FIRSTCARBONSOLUTIONS™

PARTIAL RECIRCULATED DRAFT
Program Environmental Impact Report
Fresno Southeast Development Area Specific Plan Project
City of Fresno, Fresno County, California

State Clearinghouse Number 2022020486

Prepared for:
City of Fresno
Planning and Development Department
2600 Fresno Street, Room 3065
Fresno, CA 93721
559.621.8062

Contact: Sophia Pagoulatos, Planning Manager

Prepared by:
FirstCarbon Solutions
7726 N. First Street, No. 413
Fresno, CA 93720

Contact: Mary Bean, Project Director
Phil Ault, Project Director
Rachel Krusenoski, Project Manager

Date: October 3, 2023

THIS PAGE INTENTIONALLY LEFT BLANK

Table of Contents

List of Appendices

List of Tables

List of Exhibits

ACRONYMS AND ABBREVIATIONS

ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
ARB	California Air Resources Board
ATP	Active Transportation Plan
BGS	below ground surface
BRT	Bus Rapid Transit
BTA	Bicycle Transportation Account
CBC	California Building Standards Code
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CMP	Congestion Management Plan
CPUC	California Public Utilities Commission
CTC	California Transportation Commission
ERH	emergency ride home
EV	electric vehicle
FAR	floor area ratio
FCMA	Fresno-Clovis Metropolitan Area
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
IIJA	Infrastructure Investment and Jobs Act
ITE	Institute of Traffic Engineers
ITS	Intelligent Transportation System
LOS	Level of Service
MMI	Modified Mercalli Intensity
MPO	Metropolitan Planning Organizations
NEHRP	National Earthquake Hazards Reduction Program
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OPR	Governor’s Office of Planning and Research
PEIR	Program Environmental Impact Report
RTP	Regional Transportation Plan
SCS	Sustainable Communities Strategy
SEDA	Southeast Development Area

SOI	Sphere of Influence
SRTP	Short Range Transit Plan
SWPPP	Storm Water Pollution Prevention Plan
TAF	Transportation Analysis Framework
TAM	Transit Asset Management
TDM	Transportation Demand Management
TIA	Transportation Impact Assessment
TIP	Transportation Improvement Program
TOD	Transit Oriented Development
TPM	Transportation Performance Management
TSM	Transportation Systems Management
UBC	Uniform Building Code
UCMP	University of California Museum of Paleontology
USGS	United States Geological Survey
VMT	Vehicle Miles Traveled

CHAPTER 1: INTRODUCTION

1.1 - Background and Purpose of this Document

The City of Fresno (City) released the Fresno Southeast Development Area (SEDA) Project (proposed project) Draft Program Environmental Impact Report (Draft PEIR) in accordance with the California Environmental Quality Act (CEQA) for a 45-day public review period on Friday, July 14, 2023, which concluded on Monday, August 28, 2023. The Draft PEIR and its appendices were available at the following websites: https://ceqanet.opr.ca.gov/2022020486 and www.fresno.gov/SEDA. A hard copy of the Draft PEIR, including technical appendices, was also available for review at the City of Fresno Planning and Development Department and the Fresno County Public Library during business hours.

State CEQA Guidelines Section 15088.5 provides that a limited portion of the Draft PEIR shall be recirculated for public review and comment prior to certification when significant new information is added to the Draft PEIR. "Recirculation" provides the public with an opportunity to comment on the new or revised sections of the Draft PEIR. Recirculation of the entire document is not necessary or required. Recirculation is not required where the new information merely clarifies or amplifies or makes insignificant modifications.

1.1.1 - Reason for Partial Recirculation

The State CEQA Guidelines indicate that recirculation is required when "significant new information" is added (Section 15088.5a). The previously circulated Draft PEIR for the proposed project (State Clearinghouse [SCH] No. 202202048) has been partially revised to include Section 3.7, Geology, Soils, and Seismicity, of the Draft PEIR and include updated analysis and mitigation in Section 3.17, Transportation and Traffic, of the Draft PEIR. These sections are identified as Chapter 2 and Chapter 3, respectively in the Partial Recirculated Draft PEIR.

The environmental analysis in Chapter 2, Geology, Soils, and Seismicity, addresses the potential impacts the proposed project may have on soil and assesses the effects of project development in relation to geologic and seismic conditions. This section was inadvertently omitted from the previously circulated Draft PEIR due to a technological syncing issue that occurred when the document was uploaded to the SCH of the Governor's Office of Planning and Research (OPR); therefore, it is now included. However, it should be noted that the mitigation measures included in the Geology, Soils, and Seismicity section were included in the Executive Summary of the previously circulated Draft PEIR. There are no exhibits or appendices associated with this section.

The environmental analysis in Chapter 3, Transportation and Traffic, addresses potential impacts related to the local and regional roadway system and public transportation, bicycle, and pedestrian access. This section was included in the previously circulated Draft PEIR; however, it has been revised to include ramp queueing analyses at the following State Route (SR) 180 interchanges and intersections: Clovis Avenue, Fowler Avenue, Temperance Avenue, De Wolf Avenue, Highland Avenue, and McCall Avenue. It also includes new proposed mitigation measures, MM TRANS-3a, which would require restriping at the eastbound SR-180 off-ramp at Clovis Avenue; MM TRANS-3b,

which would require widening of the westbound SR-180 off-ramp at Temperance Avenue; MM TRANS-3c, which would require restriping at the eastbound SR-180 off-ramp to Temperance Avenue; MM TRANS-3d, which would lengthen the eastbound left turn and right turn pockets at the De Wolf Avenue and SR-180 intersection; and MM TRANS-3e, which would lengthen the westbound right turn pocket at the McCall Avenue and SR-180 intersection. Implementation of MM TRANS-3a, MM TRANS-3b, MM TRANS-3c, MM TRANS-3d, and MM TRANS-3e would reduce impacts to a less than significant level. None of the exhibits included in this section of the Draft PEIR have been revised. New information in the Transportation and Traffic section is incorporated using an underline/strikethrough format.

Because of the programmatic nature of the Draft PEIR, queue analyses were not conducted for any of the Plan Area intersections or interchanges in the previously circulated Draft PEIR because no specific development is proposed as part of the proposed project. However, queue analyses at the previously identified interchanges and intersections were requested by the California Department of Transportation (Caltrans) to evaluate any potential impacts to SR-180 at buildout of the Specific Plan. Caltrans is a Responsible Agency for the proposed project, meaning that, for the purposes of CEQA, it has discretionary approval power over the proposed project. Discretionary approval may include such actions as issuance of a permit, authorization, or easement needed to complete some aspect of proposed project. The City has been in close coordination with Caltrans and has decided to include this additional analysis and subsequent proposed mitigation measures in the Partial Recirculated Draft PEIR at Caltrans request. Chapter 3 also includes revisions to correct minor errors and provide further clarification regarding topics that were identified during the Draft PEIR public comment period.

No new significant and unavoidable impacts have been identified. The Partial Recirculated Draft will be limited to the Geology, Soils, and Seismicity, and the Transportation and Traffic sections; no other sections are being revised or recirculated.

1.2 - Document Format

This Partial Recirculated Draft PEIR is organized into the following sections.

- **Chapter 1: Introduction.** This chapter describes the purpose and legal requirements of the Partial Recirculated Draft PEIR as well as its intended uses. It contains an outline of the document format and the list of environmental issues that are discussed in the Partial Recirculated Draft PEIR.
- **Chapter 2: Geology, Soils, and Seismicity.** This chapter contains Section 3.7, Geology, Soils, and Seismicity, of the Draft PEIR. It addresses the potential impacts the proposed project may have on soil and assesses the effects of project development in relation to geologic and seismic conditions.
- **Chapter 3: Transportation and Traffic.** This chapter contains Section 3.17, Transportation and Traffic, of the Draft PEIR. It addresses potential impacts related to the local and regional roadway system and public transportation, bicycle, and pedestrian access.

1.3 - Public Review Process

The City of Fresno is soliciting comments from responsible agencies, trustee agencies, public agencies, organizations, and members of the public regarding the Partial Recirculated Draft PEIR. In accordance with the time limits established by CEQA, the Partial Recirculated Draft PEIR will begin October 3, 2023, and end on November 17, 2023. The Partial Recirculated Draft PEIR will be circulated to state agencies for review through the SCH of the Governor's OPR and via email.

