the state. The project is located in an urban area with little to no undeveloped land and would not affect the recovery of mineral resources by eliminating access to subsurface resources. No impact would occur.

b. No Impact. No known locally important mineral resource recovery site is located on the project site or within the vicinity of the project site; therefore, impacts to mineral resources would not occur as a result of project implementation.
6.12 Noise

<table>
<thead>
<tr>
<th>NOISE – Would the project result in:</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b. Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to noise. As described below, the proposed project would have less than significant impacts to noise levels, which is consistent with the Final MND. Therefore, the proposed project would not result in any new potentially significant noise effects that were not identified in the Final MND or a substantial increase in the severity of any previously identified significant noise effects.

Discussion

a. Less than Significant Impact. The City of Fresno General Plan identifies normally and conditionally acceptable exterior noise levels for specific land use categories that range from 60–70 dB(A) at low-density residential land uses to 75–80 dB(A) at industrial and agricultural land uses.\(^1\) The proposed BRT route passes by noise-sensitive uses including residential development and schools.

The principal sources of noise during construction would be the diesel engines of construction equipment and the tools used to remove curbs, paving, and similar features, such as concrete saws, jackhammers, and hoe-rams. Short-term, maximum noise levels from this equipment would be

approximately 85 to 90 A-weighted decibels (dB(A)) at a distance of 50 feet. Construction would occur during the hours allowed by the noise ordinance. Therefore, no persons would be exposed to noise levels in excess of the applicable standards,

Short-term construction noise levels from jackhammers and concrete saws would create a potentially significant impact. Adoption of the mitigation measures stated below would reduce this impact to less than significant.

Short-term construction noise levels from jackhammers and concrete saws would exceed the noise level standards established in the City’s General Plan. However, Section 10-109 of the City of Fresno Municipal Code exempts construction noise when the construction is accomplished pursuant to a City-issued construction permit and is performed between the hours of 7:00 AM and 10:00 PM on any day except Sunday. Compliance with City regulations regarding construction hours would ensure that potential construction noise impacts are less than significant.

The primary source of noise in the project area is traffic noise, which includes existing bus service in the area. For most observers, an increase in noise level less of 3 dB(A) is the threshold at which the increase becomes noticeable. Such an increase requires a doubling of the noise source. Thus, a doubling of existing traffic volumes would result in a noticeable increase in the noise level.

The project area is currently served by two bus routes that would be replaced by the proposed project. Although the proposed BRT route would occur more frequently (with 10- to 15-minute headways compared to the existing 20-minute headways). Additional features associated with the project, such as queue jump and signal timing would reduce the overall amount of acceleration associated with bus and other traffic on the roadways. Therefore, the proposed project would not substantially increase the amount of traffic on the affected roadways, and would therefore not cause a substantial increase in traffic noise.

b. No Impact. Heavy construction operations can cause groundborne vibration. The heaviest equipment, such as pile drivers or large bulldozers, can generate vibrations of 0.089 to 1.52 inches per second peak particle velocity (PPV) at a distance of 25 feet. It is not anticipated that any of this heaviest equipment would be used on the proposed project. The equipment with the greatest vibration potential that may be used on the proposed project is a jackhammer, with a source level of 0.035 inches per second PPV at 25 feet. There are no applicable City, state, or federal standards for vibration. The Federal Transit Administration (FTA) recommends maximum limits of 0.2 inch per second PPV for fragile buildings and 0.12 inch per second PPV for very fragile buildings. It is not anticipated that jackhammer operations would be closer than 15 feet to buildings, and vibration would not exceed 0.2 inch per second PPV. The impact to buildings would be less than significant.

For people passing within 25 feet of the operations, vibration from jackhammer use would be perceptible, but not excessive, and the exposure to vibration would be transient. The impact would be less than significant.

c. Less than Significant. Ambient noise levels in the project vicinity result from traffic traveling along the project route and adjacent roadways. Bus noise is a very small part of the overall vehicle noise. Implementation of the proposed project would result in an increase in average speed for the bus traffic, and a corresponding increase in bus noise. The project proposes the operation buses on a 10-minute frequency (six buses per hour) during peak hours and a 15-minute frequency (four buses
per hour) during off-peak hours in each direction. These buses will replace the current routes which operate on a 20-minute frequency in each direction throughout the day. Therefore, three trips per hour are added in each direction during the peak hours with implementation of the proposed project. Older buses will be replaced with newer buses anticipated to be quieter and more fuel-efficient. It is anticipated that the addition of three buses per hour is negligible compared to the traffic that travels through the corridor. Additionally, objectives of the proposed project include making transit more attractive and increasing the number of transit riders. The result would be a reduction in non-transit vehicle trips and a reduction in vehicle noise. Physical improvements at the stations would reduce the length of time a bus would idle while picking up or discharging passengers and queue jump and signal timing would also reduce idle time and acceleration noise associated with the buses. The changes in ambient noise levels would be imperceptible, and the impact would be less than significant.

d. Less than Significant. See discussion in **Subsection 12 (a)**, above.

e., f. No Impact. The project area is not within the airport land use plan of a public airport, nor is it located in the vicinity of a private airstrip. Implementation of the project would not change the exposure of people to existing aircraft noise levels.
### 6.13 Population and Housing

<table>
<thead>
<tr>
<th>POPULATION AND HOUSING – Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to the City’s population and housing. As described below, the proposed project would have less than significant impacts related to population and housing, which is consistent with the Final MND. Therefore, the proposed project would not result in any new potentially significant population and housing effects that were not identified in the Final MND or a substantial increase in the severity of any previously identified significant population and housing effects.

**Discussion**

a. No Impact. The Fresno area is one of the fastest growing communities in the Central Valley. Fresno County’s current population is around 943,493 (California Department of Finance, Demographic Unit, January 1, 2012 estimate). Besides being the state’s tenth most populous, the County is the sixth largest in area, straddling the Central Valley and containing rich farmlands that have made it the nation’s top producing agricultural county in terms of the value of farm products. Fresno City population is currently estimated at 503,039 (53 percent of the County total). The proposed project does not include the development of housing and implementation of the proposed project would not directly induce population growth. The project site is located in a highly developed urban area with commercial and residential areas. The proposed project would not provide substantial new employment that would foster migration. No new roads, road extensions, or bridges are proposed with the project. No impacts related to population growth inducement would occur.

b. No Impact. The project would occur within existing road rights-of-way and would not affect existing housing or displace any residents. No associated impacts would occur.

c. No Impact. The project would occur within existing road rights-of-way and would not affect existing housing or displace any residents. No associated impacts would occur.
6.14 Public Services

<table>
<thead>
<tr>
<th>PUBLIC SERVICES</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>i. Fire protection?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>ii. Police protection?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>iii. Schools?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>iv. Parks?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>v. Other governmental services?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to public services. As described below, the proposed project would have less than significant impacts to public services, which is consistent with the Final MND. Therefore, the proposed project would not result in any new potentially significant public services effects that were not identified in the Final MND or a substantial increase in the severity of any previously identified significant public services effects.