1.3.1 - Document Availability

The Partial Recirculated Draft PEIR can be reviewed at the following websites: https://ceqanet.opr.ca.gov/2022020486 and www.fresno.gov/SEDA. A hard copy of the Partial Recirculated Draft PEIR can also be reviewed at these locations during business hours (Monday through Friday 8:00 a.m.–5:00 p.m.):

City of Fresno
Planning and Development Department
c/o Adrienne Asadoorian, Planner III
2600 Fresno Street
Third Floor, Room 3065
Fresno, CA 93721

Fresno County Public Library
2420 Mariposa Street
Fresno, CA 93721

1.3.2 - Written Comments on the Partial Recirculated Draft PEIR

The Partial Recirculated Draft PEIR will be available for a 45-day public review period from **Tuesday, October 3, 2023**, to **Friday, November 17, 2023**. Please provide your written/typed comments (including name, affiliation, telephone number, and contact information) via US mail or email to the address shown below by 5:00 p.m. on Friday, November 17, 2023:

City of Fresno
Planning and Development Department
Adrienne Asadoorian, Planner III
2600 Fresno Street, Room 3065
Fresno, CA 93721
Email: Adrienne.Asadoorian@Fresno.gov
559.621.8339

1.3.3 - Limitation on Public Review Comments

State CEQA Guidelines Section 15088.5(f)(2) states that:

> When the EIR is revised only in part and the lead agency is recirculating only the revised chapters or portions of the EIR, the lead agency may request that reviewers limit their comments to the revised chapters or portions of the recirculated EIR. The lead agency need only respond to (i) comments received during the initial circulation period that relate to chapters or portions of the document that were not revised and recirculated, and (ii) comments received during the recirculation period that relate to the chapters or portions of

the earlier EIR that were revised and recirculated. The lead agency's request that reviewers limit the scope of their comments shall be included either within the text of the revised EIR or by an attachment to the revised EIR.

Accordingly, the City requests that commenters limit their written comments to the new material presented in this Partial Recirculated Draft PEIR, which consists of the Geology, Soils, and Seismicity, and the Transportation and Traffic sections only.

1.4 - Use of this Document

This Partial Recirculated Draft PEIR will be combined with the previous circulated Draft PEIR as part of the Final PEIR. The Final PEIR will include the comments received on both the Draft PEIR and Partial Recirculated Draft PEIR, along with the written responses to those comments.

The City Council will certify the Final PEIR prior to completing its deliberations on the proposed project. If it approves the proposed project, then the City Council will adopt the findings, statement of overriding considerations, and mitigation monitoring and reporting program that are required by CEQA.

This Partial Recirculated Draft PEIR is not the Final PEIR.

CHAPTER 2: GEOLOGY, SOILS, AND SEISMICITY

2.1 - Introduction

This section describes existing conditions related to geology and soils in the region and project area summarizes the relevant regulatory framework. This section also evaluates the possible significant impacts related to geology and soils that could result from implementation of the project and provides mitigation measures to reduce these impacts to a less than significant level. Information included in this section is based on, in part, the regional geologic reports and maps from the United States Geological Survey (USGS), the California Geological Survey (CGS), the Natural Resources Conservation Service (NRCS), and other public sources, as well as the Geological Hazards Investigation prepared by Krazan & Associates, Inc., on June 15, 2012, for the Fresno General Plan. As further discussed in Chapter 1, Introduction, eight comments were received during the Draft Program Environmental Impact Report (Draft PEIR) scoping period related to geology and soils., including:

- Recommends that all future development under the proposed project collect soil samples for lead analysis prior to performing any intrusive activities.
- Requires that the Draft PEIR require any future development under the proposed project that requires the importation of soil to backfill any excavated areas to conduct the proper sampling to ensure that the imported soil is free of contamination.
- Identifies locations within the Plan Area that are within Special Flood Hazard Areas, which would be subject to Fresno County Ordinance Code Title 15, Chapter 15.48 as well as Federal Emergency Management Agency (FEMA) flood elevation requirements as applicable.
- States that any grading will require either an engineered grading and drainage plan, road improvement plan, permit or voucher and must comply with the City of Fresno standards/requirements.
- Requests that all engineered grading and drainage plans, road improvement plans, permits, and vouchers also be forwarded to the City of Fresno.
- Requests that the Draft PEIR accurately capture and analyze baseline conditions and potentially significant project-specific and cumulative impacts within and adjacent to the Planning Area.
- Requests that the Draft PEIR identify and adopt all feasible and enforceable mitigation measures that avoid and reduce negative impacts.
- Requests that the Draft PEIR analyze and create mitigation measures consistent with all applicable laws, including state and federal fair housing, civil rights, and climate laws such as Senate Bill (SB) 743.

2.2 - Environmental Setting

Geologic Setting

Regional Setting

The Plan Area is in the San Joaquin Valley portion of the Great Valley Geomorphic Province of California, which is about 450 miles long. The San Joaquin Valley is bordered to the north by the Sacramento Valley, which together comprise the province. The San Joaquin Valley is surrounded by the Sierra Nevada to the east, the Coast Ranges to the west, and the Tehachapi Mountains to the south.[1] The Fresno Metropolitan area is set on gently southwest-sloping alluvial fans and plains formed by the San Joaquin and Kings rivers. The San Joaquin River and the Kings River are the principal rivers in the area, with the alluvial fans formed by these rivers serving as the predominant geomorphic features in the area. The City and SOI is generally characterized by low alluvial fans and plains, which constitute a belt of coalescing alluvial fans of low relief between the dissected uplands, adjacent to the Sierra Nevada and the valley trough.[2]

Faulting

No active faults are mapped within the City of Fresno (City), and there are no Alquist-Priolo Earthquake Fault Zones in the City.[3] Active faults are those showing evidence of surface displacement within the last 11,000 years.[4] The nearest fault to the Plan Area mapped by the CGS is the Clovis Fault, located about 3.8 miles to the northeast.[5] The Clovis Fault is mapped as pre-Quaternary in age—that is, older than 1.6 million years, and is not considered an active fault.[6] The nearest active faults to the Plan Area mapped by the CGS are the Nunez Fault about 48 miles to the southwest; the San Andreas Fault about 61 miles to the southwest; and the Ortigalita Fault Zone about 54 miles to the west. The Sierra Nevada Fault Zone is about 90 miles east of the Plan Area in the eastern slopes of the Sierra Nevada, and the Owens Valley Fault Zone is about 90 miles east of the Plan Area in the Owens Valley.

Existing Soils

Subsurface Soils in the Fresno Region

Based on the Geologic Hazards Investigation prepared for the Fresno General Plan, the uppermost 6 to 12 inches of soils in the Fresno region are very loose silty sand, silty sand with trace clay, sandy silt, clayey sand, or clayey gravel. These soils are disturbed, have low strength characteristics, and are highly compressible when saturated.

1 California Geological Survey (CGS). 2002. Note 36: California Geomorphic Provinces. Website: https://www.conservation.ca.gov/cgs/Documents/Publications/CGS-Notes/CGS-Note-36.pdf. Accessed May 11, 2022.
2 City of Fresno. 2020. Fresno General Plan Program Environmental Impact Report, Section 4.7, Geology and Soils. Accessed June 22, 2022.
3 City of Fresno. 2020. Fresno General Plan Program Environmental Impact Report, Section 4.7, Geology and Soils. Accessed June 22, 2022.
4 California Geological Survey. 2017. Alquist-Priolo Earthquake Fault Zoning Act. Website: https://www.conservation.ca.gov/cgs/alquist-priolo. Accessed May 11, 2022.
5 California Department of Conservation. 2015. Fault Activity Map of California, California Geological Survey. Website: https://maps.conservation.ca.gov/cgs/fam/. Accessed May 12, 2022.
6 Ibid.

Between approximately 2 to 4 feet below ground surface (BGS), soils are generally loose/soft to very dense/hard clays, silts, sands, and gravels. These soils are typically moderately strong and slightly to moderately compressible.

Below 3 to 5 feet BGS, soils generally consist of clays, silts, sands, and gravels. These soils are typically moderately strong and slightly compressible.[7]

Geological Hazards

The following description of geologic hazards is based partly on the geological hazards investigation prepared for the Fresno General Plan by Krazan and Associates in 2012. The information presented here is a region-wide summary only and is not indicative of conditions on any development site. Site-specific geotechnical investigations would be required for each development project considered for approval under the proposed project.

Strong Ground Shaking

The peak ground acceleration with a 2 percent probability of exceedance in 50 years—that is, an average return period of 2,475 years—ranges from approximately 0.282g along SR-180 to 0.276g on the northeast site boundary to 0.321g at the southeast corner of the site to 0.328g at the northwest corner of the site; g is the acceleration of gravity.[8]

Ground acceleration of 0.321g correlates with intensity VII on the Modified Mercalli Intensity (MMI) Scale, a subjective scale of how earthquakes are felt by people and the effects of earthquakes on buildings.[9] The MMI Scale is a 12-point scale where Intensity I earthquakes are generally not felt by people and Intensity XII earthquakes result in total damage with objects thrown into the air. In an intensity VII earthquake, some chimneys are broken, and damage is negligible in buildings of good design and construction, is slight to moderate in well-built ordinary structures, and is considerable in poorly built or badly designed structures.[10]

The Fresno region has historically been subject to low to moderate ground shaking. Two of the historic earthquakes that caused ground shaking in the region, the Owens Valley Earthquake of 1872 and the Coalinga Earthquake of 1983, each generated ground shaking of intensity VII in the region.[11]

---

7 Krazan and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/E-1-Geologic-Hazards-Investigation.pdf. Accessed May 11, 2022.

8 California Geological Survey (CGS). 2008. Ground Motion Interpolator. Website: https://www.conservation.ca.gov/cgs/ground-motion-interpolator. Accessed May 12, 2022.

9 Wald, D. J, Vincent, Q., and Heaton, T. H., et al. 1999. Relationships between Peak Ground Acceleration, Peak Ground Velocity, and Modified Mercalli Intensity in California. August 1. Journal of Earthquake Spectra. Website: https://doi.org/10.1193/1.1586058. Accessed May 12, 2022.

10 Krazan and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/E-1-Geologic-Hazards-Investigation.pdf. Accessed May 11, 2022.

11 Ibid.

The Geologic Hazards Investigation prepared for the Fresno General Plan includes estimated ranges of seismic parameters pursuant to the California Building Standards Code (CBC); seismic parameters must be calculated for each development project.[12]

Liquefaction

Liquefaction refers to loose, saturated sand or silt deposits that behave as a liquid and lose their load-supporting capability when strongly shaken. Loose granular soils and silts that are saturated by relatively shallow groundwater are susceptible to liquefaction.

Soils in the Fresno region range from gravel to sand to silt to clay. Shallow soils—especially within 1 foot of the ground surface—are highly compressible; deeper soils—over 3 to 5 feet BGS—are typically moderately strong and slightly compressible.[13]

Liquefaction potential in the City of Fresno is considered low to moderate.[14] No liquefaction has been observed in Fresno from any historic earthquake.[15]

Seismic Ground Settlement

Ground shaking can cause unconsolidated sediments to settle. Because of the nature of the soils underlying the city, and the history of low to moderate ground shaking, seismic settlement is not considered a significant hazard in the region.[16]

Lateral Spreading

Lateral spreading is the downslope movement of surface sediment due to liquefaction in a subsurface layer. Lateral spreading is not considered a substantial hazard in the region for the same reasons given for seismic ground settlement.[17]

Landslides

There is no risk of large landslides in the Fresno area due to its relatively flat topography. However, there is potential for small landslides along the steep banks of rivers, creeks, or drainage basins such as the San Joaquin River Bluff and the many unlined basins and canals that trend throughout the City. Because of the generally flat-lying nature of the City, problems from landslides are not anticipated to affect the majority of the City provided developments in the vicinity of the San

[12] Krazan and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/E-1-Geologic-Hazards-Investigation.pdf. Accessed May 11, 2022.

[13] Krazan and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/E-1-Geologic-Hazards-Investigation.pdf. Accessed May 11, 2022.

[14] Ibid.

[15] County of Fresno. 2018. Multi-Hazard Mitigation Plan. Website: https://www.co.fresno.ca.us/home/showpublisheddocument/35154. Accessed May 13, 2022.

[16] Krazan and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/E-1-Geologic-Hazards-Investigation.pdf. Accessed May 11, 2022.

[17] Ibid.

Joaquin River Bluff, basins, and canals are constructed properly with an appropriate setback from the slope edge.[18]

The San Joaquin River is located in the northwestern part of the City. The project site is located in the southwestern part of the City and is not located near the San Joaquin River. The project site is relatively flat and does not contain steep slopes. Any development near canals or drainage basins would be required to implement appropriate setbacks.

Erosion

Erosion is a natural process involving the movement of soil from place to place. The main natural agents of erosion in the region are wind and flowing water. Erosion can be accelerated dramatically by ground-disturbing activities if effective erosion control measures are not used. Soil can be carried off construction sites or bare land by wind and water and tracked off construction sites by vehicles. Sediments can increase the turbidity (cloudiness) of water, clog fish gills, reduce spawning habitat, lower survival rates of young aquatic organisms, smother bottom-dwelling organisms, and suppress aquatic vegetation growth.

The 2018 Fresno County Multi-Hazard Mitigation Plan identifies two types of areas with moderate to high erosion potential: (1) certain soil types in the Sierra Nevada and foothills (both Sierra Nevada and Coast Ranges) on slopes generally over 30 percent, and (2) certain soil types in the western San Joaquin Valley and the Coast Ranges, both in western Fresno County. The Fresno County Multi-Hazard Mitigation Plan's map of erosion hazards indicates that erosion hazard areas exist in east of Friant Kern Canal in the hills east of the City. The Plan Area is not mapped in an erosion hazard area.[19]

Construction projects 1 acre or larger in area are required to employ construction Best Management Practices (BMPs)—including erosion control BMPs—to minimize pollution of stormwater by construction activity, including pollution with sediment.

Ground Subsidence

The major causes of ground subsidence are the excessive withdrawal of groundwater and the withdrawal of petroleum. The Fresno region is not known to be subject to subsidence hazards. Substantial subsidence has occurred elsewhere in the San Joaquin Valley: up to 28 feet in western Fresno County in the western edge of the San Joaquin Valley; more than 12 feet in southwestern Tulare County; and more than 8 feet in Kern County south of Bakersfield.[20] Areas of subsidence in

[18] Krazan and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/E-1-Geologic-Hazards-Investigation.pdf. Accessed May 11, 2022.

[19] County of Fresno. 2018. Multi-Hazard Mitigation Plan. Website: https://www.co.fresno.ca.us/home/showpublisheddocument/35154. Accessed May 13, 2022.

[20] Krazan and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/E-1-Geologic-Hazards-Investigation.pdf. Accessed May 11, 2022.

Fresno County mapped in the Multi-Hazard Mitigation Plan are in western Fresno County more than 15 miles west and southwest from the Plan Area.[21]

Collapsible Soils

Collapsible soils shrink upon being wetted and/or being subject to a load. Shallow soils on-site—to depths of at least 3 to 5 feet BGS—are expected to be compressible to varying degrees, with compressibility generally increasing nearer the surface.[22]

Expansive Soils

Expansive soils contain substantial amounts of clay that swells when wetted and shrinks when dried; the swelling or shrinking can shift, crack, or break structures built on such soils. Soils underlying the Fresno region consist partly of clays that are considered slightly to moderately expansive.[23] The Plan Area is not mapped as having moderately high to high expansion potential.[24]

Seismicity

The term seismicity describes the effects of seismic waves that are radiated from an earthquake fault in motion. While most of the energy released during an earthquake results in the permanent displacement of the ground, as much as 10 percent of the energy may dissipate immediately in the form of seismic waves. Seismicity can result in seismic-related hazards such as fault rupture, ground shaking, and liquefaction faults form in rocks when stresses overcome the internal strength of the rock, and fault rupture occurs when movement on a fault breaks through to the surface and can result in damage to infrastructure and persons. Ground movement during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material. The composition of underlying soils, even those relatively distant from faults, can intensify ground shaking. Strong ground shaking from an earthquake can result in damage, with buildings shifted off their foundations and underground pipes broken. Liquefaction occurs when an earthquake causes ground shaking that results in saturated soil to lose shear strength, deform, and act like a liquid. When liquefaction occurs, it can result in ground failure that can result in damage to roads, pipelines, and buildings.

Slope Disturbance

Slope disturbance from long-term geologic cycle of uplift, mass wasting, intense precipitation or wind, and gravity can result in slope failure in the form of mudslides and rock fall. The project vicinity is seismically active with known faults; however, the project area does not contain active faults that would cause geologic uplifting. Mass wasting refers to a variety of erosional processes from gradual downhill soil creep to mudslides, debris flows, landslides, and rock fall—processes that are

[21] Krazan and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/E-1-Geologic-Hazards-Investigation.pdf. Accessed May 11, 2022.

[22] Krazan and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/E-1-Geologic-Hazards-Investigation.pdf. Accessed May 11, 2022.

[23] Ibid.

[24] County of Fresno. 2018. Multi-Hazard Mitigation Plan. Website: https://www.co.fresno.ca.us/home/showpublisheddocument/35154. Accessed May 13, 2022.

commonly triggered by intense precipitation or wind, which varies according to climactic shifts. Often, various forms of mass wasting are grouped together as landslides, which are generally used to describe the downhill movement of rock and soil. Soil creep is a long-term, gradual downhill migration of soil under the influence of gravity and is generally on the order of a fraction of an inch per year. These soils can creep away downslope sides of foundations and reduce lateral support. However, because the Plan Area is relatively flat and does not contain steep slopes, it is unlikely that significant slope disturbance would occur.

2.3 - Regulatory Framework

Federal

National Earthquake Hazards Reduction Program

The National Earthquake Hazards Reduction Program (NEHRP) was established by the United States Congress when it passed the Earthquake Hazards Reduction Act of 1977, Public Law 95–124. In establishing the NEHRP, Congress recognized that earthquake-related losses could be reduced through improved design and construction methods and practices, land use controls and redevelopment, prediction techniques and early warning systems, coordinated emergency preparedness plans, and public education and involvement programs. The four basic goals remain unchanged:

- Develop effective practices and policies for earthquake loss reduction and accelerate their implementation.
- Improve techniques for reducing earthquake vulnerabilities of facilities and systems.
- Improve earthquake hazards identification and risk assessment methods, and their use.
- Improve the understanding of earthquakes and their effects.