**Discussion**

a.i. No Impact. The project consists of changes to bus service within the project area, and would not generate new residents and therefore would not result in a demand for new or altered fire protection services.

a.ii. No Impact. The project consists of changes to bus service within the project area, and would not generate new residents and therefore would not result in a demand for any new or altered police protection services.

a.iii. No Impact. The proposed project would not generate students; therefore, it would not increase the demand for schools in the area.

a.iv. No Impact. The proposed project could increase access to local parks to a minimal degree, potentially increasing demand for park and recreation services, but it is unlikely that any such increase would be large enough to require facility upgrades or increased services.
a.v. No Impact. The project site is currently served by existing gas and electric facilities. The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered facilities. The proposed project would not increase the demand for electricity and gas facilities.
6.15 Recreation

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECREATION – Would the project:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to recreation. As described below, the proposed project would have less than significant impacts on recreation, which is consistent with the Final MND. Therefore, the proposed project would not result in any new potentially significant recreation effects that were not identified in the Final MND or a substantial increase in the severity of any previously identified significant recreation effects.

Discussion

a. No Impact. Existing recreational facilities are located within the project vicinity. Sunnyside Park, Trolley Creek Park, Pilibos Soccer Park, Mosqueda Park, Holmes Playground, Dicky Playground, Camelot Park, Euless Park, Lafayette Park, Manchester Park, Cary Park, Rotary Park, Robinson Park, and Woodward Park are located within 0.5 mile of the proposed BRT route. Operation of the proposed rapid bus route would not substantially increase the use of these existing facilities, nor would it result in an increase in the demand for any new or altered park facilities. The proposed project could provide increased opportunities for local park access and therefore a negligible increase in demand for park and recreation services at parks along the new rapid bus route. However, if any increase in use were to be experienced, it would be minimal and would not be large enough to require facility upgrades or increased services. Therefore, no impacts related to recreational facilities would occur.

b. No Impact. The project does not include or require the construction or expansion of recreational facilities. No associated impacts to recreational facilities would occur.
TRANSPORTATION/TRAFFIC – Would the project:

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and nonmotorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?</td>
<td>☑</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>b.</td>
<td>Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>c.</td>
<td>Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>d.</td>
<td>Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>e.</td>
<td>Result in inadequate emergency access?</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>f.</td>
<td>Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>

A traffic analysis memo for the proposed project without the BAT or semi-dedicated bus lanes was prepared by Fehr & Peers in August 2013 and is included in Appendix A. The study analyzed the proposed BRT’s effects on intersection traffic operations, bicycle, pedestrian, and transit facilities, and on-street parking without the BAT lanes. The Without BAT Lanes scenario would only affect transportation conditions along Ventura Avenue and Kings Canyon Road from Parallel Avenue to Winery Avenue. Therefore, the findings presented in the 2012 TIA would remain the same for the Without BAT Lanes scenario for the following locations: Blackstone Avenue/Abby Street corridor, Downtown Fresno, and Kings Canyon Road east of Winery Avenue. Mitigation measures previously identified would remain applicable to the proposed project and are included in this Subsequent MND. This reevaluation of the proposed project identified one intersection that would experience conditions that would result in a significant impact. This intersection, Kings Canyon Road/Maple Avenue would worsen compared to conditions in the Final MND. However, as shown below, impacts would be less than significant with implementation of mitigation. Therefore, traffic impacts associated with the proposed project would be
less than significant with implementation of mitigation measures. This proposed finding is consistent with the Final MND.

Cumulative impacts were identified in the 2012 TIA and the 2013 TIA indicates that the Cumulative Plus Project Without BAT Lanes scenario would potentially degrade traffic operations at the five referenced intersections. While increased delay caused by the proposed project at these intersections would potentially be cumulatively considerable, and initially have a significant impact on traffic operations, Mitigation Measures TRAF 2 and TRAF 3 would reduce the impact to less than significant. This finding is consistent with the Final MND.

The December 2012 transportation impact study identified that the original proposed BRT project would require removing the existing bike lane facility on Ventura Avenue/Kings Canyon Road west of Winery Avenue resulting in a significant impact to bicycle facilities. Under the Without BAT Lanes scenario, this bike lane facility would not be removed and would, no longer be significantly impacted. Therefore the bicycle lane mitigation measure provided in the Final MND which referenced the bicycle facility above is no longer necessary has been removed from the Subsequent MND.

City of Fresno

The City of Fresno provides for the mobility of people and goods within the City. The majority of the study intersections are within the City’s jurisdiction. The City of Fresno adopted the 2025 Fresno General Plan in 2002 as an update to the previous 1984 Fresno General Plan. The 2025 Fresno General Plan serves as the community’s guide for the continued development, enhancement, and revitalization of the Fresno metropolitan area. The General Plan includes the following policies related to transportation and circulation that are relevant to this analysis:

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 Council of Fresno County Governments (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-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-7-d: Support the development of a multimodal transportation terminal facility in, or in close proximity to, the Central Area.

Policy E-9-s: Promote the development of the Central Area as the region’s principal employment center and public transportation hub.

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.

City of Fresno Bicycle, Pedestrian, & Trails Master Plan

The City of Fresno Bicycle, Pedestrian, & Trails Master Plan (2010) is intended to guide and influence bikeway policies, programs, and development standards to encourage bicycling in the City of Fresno. 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
- Encouragement, education, and enforcement programs designed to increase bicycling in Fresno
- Implementation steps for the planned bicycle network

California Department of Transportation (Caltrans)

The California Department of Transportation (Caltrans) is responsible for operating and maintaining the state highway system. In the project vicinity, State Routes 41, 99, and 180, along with all the freeway ramp terminal intersections, fall under Caltrans jurisdiction.

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.

The Guide for the Preparation of Traffic Impact Studies states that “Caltrans endeavors to maintain a target LOS at the transition between LOS “C” and LOS “D” on state highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.” Previous conversations with Caltrans staff have
indicated that Caltrans would be willing to consider LOS D at the LOS D/E threshold. The Guide for the Preparation of Traffic Impact Studies also states that where “an existing state highway facility is operating at less than the appropriate target LOS, the existing measure of effectiveness (MOE) should be maintained.”

Discussion

a. Less than Significant With Mitigation. Construction of the proposed project may include disruptions to the transportation network, including temporary lane closures, closing sidewalks, and bike lanes. Heavy vehicles may be needed for constructing new station platforms, and may need to be staged for construction. These activities could result in degraded roadway operations and affect existing bicycle and pedestrian facilities. This impact would be significant without mitigation.

Baseline Conditions

The following describes the primary roadway facilities that would be used by the proposed project:

Blackstone Avenue is a north-south arterial roadway that extends north from Downtown Fresno to its interchange with SR 41 just north of Nees Avenue. North of Olive Avenue, Blackstone Avenue is a two-way, six-lane divided arterial with a posted speed limit of 40 to 45 miles per hour (mph). From just north of Olive Avenue to Downtown Fresno, Blackstone Avenue splits into a one-way couplet with Blackstone Avenue carrying southbound traffic and Abby Street carrying northbound traffic. Both Blackstone Avenue and Abby Street south of Olive Avenue have three travel lanes with a posted speed limit of 40 mph. On street parking is permitted on several sections of the road.