Several key federal agencies contribute to earthquake mitigation efforts. There are four primary NEHRP agencies:

- National Institute of Standards and Technology of the Department of Commerce
- National Science Foundation
- United States Geological Survey (USGS) of the Department of the Interior
- Federal Emergency Management Agency (FEMA) of the Department of Homeland Security

Implementation of NEHRP priorities is accomplished primarily through original research, publications, and recommendations to assist and guide State, regional, and local agencies in the development of plans and policies to promote safety and emergency planning.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program, authorized by Section 402(p) of the federal Clean Water Act, controls water pollution by regulating point sources, such as construction sites and industrial operations that discharge pollutants into waters of the United States. A Storm Water Pollution Prevention Plan (SWPPP) is required to control discharges from a

project site, including soil erosion, to protect waterways. A SWPPP describes the measures or practices to control discharges during both the construction and operational phases of the project. A SWPPP identifies project design features and structural and nonstructural BMPs that would be used to control, prevent, remove, or reduce stormwater pollution from the project site, including sediment from erosion.

State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code [PRC] §§ 2621 to 2630) was passed in 1972 to provide a Statewide mechanism for reducing the hazard of surface fault rupture to structures used for human occupancy. The main purpose of the Act is to prevent the siting of buildings used for human occupancy across the traces of active faults. It should be noted that the Act addresses the potential hazard of surface fault rupture and is not directed toward other earthquake hazards, such as seismically-induced ground shaking or landslides.

The law requires the State Geologist to identify regulatory zones (known as Earthquake Fault Zones or Alquist-Priolo Zones) around the surface traces of active faults, and to depict these zones on topographic base maps, typically at a scale of 1 inch to 2,000 feet. Earthquake Fault Zones vary in width, although they are often 0.75-mile wide. Once published, the maps are distributed to the affected cities, counties, and State agencies for their use in planning and controlling new or renewed construction. With the exception of single-family wood-frame and steel-frame dwellings that are not part of a larger development (i.e., four units or more), local agencies are required to regulate development within the mapped zones. In general, construction within 50 feet of an active fault zone is prohibited.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (PRC §§ 2690–2699.6), which was passed in 1990, addresses earthquake hazards other than surface fault rupture. These hazards include strong ground shaking, earthquake-induced landslides, liquefaction, or other ground failures. Much like the Alquist-Priolo Earthquake Fault Zoning Act discussed above, these seismic hazard zones are mapped by the State Geologist to assist local government in the land use planning process. The Act states, “it is necessary to identify and map seismic hazard zones in order for cities and counties to adequately prepare the safety element of their general plans and to encourage land use management policies and regulations to reduce and mitigate those hazards to protect public health and safety.” The Act also states, “cities and counties shall require, prior to the approval of a project located in a seismic hazard zone, a geotechnical report defining and delineating any seismic hazard.”

California Building Code

The State of California provides minimum standards for building design through the California Building Standards Code (California Code of Regulations [CCR], Title 24). Where no other building codes apply, Chapter 29 regulates excavation, foundations, and retaining walls. The CBC applies to building design and construction in the State and is based on the federal Uniform Building Code (UBC) used widely throughout the country (generally adopted on a state-by-state or district-by-

district basis). The CBC has been modified for California conditions with more detailed and/or more stringent regulations.

The State earthquake protection law (California Health and Safety Code § 19100 *et seq*.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design. Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, and Appendix Chapter A33 regulates grading activities, including drainage and erosion control and construction on unstable soils, such as expansive soils and areas subject to liquefaction.

The CBC is updated every 3 years. The 2022 California Building Standards Code (CCR Title 24) became effective on January 1, 2023. The 2022 CBC has been adopted by the City of Fresno.

Local Regulations

City of Fresno Building Code

The City of Fresno has incorporated and adopted the 2022 CBC with the City's amendments as Municipal Code Section 11- 102, referred to as the Fresno Building Code.

A preliminary soils report is required under Municipal Code Section 12-1022 for every subdivision for which a final map is required. Grading and erosion control requirements are set forth in Section 12-1023.

Fresno General Plan

The Fresno General Plan is the City's primary policy planning document. Through its 12 elements, the General Plan provides the framework for the management and utilization of the City's physical, economic, and human resources. Each element contains goals, policies, and implementation measures that guide development within the City.

The Fresno General Plan includes the following objectives and policies that pertain to geology and soils:

Noise and Safety

Objective NS-2 Minimize risks of property damage and personal injury posed by geologic and seismic risks.

Policy NS-2-a **Seismic Protection.** Ensure seismic protection is incorporated into new and existing construction, consistent with the Fresno Municipal Code.

Policy NS-2-b **Soil Analysis Requirement.** Identify areas with potential geologic and/or soils hazards, and require development in these areas to conduct a soil analysis and mitigation plan by a registered civil engineer (or engineering geologist specializing in soil geology) prior to allowing on-site drainage or disposal for wastewater, stormwater runoff, or swimming pool/spa water.

Policy NS-2-c **Landfill Areas.** Require proposed land uses on or near landfill areas to be designed and maintained to comply with California Code of Regulations, Title 27, Section 21190, Post Closure Land Use.

Policy NS-2-d **Bluff Preservation Overlay Zone.** Per the requirements of the Bluff Preservation Overlay Zone District and Policy POSS-7-f (Chapter 5, Parks and Open Space), the following standards shall be applicable for property located within the Bluff Preservation zone:

- Require proposed development within 300 feet of the toe of the San Joaquin River bluffs to undertake an engineering soils investigation and evaluation report that demonstrates that the site is sufficiently stable to support the proposed development, or provide mitigations to provide sufficient stability.
- Establish a minimum setback of 30 feet from the San Joaquin River bluff edge for all buildings, structures, decks, pools and spas (which may be above or below grade), fencing, lighting, steps, etc.
- An applicant may request to reduce the minimum setback to 20 feet from the bluff edge if it can be demonstrated, to the satisfaction of the City's Building Official and the Planning Director, that the proposed building, structure, deck, pool and/or spas (which may be above or below grade), fencing, steps, etc., will meet the objectives of the Bluff Preservation Overlay Ordinance. In no case shall the setback be reduced to less than 20 feet.

Public Utilities and Services Element

Objective PU-5 Preserve groundwater quality and ensure that the health and safety of the entire Fresno community is not impaired by use of private, on-site disposal systems.

Policy PU-5-a **Mandatory Septic Conversion.** Continue to evaluate and pursue where determined appropriate the mandatory abatement of existing private wastewater disposal (septic) systems and mandatory connection to the public sewage collection and disposal system.

Policy PU-5-b **Non-Regional Treatment.** Discourage, and when determined appropriate, oppose the use of private wastewater (septic) disposal systems, community wastewater disposal systems, or other non-regional sewage treatment and disposal systems within or adjacent to the Metropolitan Area if these types of wastewater treatment facilities would cause discharges that could result in groundwater degradation.

Policy PU-5-c **Satellite Facilities.** Work with the Regional Water Quality Control Board to ensure that approval of any satellite treatment and reclamation facility proposal is consistent with governing statutes and regulations.

Policy PU-7-a **Reduce Wastewater.** Identify and consider implementing water conservation standards and other programs and policies, as determined appropriate, to reduce wastewater flows.

Policy PU-7-b **Reduce Stormwater Leakage.** Reduce stormwater infiltration into the sewer collection system, where feasible, through a program of replacing old and deteriorated sewer collection pipeline; eliminating existing stormwater sewer cut-ins to the sanitary sewer system; and avoiding any new sewer cut-ins except when required to protect health and safety.

Policy PU-7-c **Biosolid Disposal.** Investigate and consider implementing economically effective and environmentally beneficial methods of biosolids handling and disposal.

Policy PU-7-d **Wastewater Recycling.** Pursue the development of a recycled water system and the expansion of beneficial wastewater recycling opportunities, including a timely technical, practicable, and institutional evaluation of treatment, facility siting, and water exchange elements.

Commentary: This policy corresponds with Policy RC-6-d in the Resource Conservation and Resilience Element.

Policy PU-7-e **Infiltration Basins.** Continue to rehabilitate existing infiltration basins, and if determined appropriate, pursue acquiring additional sites for infiltration basins, as needed.

Policy PU-7-f **Food and Drink Industry.** Ensure adequate provision of facilities for the appropriate management of wastewater from wineries and food processing and beverage facilities, including conformance with Waste Discharge Requirements issued by the Regional Water Quality Control Board.

Southeast Development Area Specific Plan

The Fresno SEDA Specific Plan is framed within three significant and interrelated goals: fiscal responsibility, social equity, and environmental sustainability. The proposed Plan and policies that form its implementation framework are formulated and coordinated to meet the criteria of these overlapping goals. The proposed Specific Plan contains the following policies and programs related to geology and soils: Urban Form Element

Objective UF-1 Create complete neighborhoods in the Southeast Development Area that integrate housing, business and retail amenities. Implement a Southeast Development Area plan that balances and mixes housing, jobs, commercial businesses, services, and public facilities to help meet existing thresholds for lower vehicle miles traveled, reduced air pollution, and the efficient use of groundwater resources in compliance with the Sustainable Groundwater Management Act of 2014.

Policy UF-1.5 **Public Facilities and Open Spaces.** Support the development of public infrastructure, facilities, and parks that meet the needs of Plan Area residents according to the policies and standards set in the Open Space, Schools and Public Facilities Chapter and the General Plan.

Open Space Element

Objective OS-14 Provide water, stormwater, and wastewater infrastructure necessary to serve development in the SEDA.

Policy OS-14.1 Provision of Water, Stormwater, and Wastewater Infrastructure. Provide water, stormwater, and wastewater infrastructure in accordance with the policies of the Greenhouse Gas Reduction and Conservation Chapter.

Greenhouse Gas Reductions and Resources Conservation Element

Objective RC-5 Protect surface and groundwater supplies from major sources of pollution.

Policy RC-5.3 Construction Erosion.

- **Erosion and Sedimentation Control Plan:** Require all construction projects to create and implement a plan using State and local best management practices for erosion and sedimentation control.
- **Runoff Control:** Prevent loss of soil by stormwater runoff and sedimentation of storm sewers or receiving streams.

Fresno General Plan PEIR Mitigation Measures

The Fresno General Plan PEIR contains the following mitigation measures that are applicable to the proposed project.

MM GEO-6.1 Subsequent to a preliminary City review of the project grading plans, if there is evidence that a project will include excavation or construction activities within previously undisturbed soils, a field survey and literature search for unique paleontological/geological resources shall be conducted. The following procedures shall be followed:

- If unique paleontological/geological resources are not found during either the field survey or literature search, excavation and/or construction activities can commence. In the event that unique paleontological/geological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified Paleontologist shall be consulted to determine whether the resource requires further study. The qualified Paleontologist shall make recommendations to the City on the measures that shall be implemented to protect the discovered resources, including but not limited to, excavation of the finds and evaluation of the finds. If the resources are determined to be significant, mitigation measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these resources. Any paleontological/geological resources recovered as a result of mitigation shall be

provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study.

- If unique paleontological/geological resources are found during the field survey or literature review, the resources shall be inventoried and evaluated for significance. If the resources are found to be significant, mitigation measures shall be identified by the qualified Paleontologist. Similar to above, appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. In addition, appropriate mitigation for excavation and construction activities in the vicinity of the resources found during the field survey or literature review shall include a paleontological monitor. The monitoring period shall be determined by the qualified Paleontologist. If additional paleontological/geological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.

2.4 - Methodology

Impacts related to geology, soils, and paleontological resources resulting from implementation of the proposed project are discussed below. The following impact analysis is based on a review of published information, surveys, and reports regarding regional geology and soils. Information was obtained from private and governmental agencies and Internet websites, including the CGS and the USGS.

2.5 - Thresholds of Significance

The lead agency utilizes the criteria in the California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist as thresholds to determine whether impacts to geology and soils are significant environmental effects.

Appendix G to the CEQA Guidelines is a sample Initial Study Checklist that includes questions for determining whether impacts to resources are significant. These questions reflect the input of planning and environmental professionals at the Governor's Office of Planning and Research and the California Natural Resources Agency, based on input from stakeholder groups and experts in various other governmental agencies, nonprofits, and leading environmental consulting firms. Accordingly, the City has derived its significance criteria, based in part, on the questions posed in Appendix G. These significance criteria are as follows:

The proposed project would be considered significant if the project would:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:
    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.

ii. Strong seismic ground shaking.

iii. Seismic-related ground failure, including liquefaction.

iv. Landslides.

b) Result in substantial soil erosion or the loss of topsoil.

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.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

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.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

2.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the proposed project and provides mitigation measures where necessary.

Earthquakes

Impact GEO-1: **The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:**

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.

ii) Strong seismic ground shaking.

iii) Seismic-related ground failure, including liquefaction.

iv) Landslides.

Impact Analysis

i) Surface Fault Rupture

Buildout of the Specific Plan would not subject people or structures to hazards from surface rupture of a known active fault. The closest known active fault to the Plan Area is the Nunez Fault, which is located about 48 miles to the southwest of the project site. Furthermore, the nearest Alquist-Priolo Earthquake Fault Zone to the site is along the Nunez Fault. Therefore, the proposed project is not located near a fault and would not result in the rupture of a known earthquake fault. No impact would occur due to the distance of the Plan Area from the nearest known active fault.

ii) Strong Seismic Ground Shaking

The entire Planning Area is within a seismically active region that could experience strong ground shaking during a seismic event. The intensity of ground shaking will ultimately depend on the characteristics of the fault, distance from the fault, magnitude and duration of the earthquake, and site-specific geologic conditions. As previously discussed, the nearest fault to the project site is the Nunez Fault, located about 48 miles to the southwest.

The Fresno region has historically been subject to low to moderate ground shaking. Two of the historic earthquakes that caused ground shaking in the region, the Owens Valley Earthquake of 1872 and the Coalinga Earthquake of 1983, each generated ground shaking of Intensity VII in the region.[25]

Potential structural damage and exposure of people to risk of injury or death from structural failure associated with strong seismic ground shaking would be reduced by compliance with CBC engineering design and construction measures. Foundations and other structural support features would be designed to resist or absorb damaging forces from strong ground shaking. The City of Fresno Municipal Code Section 11- 102 incorporates the most recent CBC. The City reviews plans and applications for site clearance, grading, and building permits to ensure compliance with the CBC and imposes requirements for revisions where needed to ensure that new or significantly remodeled structures are constructed in compliance with the CBC, and reflect any additional measures deemed appropriate. Permit issuance would be based upon satisfactory completion of any identified applicable measures. Geotechnical investigations would be required for certain categories of projects considered for approval under the proposed project. Each geotechnical investigation would estimate seismic design parameters for its project site based on site-specific geologic and soil conditions and the types of building occupancies proposed.

Compliance with mandatory CBC requirements and implementation of General Plan Update policies and actions would ensure that future development projects are appropriately investigated in terms of potential seismic hazards and that any new buildings and structures are constructed to withstand strong seismic ground shaking. Therefore, impacts would be less than significant.

iii) Seismic-related ground failure, including liquefaction.

Secondary effects of earthquake shaking may include landslides, slope instability, liquefaction, subsidence, and lateral spreading. Liquefaction potential in the City of Fresno is considered low to moderate.[26] Additionally, no liquefaction from historic earthquakes has been observed in Fresno, and the potential for liquefaction in the City is considered very low to moderate.[27]

Buildings constructed under the proposed project could be subject to liquefaction. Geotechnical investigations would be required for certain categories of projects approved under the Specific Plan.

[25] City of Fresno. 2020. Fresno General Plan Program Environmental Impact Report. Accessed June 21, 2022.

[26] California Geological Survey (CGS). 2008. Ground Motion Interpolator. Website: https://www.conservation.ca.gov/cgs/ground-motion-interpolator. Accessed May 12, 2022.

[27] Krazan and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/E-1-Geologic-Hazards-Investigation.pdf. Accessed May 11, 2022.

Each geotechnical investigation would assess liquefaction potential on its project site and would provide needed recommendations, such as foundation design recommendations, to minimize hazards arising from liquefaction. Therefore, impacts related to seismic-related ground failure, such as liquefaction, ground settlement, lurching, lateral spreading, and ground cracking would be less than significant.

iv) Landslides

The proposed project is located in an area that is not at risk of large landslides. Small landslides could occur along canals within the Plan Area; however, appropriate setbacks would be implemented for any construction in these areas. Furthermore, geotechnical investigations for projects considered for approval under the Specific Plan would include site-specific assessments of the potential for landslides and would provide needed recommendations—such as for remedial grading and/or setbacks—to minimize any ensuing hazards. Therefore, impacts would be less than significant.

Conclusion

In conclusion, compliance with local codes, mandatory CBC requirements, and implementation of General Plan policies and objectives would ensure that future development projects are appropriately investigated in terms of potential seismic hazards, and that any new buildings and structures are constructed to withstand the anticipated range of seismic events. At the programmatic level, seismic impacts would be reduced to a less than significant level. Consistent with General Plan policies and objectives, individual development projects would be required to undergo project-specific environmental review to minimize risks of property damage and personal injury posed by geologic and seismic risks, which may require additional site-specific or project-specific measures to reduce any potential for loss, injury, or death in the event of a seismic event. As such, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Fresno General Plan PEIR Mitigation Measures

None.

Project Specific Mitigation Measures

None.

Soil Erosion or Topsoil Loss

Impact GEO-2:	**The proposed project would not result in substantial soil erosion or the loss of topsoil.**

Impact Analysis

Development under the proposed project would involve construction activities such as stockpiling, grading, excavation, paving, and other earth-disturbing activities. Loose and disturbed soils are more

prone to erosion and loss of topsoil by wind and water. As such, soil erosion is dependent on individual site locations and conditions on-site during construction.