Ventura Avenue/Kings Canyon Road is a four-lane, divided arterial roadway that begins in Downtown Fresno and extends east. West of Cedar Avenue, the roadway is Ventura Avenue. East of Cedar Avenue is Kings Canyon Road. The roadway has a posted speed limit of 30 mph in Downtown Fresno, 35 mph east of R Street, 40 mph east of Peach Avenue, and 45 mph east of Minnewawa Avenue. On-street parking is generally permitted west of Chestnut Avenue and generally prohibited east of Chestnut Avenue.

Fresno Street is a four-lane roadway that originates at West California Avenue on the south and terminates at North Friant Road on the north. It generally travels north-south through much of Fresno and along a northeast-southwest orientation in Downtown. The roadway has a posted speed limit of 30 mph in Downtown Fresno and 45 mph in North Fresno.

Van Ness Avenue is a roadway that originates on the south at Railroad Avenue and travels north through the Tower District. In Downtown, it is generally a two- to four-lane, two-way street on a northwest-southeast orientation with a posted speed limit of 30 mph.

The 2013 study analyzed transportation impacts to the Ventura Avenue/Kings Canyon Road corridor from R Street to Willow Avenue by comparing intersection LOS analysis results against LOS policies set forth by the City of Fresno and Caltrans. Appendix A presents the AM and PM peak hour delay and level of service (LOS) at each study intersection for baseline conditions. This analysis is limited to the Ventura Avenue and Kings Canyon segments of the BRT route as all other segments were analyzed in the Final MND and would be affected by the removal of the BAT lanes from the
proposed project. Based on the results in Appendix A and the LOS policies identified above, the following intersections operate at an unacceptable LOS during the AM and/or PM peak hour:

- Maple Avenue/Kings Canyon Road – LOS F – PM
- Winery Avenue/Kings Canyon Road – LOS E – PM

Implementation of the BRT project would replace existing local service provided by FAX Route 28 in the Ventura Avenue/Kings Canyon Road corridor and FAX route 30 in the Blackstone Avenue corridor. Route 28 would be discontinued east of Downtown and Route 30 would be discontinued north of Downtown. It is anticipated that the remainder of Route 28 north of Downtown Fresno and Route 30 west of Downtown Fresno would remain in service.

Key components of the BRT project that will affect traffic operations include:

- Transit Signal Priority (TSP)
- Queue Jump (QJ)/Bus Only Phases
- New Transit Stations and Locations
- Lane Configuration Changes

Intersections that operate at LOS C, D, E, or F under baseline conditions were analyzed using Synchro analysis. Based on significance criteria outlined previously, the proposed project would cause a significant impact at the following location during the AM and/or PM peak hour:

- Kings Canyon Road/Maple Avenue-PM peak hour

The proposed mitigation measure for this intersection includes striping a westbound right-turn lane with at least 100 feet of storage at the Kings Canyon Road/Maple Avenue intersection. The signal timing recommendations and lane configurations proposed in Mitigation Measures TRAF 2 through TRAF 4 would reduce this impact to less than significant. Table 5 shows the intersection operations before and after mitigation.

Table 5

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Peak Hour</th>
<th>Baseline Conditions</th>
<th>Baseline + Project Conditions</th>
<th>Baseline + Project with Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Delay</td>
<td>LOS</td>
<td>Delay</td>
</tr>
<tr>
<td>Kings Canyon Road/</td>
<td>AM</td>
<td>34.1</td>
<td>C</td>
<td>37.4</td>
</tr>
<tr>
<td>Maple Avenue</td>
<td>PM</td>
<td>89.2</td>
<td>F</td>
<td>100.7</td>
</tr>
</tbody>
</table>

Source: Fehr & Peers, Memorandum Fresno BRT Transportation Impact Analysis No BAT Lanes Scenario, 2013
Cumulative Conditions

The cumulative conditions analysis is used to determine whether the proposed project will have an incremental effect that is “cumulatively considerable,” and therefore significant. Per the CEQA statute, a project may have a significant effect on the environment if the possible effects of a project are individually limited but cumulatively considerable. The CEQA statute defines “cumulatively considerable” as incremental effects of an individual project which are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. If the incremental effect of a project is not “cumulatively considerable,” a lead agency need not consider that effect significant.

For purposes of this study, the proposed project’s incremental contribution to cumulative traffic congestion will be measured by comparing the traffic analysis results of Cumulative No Project Conditions to Cumulative Plus Project Conditions. The project’s cumulative contribution to traffic congestion will be deemed significant impact if it results in one of the following:

- Cause an intersection operating at an acceptable LOS to operate an unacceptable LOS (i.e., LOS E or F)
- Cause an intersection operating at LOS E to operate at LOS F
- Increase the average delay for a study intersection that is already operating at an unacceptable LOS by more than five seconds

The cumulative Conditions traffic analysis incorporates updated signal timing plans with the understanding that as traffic patterns change in the future, the City of Fresno is likely to re-time signals as appropriate. For the cumulative analysis, the following steps were taken to adjust existing signal timings:

- Intersections operating acceptably (LOS D or better) with cumulative traffic volumes kept the existing signal timing
- Intersections operating at an unacceptable LOS (LOS E or F) with cumulative traffic volumes and existing signal timings, this study made the following adjustments to existing timings:
  - Adjust maximum splits on each side of the barrier
  - If still operating at LOS E or F, optimized all signal splits, but maintained signal cycle length
  - If still operating at LOS E or F, optimized the cycle length without exceeding 120 seconds, and optimized all signal splits.

The Final MND identified five study intersections that would operate at an unacceptable LOS E or F condition during the AM, PM, or both peak hours under Cumulative No Project Conditions:

- Ventura Avenue/Cedar Avenue – PM peak hour
- Kings Canyon Road/Maple Avenue – PM peak hour
- Kings Canyon Road/Chestnut Avenue – PM peak hour
- Kings Canyon Road/Winery Avenue – PM peak hour
- Kings Canyon Road/Willow Avenue – AM and PM peak hours

The Cumulative Plus Project Without BAT Lanes scenario would potentially degrade traffic operations at these five intersections. Increased delay caused by the proposed project at these intersections would potentially be cumulatively considerable, and therefore significant.

Because the Winery Avenue intersection is not proposed to have a queue jump phase without the BAT lanes, traffic operations at the Winery Avenue intersection is unlikely to be materially affected by the proposed project under the Without BAT Lanes scenario. Therefore, the proposed project would not have a cumulatively considerable affect at the Kings Canyon Road/Winery Avenue intersection. This results in potentially cumulatively considerable impacts to traffic operations at the following intersections:

- Ventura Avenue/Cedar Avenue
- Kings Canyon Road/Maple Avenue
- Kings Canyon Road/Chestnut Avenue
- Kings Canyon Road/Willow Avenue

The December 2012 transportation impact study determined that the proposed BRT project with BAT Lanes would not have a cumulatively considerable impact to traffic operations with mitigation measures. Therefore, the potential impacts under Cumulative Plus Project Conditions Without BAT Lanes would be mitigated by mitigation measure TRAF 5 which includes striping right-turn lanes on eastbound/westbound approaches at Cedar Avenue, Maple Avenue, and Willow Avenue. It is anticipated that BRT vehicles would continue to use the outside through lanes at these intersections and would not use the new right-turn lane for queue jumping purposes.

If striping a right-turn lane is undesired, infeasible, or insufficient to mitigate the project’s impact, the project would need to either modify the signal timing splits, reduce the total maximum reduction and extension times associated with TSP, or move the station locations further from the intersection to mitigate the project’s impact.

At the Kings Canyon Road/Chestnut Avenue intersection, the eastbound and westbound approaches currently have striped right-turn lanes. Therefore, the proposed project would need to either modify the signal timing splits, reduce the total maximum reduction and extension times associated with transit signal priority (TSP), or move the station location further from the intersection to facilitate the flow of traffic to mitigate the project’s impact. Implementing these improvements would reduce additional delay caused by the proposed project under Cumulative Plus Project Without BAT Lanes conditions, reducing the cumulatively considerable level of service impact to a less than significant.

The following mitigation measures from the Final MND apply to the proposed project and will be implemented to ensure potential project level and cumulative traffic impacts remain less than significant.
TRAF 1: Prior to the beginning of construction, FAX shall prepare a construction traffic control plan to the satisfaction of the City of Fresno’s Public Works Department. The plan shall ensure that acceptable operating conditions are maintained on local roadways during peak travel hours and provide temporary facilities and signage to direct bicyclists and pedestrians where necessary.

TRAF 2: Prior to beginning BRT bus service, the City of Fresno Public Works Department shall modify the signal timing splits and implement any restriping or modified lane configurations at the impacted study intersections as recommended in the project Traffic Impact Analysis, and the Supplemental Memo. As necessary, station locations shall be modified to implement this measure.

TRAF 3: Reduce the total maximum reduction and extension times associated with Transit Signal Priority (TSP) as described below for the impacted study intersections:

Blackstone Avenue/Nees Avenue – AM peak hour –
- Reduce the total maximum extension time associated with TSP from 20 seconds to 16 seconds (10 percent of the signal cycle).

Blackstone Avenue/Herndon Avenue – AM and PM peak hours –
- Reduce the total maximum extension time associated with TSP from 13 seconds to 10 seconds.

Blackstone Avenue/Bullard Avenue – AM and PM peak hours –
- Reduce the total maximum extension time associated with TSP from 20 seconds to 12 seconds (10 percent of the signal cycle).

Blackstone Avenue/Shaw Avenue – PM peak hour –
- Reduce the total maximum extension time associated with TSP from 13.5 seconds to 10 seconds.

The following mitigation measures would reduce the potential impacts identified as a result of the removal of the BAT lanes from the project. These measures apply to the proposed project and will be implemented to ensure potential project level and cumulative traffic impacts remain less than significant.

TRAF 4: Stripe a westbound right turn-lane with at least 100 feet of storage at the Kings Canyon Road/Maple Avenue intersection. The current curb to curb pavement width on the westbound approach is sufficient to accommodate a westbound right-turn lane in
addition to the westbound through lanes without needing physical widening. It is anticipated that BRT vehicles would continue to use the outside through lane at this intersection and would not use the right-turn lane for queue jumping purposes.

TRAF 5: For the intersections of Kings Canyon Road/Chestnut Avenue, and Willow Avenue, stripe a right turn lane on eastbound/westbound approaches at Cedar Avenue, Maple Avenue, and Willow Avenue. The BRT vehicles would continue to use the outside lanes through these intersections and would not use the new lane for queue jump purposes.

If striping a right-turn lane is undesired, infeasible, or insufficient to mitigate the project’s impact, the project would need to either modify the signal timing splits, reduce the total maximum reduction and extension times associated with transit signal priority (TSP), or move the station locations further from the intersection to mitigate the project’s impact.

At the Kings Canyon Road / Chestnut Avenue intersection, the eastbound and westbound approaches currently have striped right-turn lanes. Therefore, the proposed project would need to either modify the signal timing splits, reduce the total maximum reduction and extension times associated with transit signal priority (TSP), or move the station location further from the intersection to facilitate the flow of traffic to mitigate the project’s impact.

Implementation of these mitigation measures would reduce traffic related impacts to less than significant consistent with the Final MND.

b. Less Than Significant. Project construction activities would require construction workers to commute to the site on a daily basis. However, this short-term, temporary traffic increase would not result in a change to an LOS standard for any of the local roadways and would be considered a less than significant impact.

The proposed project was selected as the prototype for improvements to transit operations and performance based upon the vision outlined in the 2035 Regional Transportation Plan (RTP) as adopted by Fresno COG. As discussed above, the proposed project’s contribution to congestion would not be substantial nor would it substantially deteriorate the LOS. The impact would be less than significant.

c. No Impact. The proposed project does not include any aviation components and, therefore, would not affect air traffic patterns. No associated traffic impacts would occur.

d. No Impact. The proposed project would not increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). The proposed BRT route follows a current bus route on existing roads. The proposed project would include design measures, such as signage, and other features, that would clearly separate traffic flow in roadways from transit flows. No associated traffic impacts would occur.
e. No Impact. Temporary construction activities would not hinder access to roadways in the project area by emergency vehicles. Operation of the proposed project would not impact emergency access. All stations are located along existing roadways and are thus accessible by emergency vehicles. Accordingly, the project would not result in inadequate emergency access.

f. Less than Significant. The proposed project would promote the use of alternative modes of transportation by increasing public transit services in Fresno. The proposed BRT will provide for improved passenger facilities, including larger shelters, benches and leaning rails, near-level boarding to improve access to the bus (thereby increasing accessibility to riders with mobility impairments), real-time passenger information, and bicycle parking at the station as well as the option to take the bike on the bus. The BRT will also use 60-foot articulated coaches instead of the standard 40-foot buses used currently by FAX. These larger buses will provide more seats and greater capacity to address current overcrowding on Routes 28 and 30. Therefore, the proposed project would result in an increase in overall performance and safety of bus service along the proposed route.

Less than Significant. Implementation of the proposed project without the BAT Lanes would not impact existing Class II bike lanes on Ventura Avenue/Kings Canyon Road. Proposed stations would potentially extend into the existing roadway to allow BRT vehicles to stop in the outside travel lane and may conflict with bicyclists using the existing bike lane. However, BRT vehicles would not be stopped at stations for great lengths of time. Furthermore, this temporary of blocking of a bicycle facility would be similar to existing conditions at existing bus stops. Therefore, this impact would be less severe than identified in the 2012 TIA.
### 6.17 Utilities and Service Systems

<table>
<thead>
<tr>
<th>Utilities and Service Systems – Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new and expanded entitlements needed?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>e. Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>f. Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>g. Comply with federal, state, and local statutes and regulations related to solid waste?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

There are no substantial changes in the proposed project or new information of substantial importance since the Final MND that would result in any new significant environmental effects or substantial increase in the severity or previously identified significant effects related to utilities and service systems. As described below, the proposed project would have less than significant impacts to utilities and service systems, which is consistent with the Final MND. Therefore, the proposed project would not result in any new potentially significant utilities and service systems effects that were not identified in the Final MND or a substantial increase in the severity of any previously identified significant utilities and service systems effects.