Construction activities that disturb one or more acre of land surface are subject to the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No. 2012-0006-DWQ) adopted by the California State Water Resources Control Board (State Water Board). Compliance with the permit requires each qualifying development project to file a Notice of Intent with the State Water Board. Permit conditions require development of a SWPPP, which must describe the site, facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of construction sediment and erosion control measures, maintenance responsibilities, and non-stormwater management controls. Inspection of construction sites before and after a storm is also required to identify stormwater discharge from construction activity and to identify and implement erosion controls, where necessary.

The General Plan Policy NS-2-b requires a soil analysis to identify areas with potential soils hazards, and require development in these areas to conduct a soil analysis and mitigation plan by a registered civil engineer (or engineering geologist specializing in soil geology). Additionally, a preliminary soils report is required under Municipal Code Section 12-1022 for every subdivision for which a final map is required. Grading and erosion control requirements are set forth in Section 12-1023. Furthermore, SEDA Specific Plan Policy RC-5.3 would prevent erosion on construction sites during storm events by requiring all construction projects to create and implement an erosion and sedimentation control plan, and to control runoff on construction sites.

Compliance with mandatory NPDES permit requirements and the Municipal Code requirements and General Plan policies and proposed Specific Plan policies would minimize potential soil erosion impacts and loss of topsoil from construction-related soil disturbance for construction activities that occur pursuant to the proposed project. As such, potential impacts related to soil erosion and loss of topsoil would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Fresno General Plan PEIR Mitigation Measures

None.

Project Specific Mitigation Measures

None.

Unstable Geologic Location

Impact GEO-3:	**The proposed project would not 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.**

Impact Analysis

As discussed previously in Impact GEO-1(iii) and Impact GEO-1(iv), certain areas of the project site could have the potential for small landslides or liquefaction. As such, development allowed under the proposed project could occur within areas containing unstable geologic units or be located on soils that are unstable or could become unstable from such development. The Fresno region is not known to be subject to subsidence hazards; therefore, buildout of the proposed project would not expose people or structures to substantial hazards from subsidence. Seismic settlement is not considered a significant hazard in the Fresno region due to the nature of the underlying soils and the history of low to moderate ground shaking. Lateral spreading is the downslope movement of surface sediment due to liquefaction in a subsurface layer. Lateral spreading is not considered a substantial hazard in the Fresno region for the same reasons pertaining to seismic ground settlement.[28]

Geotechnical investigations for projects considered for approval under the proposed project would include site-specific assessments of the potential for unstable geologic units or unstable soils, and would provide needed recommendations—such as for remedial grading and/or foundation design—to minimize any ensuing hazards.

As described previously, any development that occurs under the proposed project would be required to comply with Municipal Code Section 11- 102, referred to as the Fresno Building Code, which implements the CBC. The CBC includes requirements to address development on areas containing unstable geologic units or in areas where soil is unstable. Typical measures to treat unstable soil conditions involve removal, proper fill selection, and compaction. In cases where soil remediation is not feasible, the CBC requires structural reinforcement of foundations to resist forces of being located within unstable geologic units or unstable soils.

Therefore, with the implementation of the policies and actions in the General Plan Update, as well as applicable State and local codes, potential impacts associated with development on unstable geologic units or unstable soils would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Fresno General Plan PEIR Mitigation Measures

None.

Project Specific Mitigation Measures

None.

[28] Krazan and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/E-1-Geologic-Hazards-Investigation.pdf. Accessed May 11, 2022.

Expansive Soil

Impact GEO-4: **The proposed project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.**

Impact Analysis

Development of projects under the proposed project could expose people or structures to hazards arising from expansive soils. New development constructed on expansive soils could be subject to damage or become unstable when underlying soil shrinks or swells. Soils underlying the Fresno region consist partly of clays that are considered slightly to moderately expansive.[29] However, the Plan Area is not mapped as having moderately high to high expansion potential.[30]

A preliminary soils report is required under Municipal Code Section 12-1022 for every subdivision for which a final map is required. General Plan Policy NS-2-b requires a soil analysis to be conducted by a registered civil engineer. Applicants for certain categories of projects would be required to conduct geotechnical studies for their projects before the City would issue building permits. Each geotechnical study would evaluate whether site soils were suitable for supporting the proposed structures. Each project applicant would be required to comply with the recommendations of the applicable geotechnical investigation report. Such reports usually conclude that at least the top few feet of soil are unsuited for supporting structures, and recommend removing such soils and replacing them with engineered, moistened, and compacted fill soils. Compliance with the rules and regulations of the Municipal Code, including compliance with the CBC, and implementation of the General Plan policies, would ensure that potential impacts related to expansive soils remain less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Fresno General Plan PEIR Mitigation Measures

None.

Project Specific Mitigation Measures

None.

Wastewater Disposal Systems

Impact GEO-5: **The proposed project would not 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.**

[29] Krazan and Associates, Inc. 2012. Geologic Hazards Investigation, Fresno General Plan Update. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/E-1-Geologic-Hazards-Investigation.pdf. Accessed May 11, 2022.

[30] County of Fresno. 2018. Multi-Hazard Mitigation Plan. Website: https://www.co.fresno.ca.us/home/showpublisheddocument/35154. Accessed May 13, 2022.

Impact Analysis

The proposed project would encourage planning of growth within the Plan Area. Under the General Plan Update, the location and timing of growth in the City would be planned. The proposed project would result in sewer improvements, and would require developers to build, or contribute toward design and construction, of sewers sufficient to convey wastewater generation at buildout of the proposed project. Implementation of the proposed project would not add land uses that would rely on septic tanks or other alternative wastewater disposal systems. The proposed project would include new sewer and water infrastructure needed to serve new development as part of the proposed comprehensive infrastructure plan. Thus, buildout of the proposed project would have a less than significant impact respecting soils incapable of supporting septic tanks or other alternative wastewater disposal systems.

General Plan Objective PU-5 pertains to the preservation of groundwater quality to ensure that the health and safety of the entire Fresno community is not impaired by use of private, on-site disposal systems. Furthermore, General Plan Policy PU-5-a makes septic conversion mandatory by requiring the mandatory abatement of existing private wastewater disposal (septic) systems and mandatory connection to the public sewage collection and disposal system when determined appropriate. General Plan Policy PU-5-b discourages, and when determined appropriate, opposes the use of private wastewater (septic) disposal systems, community wastewater disposal systems, or other non-regional sewage treatment and disposal systems within or adjacent to the metropolitan area if these types of wastewater treatment facilities would cause discharges that could result in groundwater degradation. Additionally, SEDA Specific Plan Policy OS-14.1 pertains to the provision of water, stormwater, and wastewater infrastructure in accordance with the policies of the Water Resources Element; and SEDA Specific Plan Policy UF-1.5 pertains to building public infrastructure, facilities, and parks that meet the needs of Plan Area residents according to the policies and standards set in the Schools and Public Facilities, and Open Space and Recreation Elements.

Implementation of policies and objectives in the General Plan and the proposed project, as well as applicable local codes, would ensure that new septic tanks or alternative wastewater disposal systems are constructed on soils that can support such systems. Therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Fresno General Plan PEIR Mitigation Measures

None.

Project Specific Mitigation Measures

None.

Destruction of Paleontological Resource or Unique Geologic Feature

Impact GEO-6:	**The proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.**

Impact Analysis

Any project involving earthmoving activity could potentially result in inadvertent discovery and disturbance of paleontological resources during grading and excavation work. Based on the paleontological records search conducted for the proposed project by Kenneth L. Finger, PhD, on April 22, 2022, the project site and surrounding half-mile radius are mapped as Recent (Holocene) Great Valley fan deposits (Qf) and Pleistocene nonmarine deposits (Qc). Marchand and Allwardt (1975) identify the latter unit as the Riverbank Formation. Although Holocene deposits are too young to be fossiliferous, the Riverbank Formation has the potential to yield significant paleontological resources. The nearest known paleontological resource is located 5 miles east of the City.

Late Pleistocene deposits have a high paleontological sensitivity and a low-to-moderate paleontological potential for significant paleontological resources. The flat surface of the project area, much of which has developed for mixed uses, precludes any preconstruction paleontological surveys; however, the proposed project would implement General Plan PEIR Mitigation Measure (MM) GEO-6.1, which requires all future development to conduct a field survey and literature search for the unique paleontological/geological resources on any undisturbed soil, and GEO-1, which requires that all future development conduct paleontological monitoring of construction activities on the site for all construction-related earth-disturbing activities that will impact previously undisturbed sediments. Pursuant to project-specific MM GEO-1, should any significant paleontological resource (e.g., bones, teeth, well-preserved plants) be unearthed, all construction activities should be diverted at least 15 feet from the find until a professional Paleontologist has assessed it and, if deemed significant, salvaged it in a timely manner. Salvaged fossils should be deposited in an appropriate repository, where they will be properly curated and made available for future research.

As such, construction-related and earth-disturbing actions that occur under the proposed project have the potential to result in impacts on paleontological resources. However, MM GEO-1, which requires paleontological monitoring and MM GEO-6.1, which requires a field survey and literature search for unique paleontological/geological resources if excavation or construction activities on undisturbed soils are to take place, would reduce impacts to paleontological resources. As such, with implementation of MM GEO-1 and MM GEO-6.1, potential impacts to paleontological resources would be reduced to less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Fresno General Plan PEIR Mitigation Measures

MM GEO-6.1 Subsequent to a preliminary City review of the project grading plans, if there is evidence that a project will include excavation or construction activities within previously undisturbed soils, a field survey and literature search for unique paleontological/geological resources shall be conducted. The following procedures shall be followed:

- If unique paleontological/geological resources are not found during either the field survey or literature search, excavation and/or construction activities can commence. In the event that unique paleontological/geological resources are

discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified Paleontologist shall be consulted to determine whether the resource requires further study. The qualified Paleontologist shall make recommendations to the City on the measures that shall be implemented to protect the discovered resources, including but not limited to, excavation of the finds and evaluation of the finds. If the resources are determined to be significant, mitigation measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these resources. Any paleontological/geological resources recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study.

- If unique paleontological/geological resources are found during the field survey or literature review, the resources shall be inventoried and evaluated for significance. If the resources are found to be significant, mitigation measures shall be identified by the qualified Paleontologist. Similar to above, appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. In addition, appropriate mitigation for excavation and construction activities in the vicinity of the resources found during the field survey or literature review shall include a paleontological monitor. The monitoring period shall be determined by the qualified Paleontologist. If additional paleontological/geological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.

Project Specific Mitigation Measures

MM GEO-1 Applicants, owners and/or sponsors of all future development or construction projects shall be required to perform or provide paleontological monitoring during ground-disturbing activities. Should significant paleontological resources (e.g., bones, teeth, well-preserved plant elements) be unearthed by the future project construction crew, the project activities shall be diverted at least 15 feet from the discovered paleontological resources until a professional Paleontologist has assessed such discovered resources and, if deemed significant, such resources shall be salvaged in a timely manner. The applicant/owner/sponsor of said project shall be responsible for diverting project work and providing the assessment including retaining a professional Paleontologist for such purpose. Collected fossils shall be deposited by the applicant/owner/sponsor in an appropriate repository (e.g., University of California Museum of Paleontology (UCMP), California Academy of Sciences) where the collection shall be properly curated and made available for future research.

Level of Significance After Mitigation

Less than significant impact.

2.7 - Cumulative Impacts

The geographic context for analysis of cumulative impacts related to geology, soils, and seismicity includes the Plan Area and the City of Fresno. This analysis evaluates whether impacts of the proposed project, together with impacts of cumulative development, could result in a cumulatively significant impact to geology, soils, seismicity, or paleontological resources. This analysis then considers whether incremental contribution of impacts associated with implementation of the proposed project would be significant. Both conditions must apply for a project's cumulative effects to rise to the level of significance.

Seismicity and Soils

Potentially adverse environmental effects associated with seismic hazards, as well as those associated with expansive soils, unstable geologic units, unstable soils, landslides, and erosion, usually are site-specific and generally do not result in cumulative effects.

Cumulative projects would be exposed to similar ground shaking during seismic events, but development of individual projects would not increase the potential for impacts to occur. Individual development proposals would be reviewed separately by the appropriate public agency depending on location and undergo environmental review if appropriate. In the event that future cumulative development would result in impacts related to geologic or seismic impacts, those potential project or site-specific impacts would be addressed in accordance with the requirements of CEQA. New buildings would be constructed utilizing current design and construction methodologies for earthquake resistant design as required by relevant regulations, including the Fresno County Code of Ordinances. Compliance with the CBC, NPDES permits, laws and regulations mentioned above would ensure that cumulative development would have less than significant impacts associated with geology, soils, or seismicity.

Seismic hazards affecting cumulative projects are expected to be moderate due to the low to moderate historic ground shaking in the region, and the distance to known active faults. Other projects would comply with CBC seismic safety requirements and would conduct project-specific geotechnical investigations and comply with recommendations in the reports of such investigations. The Fresno region bears little to no susceptibility to some seismic hazards, including surface rupture of a known active fault due to the lack of such faults in the region; and to seismic ground settlement and lateral spreading due to the nature of the soils underlying the City and the history of low to moderate ground shaking. Accordingly, cumulative impacts would be less than significant.

As previously discussed, development that occurs under the proposed project would be required to comply with provisions of the CBC, excavation and grading requirements of the Municipal Code and General Plan and proposed SEDA Specific Plan, and mandatory NPDES permit requirements to ensure that potential impacts related to site-specific geotechnical conditions remain less than significant. For these reasons, the proposed project's contribution to cumulative impacts on geology, soils, and seismicity are not cumulatively considerable and the cumulative impact would be less than significant.

As cumulative development occurs, all future projects must comply with the federal, State, and pertinent local regulations regarding structural stability, resulting in less than significant cumulative impacts related to subsidence or collapse. Moreover, the proposed project would not contribute to a cumulative impact on liquefaction, lateral spreading, or landslides. As discussed above, impacts related to subsidence or collapse are less than significant. Since the proposed project would experience less than significant impacts associated with subsidence or collapse impacts and these potential impacts are site-specific, the proposed project's contribution to cumulative subsidence or collapse is less than cumulatively considerable, and thus less than cumulatively significant.

Wastewater Disposal Systems

Cumulative development would not contribute to potential impacts on the soils related to septic tanks or alternative wastewater disposal systems since new development would be required to adhere to General Plan policies regarding mandatory septic conversion, and the proposed project would include a comprehensive infrastructure plan. As discussed above, impacts related to soils supporting septic tanks or alternative wastewater disposal systems are less than significant. Therefore, implementation of the proposed project would not contribute to potential cumulative impacts related to soils supporting septic systems or alternative wastewater disposal systems, and potential cumulative impacts would be reduced to less than significant. Moreover, the proposed project's incremental contribution to these less than significant cumulative impacts would not be significant. As the City receives development applications for subsequent development under the proposed project, those applications would be reviewed by the City for compliance with the General Plan and the SEDA Specific Plan policies and objectives. Therefore, the proposed project would not contribute to cumulative impacts and would have less than significant cumulative impacts.

Destruction of Paleontological Resources or Unique Geologic Feature

Future development in the City has potential to cumulatively impact paleontological resources. However, all cumulative projects would be required to comply with federal and State policies related to protection of paleontological resources which reduces potential cumulative impacts to paleontological resources to less than significant. Moreover, the proposed project's incremental contribution to less than significant cumulative impacts would be less than significant. As the City receives development applications for subsequent development under the proposed project, those applications would be reviewed by the City for compliance with project-specific MM GEO-1 and General Plan MM GEO-6.1, which require all future development in the Plan Area to conduct field surveys and literature searches for unique paleontological/geological resources on any previous undisturbed land and paleontological monitoring if any resources are discovered. Future development under the proposed project would also be required to conform to federal and State policies that protect paleontological resources, including Section 5097 of the California Public Resources Code. For these reasons, the proposed project's contribution to cumulative impacts on paleontological resources are not cumulatively considerable and would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Fresno General Plan PEIR Mitigation Measures

Implement MM GEO-6.1

Project Specific Mitigation Measures

Implement MM GEO-1.

Level of Cumulative Significance After Mitigation

Less than significant impact with mitigation incorporated.

THIS PAGE INTENTIONALLY LEFT BLANK

CHAPTER 3: TRANSPORTATION AND TRAFFIC

3.1 - Introduction

This section describes existing conditions related to transportation in the project area as well as the relevant regulatory framework. This section also evaluates the possible impacts related to transportation that could result from implementation of the project. Information in this section is based on the project-specific Transportation Impact Assessment (TIA) (included as Appendix A).

As further discussed in Chapter 1, Introduction, 15 public comments were received during the Draft Program Environmental Impact Report (Draft PEIR) scoping period related to the project's potential Transportation and Traffic impacts.

- Recommends that a peak-hour ramp queue is completed at each of the following SR-180 intersections to determine potential impacts: De Wolf Avenue, Highland Avenue, and McCall Avenue.
- Requests all future development evaluate traffic safety impacts on the State Highway Systems due to new pedestrian and bicyclist needs due to the proposed project, specifically SR-180 interchanges at Fowler Avenue and Temperance Avenue and intersections at De Wolf Avenue, Highland Avenue, and McCall Avenue.
- Requests that all future development under the proposed project should conduct a Vehicle Miles Traveled (VMT) analysis and determine whether development under the proposed project would be required to pay a VMT Mitigation Impact Fee.
- Requests that all future residential development under the proposed project include affordable housing units.
- Recommends that the City establish policies for the installation of Level 2 Electric Vehicle (EV) charging for single-and multi-family residential units as well as DC Fast Charging EV charging stations for retail, commercial, park, and public facilities.
- Recommends that the Draft PEIR includes implementation guidelines for multimodal strategies, such as those that originate from Transit Oriented Development (TOD), in an effort to further reduce future projects' traffic-related impacts.
- Support of active transportation plans and smart growth efforts that aid the State's 2050 Climate goals.
- Requests early engagement on all future development under the proposed project that could affect the State right-of-way.
- Recommends that a Traffic Impact Study be prepared.
- States that any work done within the County-road right-of-way to construct a new driveway or improve an existing driveway will require an Encroachment Permit from the Road from the Fresno Department of Public Works.