**Discussion**

a. No Impact. The proposed project is located in a developed area served by existing utilities. No restrooms or other facilities that would generate wastewater are proposed. Therefore, no impacts associated with wastewater treatment facilities would occur.
b. No Impact. The proposed project would not result in an increase in demand for water as no landscaping or similar features are proposed as part of the proposed BRT project. Therefore, no impacts related to water supply would occur.

c. No Impact. The proposed project would not substantially alter the existing drainage pattern of the site or vicinity. Whenever possible, on-site surface runoff would be collected in existing drainage facilities, such as concrete curb, gutter, and drainage inlets, and conveyed into the existing municipal storm water drainage system. Where existing curb, gutter, and/or inlets would be removed to accommodate the new station platforms, similar facilities would be constructed at approximately the same location in areas that are currently impervious. Runoff quantities would not substantially change all proposed bus stations would be constructed within the existing right-of-way on existing sidewalks. Landscaping is not proposed at any of the bus stops. Accordingly, runoff quantities generated by this project at each station platform site are anticipated to be minimal and no new storm water facilities would be needed. Impacts associated with storm water drainage facilities would be less than significant.

d. No Impact. The proposed project does not require the installation of landscaping, restrooms or other similar features that would increase the demand for water. Therefore, the proposed project could be served by existing water supply facilities or entitlements. No impacts related to water supply would occur.

e. No Impact. The proposed project would not generate wastewater and therefore would not affect the applicable wastewater treatment provider. No impact related to wastewater treatment capacity would occur.

f. No Impact. Transit patrons would generate some trash, and trash receptacles would be provided at each station, to be collected as part of a shelter maintenance contract. The amounts of solid waste generated by the proposed project would not be substantial and thus would not significantly impact regional landfills. The proposed project would comply with all applicable federal, state, and local statutes and regulations related to solid waste.

g. No Impact. As stated in above, the proposed project would comply with all applicable federal, state, and local statutes and regulations related to solid waste. Therefore, no associated impacts would occur.
7.0  MANDATORY FINDINGS OF SIGNIFICANCE

<table>
<thead>
<tr>
<th>MANDATORY FINDINGS OF SIGNIFICANCE</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b. Does the project have impacts that are individually limited, but cumulatively considerable? (&quot;Cumulatively considerable&quot; means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>c. Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
</tbody>
</table>

Discussion

a. Less than Significant Impact. As discussed throughout this Initial Study checklist, potentially significant impacts were identified in the Final MND with respect to Biology, Cultural Resources, Hazards, and Hazardous Materials. Mitigation measures designed to minimize environmental effects to biology, cultural resources, and hazards and hazardous materials are listed in Subsections 6.4, 6.5, and 6.8. Implementation of the mitigation measures identified in the Final MND would ensure these potentially significant impacts remain below a level of significance. These mitigation measures, where applicable to the proposed project, would ensure that potentially significant effects of the proposed project, including potentially significant effects related to historic resources, would remain less than significant.

This Subsequent MND identified and analyzed the changes in the project description, physical environment, regulatory setting, environmental impact analysis and mitigation measures since the Final MND. The Subsequent MND has reevaluated each environmental resource and did not identify new potentially significant effects to the environment (that were not previously discussed in the Final MND) in regards to biological resources or cultural resources. The proposed project would not result in any new significant effects or a substantial increase in the severity of any previously identified significant effects.

b. No Impact. The Final MND concluded that the proposed project could contribute to cumulative impacts associated with air quality, water quality, and noise. However, the project’s contribution would not be cumulatively considerable due to its incremental and/or short-term nature. In the case of light and glare, the project would include some lighting at the stations in an already heavily
lighted area, and all lighting would be directional to minimize spillover into the night sky. As discussed under Air Quality, both short-term and long-term pollutant emissions would not be considerable and long-term emissions could be decreased from existing conditions. The quantities of emissions would not be cumulatively considerable. Regarding water quality, the proposed project and other projects in the area would be required to be in compliance with applicable standards and permit conditions from appropriate regulatory agencies (i.e., RWQCB, City of Fresno). In the case of noise, implementation of the proposed project could lead to an increase in bus noise and a decrease in non-transit vehicle noise. These changes would likely be imperceptible, and the project would not lead to a cumulatively considerable increase in noise levels. Regarding traffic, this Subsequent MND identified potential cumulative impacts due to increased delay and project area intersections. Mitigation measures, including signal timing and restriping were identified and included in this Subsequent MND to reduce the potential for cumulative impacts. As a result, the mitigation measures included in this Subsequent MND would ensure that all potentially significant environmental impacts are reduced to less than significant at the project-level and cumulatively.

c. Less than Significant Impact. As evaluated throughout this Initial Study checklist, no components or aspects of the proposed project could be considered to have substantial direct or indirect negative impacts on human beings. As discussed in Subsections 6.1, 6.3, 6.5, 6.6, 6.7, 6.8, 6.12, 6.16, and 6.17 of this Subsequent IS/MND, the proposed project would not cause any substantial adverse environmental effects on humans. Please refer to specific discussions under Aesthetics, Air Quality, Cultural Resources, Geology and Soils, Greenhouse Gases, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation/Traffic, and Utilities and Service Systems. This determination of no adverse environmental effects to human beings is consistent with the findings of the Final MND.
8.0 MITIGATION MEASURES

The following mitigation measures are identified for the proposed project.

Biology

BIO 1: The City shall retain a certified arborist to evaluate the trees being considered for removal. The arborist shall provide the City with a report including recommendations related to the removal of any trees. The City shall comply with the recommendations of the report when removing trees associated with the proposed BRT project.

Cultural Resources

CUL 1: The proposed bus stop at the intersection of Fresno and N streets should be sited at either the northeast, northwest or southeast corners to avoid demolition or alteration of the WPA sidewalks on the south side of Fresno Street and west side of N Street surrounding the former Fresno City Hall. An alternate location along Fresno Street that does not impact the WPA sidewalks may also be used. Avoiding demolition or alteration of the WPA sidewalks will reduce impacts from the proposed project to a less than significant level.

CUL 2: In the event any archeological or paleontological resources are discovered, project construction shall be temporarily halted. A qualified archeologist or paleontologist shall be consulted to assess the significance of the resources and to provide proper management recommendation (e.g., resources avoidance or data recovery excavations).

CUL 3: If Native American artifacts or human remains are uncovered during ground disturbing activities, the applicant shall waive any and all claim to ownership and the Most Likely Descendants shall be notified of the find. Any human remains shall be reburied in compliance with California Public Resources Code Section 5097.98(a) and (b).

Hazards

HAZ 1: Any construction activities at the proposed bus stations shall be monitored for environmental concern, such as impacted soils and/or soil vapor emissions that might threaten public health, the environment, and construction personnel. In addition, any soil designated for removal and/or exportation from the project site should be sampled for waste characterization to identify appropriate disposal methods.
Traffic

TRAF 1: Prior to the beginning of construction, FAX shall prepare a construction traffic control plan to the satisfaction of the City of Fresno’s Public Works Department. The plan shall ensure that acceptable operating conditions are maintained on local roadways during peak travel hours and provide temporary facilities and signage to direct bicyclists and pedestrians where necessary.

TRAF 2: Prior to beginning BRT bus service, the City of Fresno Public Works Department shall modify the signal timing splits and implement any restriping or modified lane configurations at the impacted study intersections as recommended in the project Traffic Impact Analysis, and the Supplemental Memo. As necessary, station locations shall be modified to implement this measure.

TRAF 3: Reduce the total maximum reduction and extension times associated with Transit Signal Priority (TSP) as described below for the impacted study intersections:

Blackstone Avenue/Nees Avenue – AM peak hour
- Reduce the total maximum extension time associated with TSP from 20 seconds to 16 seconds (10 percent of the signal cycle).

Blackstone Avenue/Herndon Avenue – AM and PM peak hours –
- Reduce the total maximum extension time associated with TSP from 13 seconds to 10 seconds.

Blackstone Avenue/Bullard Avenue – AM and PM peak hours –
- Reduce the total maximum extension time associated with TSP from 20 seconds to 12 seconds (10 percent of the signal cycle).

Blackstone Avenue/Shaw Avenue – PM peak hour –
- Reduce the total maximum extension time associated with TSP from 13.5 seconds to 10 seconds.

TRAF 4: Stripe a westbound right turn-lane with at least 100 feet of storage at the Kings Canyon Road/Maple Avenue intersection. The current curb to curb pavement width on the westbound approach is sufficient to accommodate a westbound right-turn lane in addition to the westbound through lanes without needing physical widening. It is anticipated that BRT vehicles would continue to use the outside through lane at this intersection and would not use the right-turn lane for queue jumping purposes.
TRAF 5: For the intersections of Kings Canyon Road/Chestnut Avenue, and Willow Avenue, stripe a right turn lane on eastbound/westbound approaches at Cedar Avenue, Maple Avenue, and Willow Avenue. The BRT vehicles would continue to use the outside lanes through these intersections and would not use the new lane for queue jump purposes.

If striping a right-turn lane is undesired, infeasible, or insufficient to mitigate the project’s impact, the project would need to either modify the signal timing splits, reduce the total maximum reduction and extension times associated with transit signal priority (TSP), or move the station locations further from the intersection to mitigate the project’s impact.

At the Kings Canyon Road / Chestnut Avenue intersection, the eastbound and westbound approaches currently have striped right-turn lanes. Therefore, the proposed project would need to either modify the signal timing splits, reduce the total maximum reduction and extension times associated with transit signal priority (TSP), or move the station location further from the intersection to facilitate the flow of traffic to mitigate the project’s impact.
9.0 REFERENCES


EDR Report, 2012
10.0 REPORT PREPARERS

Fresno Area Express (FAX)
John Downs, Transit Planning Manager

City of Fresno
Karana Hattersley-Drayton, Historic Preservation Project Manager

Impact Sciences, Inc.
Susan Tebo, Managing Principal
Jessica Kirchner Flores, AICP, Senior Project Manager
Eric Bell, Senior Air Quality Specialist
Douglas Brown, Project Manager
Kathleen King, Staff Planner
Ian Hillway, Publications Manager

Fehr & Peers
Rob Hananouchi, Traffic Engineer
Fred Choa, Traffic Engineer
This memorandum presents our findings for the Without Business Access Transit (BAT) lanes scenario for the Fresno bus rapid transit (BRT) project. The memorandum includes the findings of our peer review of the Synchro analysis conducted by Kimley Horn and Associates, the supplemental impact assessment of the No BAT Lanes scenario, and additional improvements needed to mitigate potentially significant impacts to intersection traffic operations.

**KEY FINDINGS**

**Traffic Operations**

The Without BAT Lanes scenario results in a significant impact to traffic operations that was not originally identified in the December 7, 2012 transportation impact study. This impact occurs at the Kings Canyon Road / Maple Avenue intersection during the PM peak hour under Baseline Plus Project Conditions under the Without BAT Lanes scenario. To mitigate this impact, the proposed project would need to stripe a westbound right turn lane with at least 100 feet of storage on Kings Canyon Road at the intersection. It is anticipated that BRT vehicles would continue to use the outside through lane at this intersection and would not use the right-turn lane for queue jumping purposes. This would reduce the impact to a less than significant level.

In addition, a cumulatively considerable impact to traffic operations may occur at the following intersections under Cumulative Plus Project Conditions for the Without BAT Lanes scenario:

- Ventura Avenue / Cedar Avenue
- Kings Canyon Road / Maple Avenue
- Kings Canyon Road / Chestnut Avenue
- Kings Canyon Road / Willow Avenue

The December 2012 transportation impact study determined that the proposed BRT project with BAT Lanes would not have a cumulatively considerable impact to traffic operations. Therefore, the potential impacts under Cumulative Plus Project Conditions Without BAT Lanes would likely be mitigated by...
striping right-turn lanes on eastbound/westbound approaches at Cedar Avenue, Maple Avenue, and Willow Avenue. It is anticipated that BRT vehicles would continue to use the outside through lanes at these intersections and would not use the new right-turn lane for queue jumping purposes.

If striping a right-turn lane is undesired, infeasible, or insufficient to mitigate the project’s impact, the project would need to either modify the signal timing splits, reduce the total maximum reduction and extension times associated with transit signal priority (TSP), or move the station locations further from the intersection to mitigate the project’s impact.

At the Kings Canyon Road / Chestnut Avenue intersection, the eastbound and westbound approaches currently have striped right-turn lanes. Therefore, the proposed project would need to either modify the signal timing splits, reduce the total maximum reduction and extension times associated with transit signal priority (TSP), or move the station location further from the intersection to facilitate the flow of traffic to mitigate the project’s impact. Implementing these improvements would reduce additional delay caused by the proposed project under Cumulative Plus Project Without BAT Lanes conditions, reducing the cumulatively considerable level of service impact to a less than significant level.

Bicycle Facilities

The December 2012 transportation impact study identified that the proposed BRT project would require removing the existing bike lane facility on Ventura Avenue/Kings Canyon Road west of Winery Avenue resulting in a significant impact to bicycle facilities. Under the Without BAT Lanes scenario, this bike lane facility would not be removed and therefore, no longer be significantly impacted.

New BRT stations along Ventura Avenue/Kings Canyon Road may extend into the existing roadway to allow BRT vehicles to stop in the outside travel lane. While this would potentially conflict with bicyclists traveling along the corridor, BRT vehicles would not stop/dwell at stations for great lengths of time. Furthermore, this temporary blocking of a bicycle facility would be similar to existing conditions at existing bus stops. Therefore, this impact would be less than identified in the December 2012 transportation impact study, and thereby less than significant overall.

BACKGROUND

The proposed project consists of a bus rapid transit (BRT) starter line that would operate along the Blackstone Avenue corridor, through Downtown Fresno, and along the Ventura Avenue/Kings Canyon Road corridor. The project was analyzed in December 2012 with a business access transit (BAT) lane along a portion of its route on the Ventura Avenue/Kings Canyon Road corridor. The proposed BAT lane would allow BRT vehicles to operate in an exclusive lane from Parallel Avenue to Winery Avenue eastbound and from Dearing Avenue to Parallel Avenue westbound. Vehicles would also have access to the BAT lane when making right-turn movements at intersections or onto driveways. Implementation of the proposed BAT lanes would require removing existing bike lanes and on-street parking west of Chestnut Avenue.

Fresno Area Express (FAX) is now considering a scenario where BAT lanes are not included in the proposed project. Instead, BRT vehicles would operate in mixed-flow lanes on Ventura Avenue/Kings
Canyon Road as they do along the remainder of the BRT route. This scenario would keep the existing bike lanes on Ventura Avenue/Kings Canyon Road and the existing on-street parking west of Chestnut Avenue except where the on-street parking would conflict with proposed BRT stations.

This Without BAT Lanes scenario also would keep the existing lane configurations at intersections. The proposed BAT Lanes would have striped right-turn lanes for vehicular traffic that do not exist today at some study intersections.

The Without BAT Lanes scenario would only affect transportation conditions along Ventura Avenue and Kings Canyon Road from Parallel Avenue to Winery Avenue. Therefore, the findings presented in our transportation impact study dated December 7, 2012 would remain the same for the Without BAT Lanes scenario for the following locations:

► Blackstone Avenue/Abby Street corridor
► Downtown Fresno
► Kings Canyon Road east of Winery Avenue

The remainder of this memorandum focuses on transportation impacts to the Ventura Avenue/Kings Canyon Road corridor from R Street to Willow Avenue.

PEER REVIEW SUMMARY

Kimley Horn and Associates provided Synchro traffic analysis files corresponding to the Baseline Plus Project – Without BAT Lanes scenario for our review. We have reviewed and verified the results of the Synchro traffic analysis files for the Without BAT Lanes scenario.

BASELINE PLUS PROJECT – WITHOUT BAT LANES IMPACT ANALYSIS

Traffic Operations Impact Criteria

The December 2012 transportation impact study identified the City of Fresno’s regulatory policies that guide the impact assessment for the proposed project.

Based on these policies, the project would cause a significant impact to intersection operations if it would:

► Cause an intersection operating at an acceptable LOS to operate an unacceptable LOS (i.e., LOS E or F)
► Cause an intersection operating at LOS E to operate at LOS F
► Increase the average delay for a study intersection that is already operating at an unacceptable LOS by more than five seconds.
Traffic Operations Analysis

Methodology

The December 2012 transportation impact study outlines the plus project analysis methodology for intersection traffic operations.

The proposed BRT project would feature transit signal priority (TSP) at signalized intersections along the BRT route. The proposed BRT service would operate with 10-minute headways during the AM and PM peak periods. Therefore, BRT vehicles will not travel through the study intersections every signal cycle, nor will they always utilize TSP or a queue jump phase.

To reflect these conditions, the Baseline Plus Project analysis results represent average hourly conditions based on signal cycles without TSP operations and signal cycles with TSP operations. To estimate hourly conditions, the following two scenarios are analyzed:

► Baseline Plus Project – “Normal” Cycle
  - Includes lane geometry and signal phasing changes associated with the project
  - Typical signal cycle without TSP
  - Existing signal timing is maintained, except for phase changes incorporated as appropriate

► Baseline Plus Project – “Worst Case” Cycle
  - Includes lane geometry and signal phasing changes associated with the project
  - Signal timing adjusted with maximum extension associated with TSP
  - Lane utilization adjusted on approaches where BRT vehicles stop in outside travel lane at far side stations

The average control delay for the average hourly conditions is calculated based on a weighted average of the delay from “Normal” cycles and “Worst Case” cycles, using the following formula:

\[
\text{Baseline Plus Project Average Delay (sec/veh)} = \frac{(W \times \text{"Worst Case" Delay}) + (N \times \text{"Normal" Delay})}{\text{Total Cycles}}
\]

\[
\text{Total Cycles} = \frac{3600 \text{ (sec in hour)}}{\text{Cycle Length (sec)}}
\]

\[
W = \text{Number of cycles under "Worst Case" Cycle, estimated based on BRT headways and signal operations}
\]

\[
N = \text{Number of cycles under "Normal" Cycle, where } N = \text{ Total Cycles} - W
\]

The “Worst Case” cycle condition will not occur every time a TSP call is made since some BRT vehicles will arrive during the green phase and be able to traverse through the intersection without needing TSP. Furthermore, not every TSP cycle will utilize the maximum reduction to provide an early or extended green. On corridors with signal coordination during peak periods, such as Blackstone Avenue and Kings...
Canyon Road, the BRT vehicles may arrive with other platooning traffic, indicating a reduced likelihood of the maximum TSP call.

Using this rationale, this study assumes that TSP will be utilized half the time a BRT vehicle approaches a study intersection. With the proposed 10-minute peak period headways, this would indicate up to 3 cycles per hour per direction.

Traffic Operations Results

Table 1 presents the AM and PM peak hour delay and level of service (LOS) at study intersections along Ventura Avenue/Kings Canyon Road between R Street and Willow Avenue for the Baseline Plus Project – Without BAT Lanes scenario (refer to Appendix A for technical calculations).

Based on the results in Table 1 and the significance criteria outlined above, the proposed project would result in a significant impact to traffic operations at Kings Canyon Road / Maple Avenue during the PM peak hour. This impact was not previously identified in the December 2012 transportation impact study for the Fresno BRT project.
### TABLE 1:
**PEAK HOUR INTERSECTION OPERATIONS**
**BASELINE PLUS PROJECT CONDITIONS – WITHOUT BAT LANES SCENARIO**

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Traffic Control</th>
<th>Peak Hour</th>
<th>Baseline Conditions</th>
<th>Baseline + Project No BAT Lanes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>delay¹</td>
<td>LOS²</td>
</tr>
<tr>
<td>55. Ventura Avenue / R Street</td>
<td>Signal</td>
<td>AM</td>
<td>11.5</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>16.8</td>
<td>B</td>
</tr>
<tr>
<td>56. Ventura Avenue / Hazelwood Boulevard</td>
<td>Signal</td>
<td>AM</td>
<td>11.2</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>7.5</td>
<td>A</td>
</tr>
<tr>
<td>57. Ventura Avenue / First Street</td>
<td>Signal</td>
<td>AM</td>
<td>15.7</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>20.3</td>
<td>C</td>
</tr>
<tr>
<td>58. Ventura Avenue / Sixth Street</td>
<td>Signal</td>
<td>AM</td>
<td>7.5</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>12.1</td>
<td>B</td>
</tr>
<tr>
<td>59. Ventura Avenue / Orange Avenue</td>
<td>Signal</td>
<td>AM</td>
<td>8.9</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>9.6</td>
<td>A</td>
</tr>
<tr>
<td>60. Ventura Avenue / Cedar Avenue</td>
<td>Signal</td>
<td>AM</td>
<td>31.9</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>36.5</td>
<td>D</td>
</tr>
<tr>
<td>61. Kings Canyon Road / Chance Avenue</td>
<td>Signal</td>
<td>AM</td>
<td>9.6</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>11.7</td>
<td>B</td>
</tr>
<tr>
<td>62. Kings Canyon Road / Maple Avenue</td>
<td>Signal</td>
<td>AM</td>
<td>34.1</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td><strong>89.2</strong></td>
<td>F</td>
</tr>
<tr>
<td>63. Kings Canyon Road / Chestnut Avenue</td>
<td>Signal</td>
<td>AM</td>
<td>29.4</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>38.7</td>
<td>D</td>
</tr>
<tr>
<td>64. Kings Canyon Road / Winery Avenue</td>
<td>Signal</td>
<td>AM</td>
<td>24.8</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td><strong>64.2</strong></td>
<td>E</td>
</tr>
<tr>
<td>65. Kings Canyon Road / Willow Avenue</td>
<td>Signal</td>
<td>AM</td>
<td>24.1</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PM</td>
<td>31.1</td>
<td>C</td>
</tr>
</tbody>
</table>

Notes:
1. The overall average intersection control delay is reported in seconds per vehicle.
2. Level of service (LOS) based on Highway Capacity Manual (Transportation Research Board, 2000.)
   **BOLD** text indicates the intersection operates at an unacceptable LOS based on the City of Fresno’s level of service policy.
   **UNDERLINED** text indicates a significant impact based on the significance criteria identified in the December 2012 transportation impact study.

IMPACTS AND MITIGATIONS

This section summarizes any new potentially significant impact caused by proposed project on traffic operations. Each impact is followed by a recommended mitigation measure to reduce the significance of identified impacts.

Revised Impact 1: Implementation of the proposed project results in unacceptable traffic operations.

Based on the results presented in Table 1, the proposed project Without BAT lanes would have a significant impact on traffic operations at Kings Canyon Road / Maple Avenue during the PM peak hour.

Revised Mitigation 1:

Stripe a westbound right-turn lane with at least 100 feet of storage at the Kings Canyon Road / Maple Avenue intersection. The current curb-to-curb pavement width on the westbound approach should be sufficient to accommodate a westbound right-turn lane in addition to the westbound through lanes without needing physical widening. It is anticipated that BRT vehicles would continue to use the outside through lane at this intersection and would not use the right-turn lane for queue jumping purposes.

Table 2 shows the intersection operations before and after mitigation (refer to Appendix B for technical calculations). Implementing this mitigation measure would reduce the proposed project’s level of service impact to a less than significant level.

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Peak Hour</th>
<th>Baseline Conditions</th>
<th>Baseline + Project No BAT Lanes</th>
<th>Baseline + Project No BAT Lanes with Mitigations</th>
<th>Mitigated?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Delay(^1)</td>
<td>LOS(^2)</td>
<td>Delay(^1)</td>
<td>LOS(^2)</td>
</tr>
<tr>
<td>Kings Canyon Road /</td>
<td>AM</td>
<td>34.1</td>
<td>C</td>
<td>37.4</td>
<td>D</td>
</tr>
<tr>
<td>Maple Avenue</td>
<td>PM</td>
<td>89.2</td>
<td>F</td>
<td>100.7</td>
<td>F</td>
</tr>
</tbody>
</table>

Notes: 
\(^1\)The overall average intersection control delay is reported in seconds per vehicle. 
\(^2\)Level of Service (LOS) based on Highway Capacity Manual (Transportation Research Board, 2000). 
**BOLD** text indicates the intersection operates at an unacceptable LOS based on the City of Fresno’s level of service policy. 
**UNDERLINED** text indicates a significant impact based on the significance criteria. 
Revised Impact 4: Implementation of the proposed project would potentially conflict with existing and planned bicycle facilities.

Implementation of the proposed project Without BAT lanes would no longer eliminate existing Class II bike lanes on Ventura Avenue/Kings Canyon Road. Proposed BRT stations would potentially extend into the existing roadway to allow BRT vehicles to stop in the outside travel lane and may conflict with bicyclists using the existing bike lane. However, BRT vehicles would not stop / dwell at stations for great lengths of time. Furthermore, this temporary blocking of a bicycle facility would be similar to existing conditions at existing bus stops. Therefore, this impact would be less than identified in the December 2012 transportation impact study, and therefore less than significant overall.

Revised Cumulative Impacts

Impact C1: Implementation of the proposed project would contribute to unacceptable traffic operations that would be deemed cumulatively considerable.

Our December 2012 transportation impact study indicated that the following five study intersections would operate at an unacceptable LOS E or F conditions during the AM, PM, or both peak hours under Cumulative No Project Conditions:

- Ventura Avenue / Cedar Avenue – PM peak hour
- Kings Canyon Road / Maple Avenue – PM peak hour
- Kings Canyon Road / Chestnut Avenue – PM peak hour
- Kings Canyon Road / Winery Avenue – PM peak hour
- Kings Canyon Road / Willow Avenue – AM and PM peak hours

Our review of the Cumulative Plus Project conditions indicates that the Cumulative Plus Project Without BAT Lanes scenario would potentially degrade traffic operations at these five intersections. Increased delay caused by the proposed project at these intersections would potentially be cumulatively considerable, and therefore have a significant impact on traffic operations.

Since the Winery Avenue intersection is not proposed to have a queue jump phase without the BAT lanes, traffic operations at the Winery Avenue intersection is unlikely to be greatly affected by the proposed project under the Without BAT Lanes scenario. Therefore, the Without Bat Lanes BRT project would likely not have a cumulatively considerable affect at the Kings Canyon Road / Winery Avenue intersection. This results in potentially cumulatively considerable impacts to traffic operations at the following four study intersections:

- Ventura Avenue / Cedar Avenue
- Kings Canyon Road / Maple Avenue
- Kings Canyon Road / Chestnut Avenue
- Kings Canyon Road / Willow Avenue
Revised Mitigation C1:

The December 2012 transportation impact study determined that the proposed BRT project with BAT Lanes would not have a cumulatively considerable impact to traffic operations. Therefore, the potential impacts under Cumulative Plus Project Conditions Without BAT Lanes would likely be mitigated by striping right-turn lanes on eastbound/westbound approaches at Cedar Avenue, Maple Avenue, and Willow Avenue. It is anticipated that BRT vehicles would continue to use the outside through lanes at these intersections and would not use the new right-turn lane for queue jumping purposes.

If striping a right-turn lane is undesired, infeasible, or insufficient to mitigate the project’s impact, the project would need to either modify the signal timing splits, reduce the total maximum reduction and extension times associated with transit signal priority (TSP), or move the station locations further from the intersection to mitigate the project’s impact.

At the Kings Canyon Road / Chestnut Avenue intersection, the eastbound and westbound approaches currently have striped right-turn lanes. Therefore, the proposed project would need to either modify the signal timing splits, reduce the total maximum reduction and extension times associated with transit signal priority (TSP), or move the station location further from the intersection to facilitate the flow of traffic to mitigate the project’s impact. Implementing these improvements would reduce additional delay caused by the proposed project under Cumulative Plus Project Without BAT Lanes conditions, reducing the cumulatively considerable level of service impact to a less than significant level.