- States that any grading will require either an engineered grading and drainage plan, road improvement plan, and permit or voucher and must comply with the City standards/requirements forwarded to the City of Fresno.
- Requests that the Draft PEIR accurately captures and analyzes baseline conditions and potentially significant project-specific and cumulative impacts within and adjacent to the planning area.
- Requests that the Draft PEIR identifies and adopts all feasible and enforceable mitigation measures that avoid and reduce negative impact.
- Requests that the Draft PEIR analyzes and creates mitigation measures consistent with all applicable laws, including State and federal fair housing, civil rights, and climate laws such as Senate Bill (SB) 743.

3.2 - Environmental Setting

3.2.1 - Project Site

The project proposes to develop 9,000 acres of mixed-use development in the southeast corner of the City of Fresno (City). In total, there would be approximately 45,000 housing units (split between 26,000 single-family dwelling units and 19,000 multi-family dwelling units), 12,000 retail employees, 8,000 office employees, and 17,000 civic institutional employees, for a total of 37,000 employees at full buildout.

The location of the nearly 9,000-acre Plan Area is in the southeast portion of the City, in Fresno County, California. The Plan Area is bounded on the north by the Gould Canal, on the east by McCall and Highland Avenues, on the south by Jensen and North Avenues, and on the west by Locan, Temperance, and Minnewawa Avenues.

3.2.2 - Roadway Facilities

Regional roadway facilities providing access to the proposed Southeast Development Area (SEDA) are via SR-180. Local access to the SEDA Specific Plan Area (Plan Area) is provided by various arterials and collectors. Exhibit 3-1 shows the proposed major street circulation network for the proposed project.

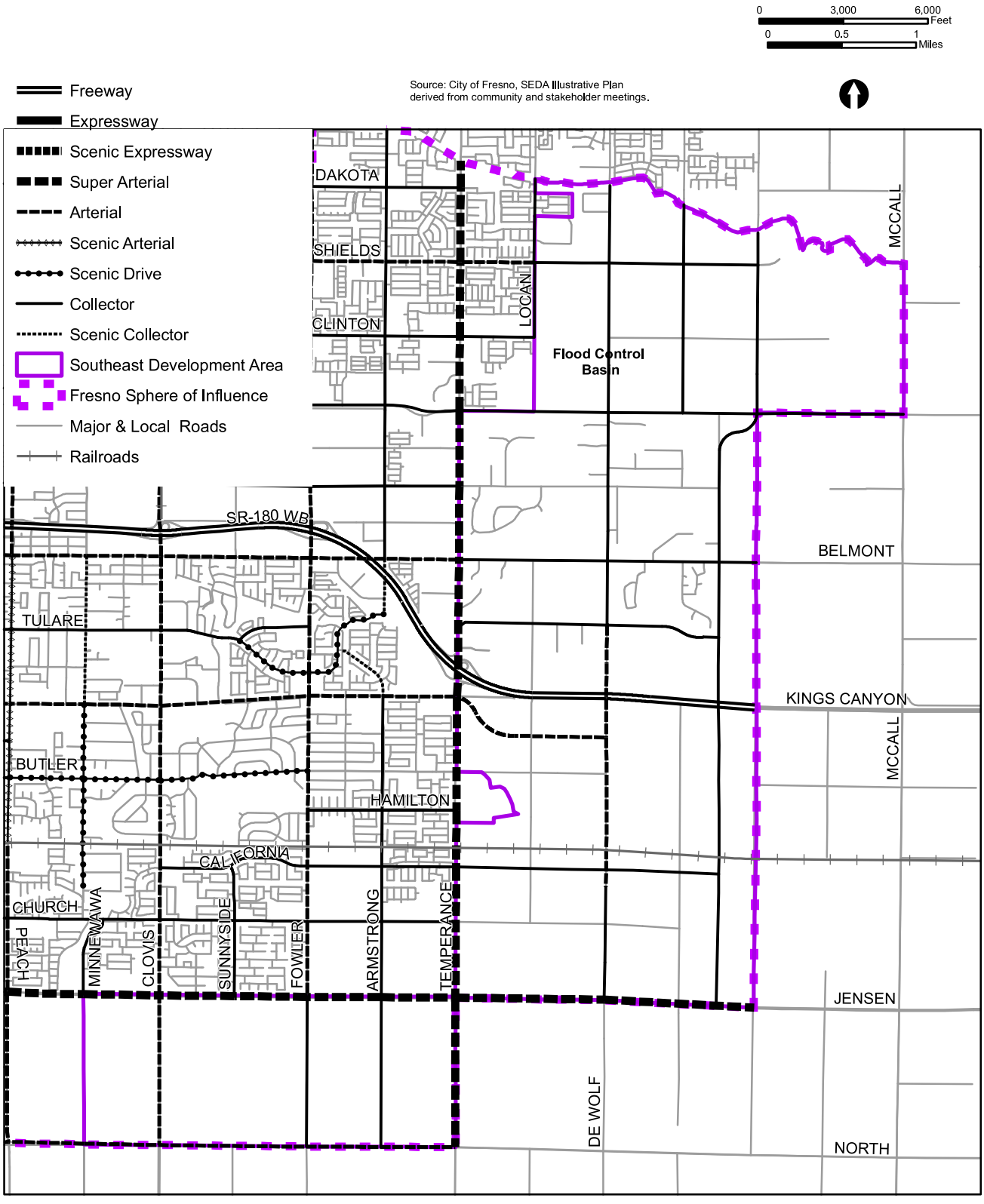
SR-180 is a six-lane, east–west State Highway in Fresno County (County) connecting Centerville to the east and Mendota to the west. It runs through the central portion of SEDA, and its speed limit is 65 miles per hour (mph). The highway merges with Kings Canyon Road when the highway portion ends near De Wolf Avenue.

Kings Canyon Road is a four-lane, east–west arterial that connects downtown Fresno to SR-180 in the east. It runs through the central portion of the SEDA development, and its speed limit is 40 mph.

Clovis Avenue is primarily a four-lane, north–south arterial in eastern Fresno, connecting residents from Clovis to SR-99. It is primarily a six-lane arterial within the Plan Area, and surrounding land uses include single-family and commercial/retail uses. The speed limit along Clovis Avenue is 45 mph.

PROPOSED MAJOR STREET CIRCULATION

Southeast Development Area



Source: City of Fresno

FIRSTCARBON SOLUTIONS™

Exhibit 3-1
Proposed Major Street Circulation Network

THIS PAGE INTENTIONALLY LEFT BLANK

Temperance Avenue is a four-lane, north–south super arterial in Fresno with an interchange at SR-180. Land adjacent to Temperance Avenue consists of mostly farmland, and the road becomes a two-lane facility south of Hamilton Avenue. The speed limit along Temperance Avenue is ~~40~~ 45 mph. By buildout of the Specific Plan, Temperance Avenue is expected to be expanded to six lanes.

De Wolf Avenue is a two-lane, north–south collector in eastern Fresno County that runs perpendicular to SR-180. Land adjacent to the road consists of mostly farmland, and the road connects multiple elementary schools. It runs through the central portion of the Plan Area. The speed limit along De Wolf Avenue is 45 mph.

McCall Avenue is a two-lane, north–south collector in eastern Fresno County that intersects with SR-180. Land adjacent to the road consists of mostly farmland, and the road connects the City of Selma to Fresno. It runs through the eastern edge of the Plan Area. The speed limit along McCall Avenue is 40 mph.

Jensen Avenue is a four-lane, east–west arterial in southern Fresno that connects SR-99 with the City of Sanger. The land adjacent to Jensen Avenue consists mostly of farmland, and the road runs through the southern portion of the SEDA Specific Plan Area. The speed limit along Jensen Avenue is ~~45~~ 55 mph from Chestnut Avenue to Clovis Avenue and 60 mph from Clovis Avenue to Fowler Avenue.

Belmont Avenue is a two-lane, east–west collector in eastern Fresno that runs north of and parallel to SR-180. The land adjacent to the road consists of mostly farmland, and the road runs through the central portion of the Plan Area. The speed limit along Belmont Avenue is 45 mph.

Tulare Avenue is a two-lane, east–west collector in eastern Fresno that runs south of and parallel to SR-180. The land adjacent to the road consists of mostly suburban tracts, and the road runs through the central portion of the Plan Area. The speed limit along Tulare Avenue is 40 mph.

Armstrong Avenue is a two-lane, north–south collector in eastern Fresno that runs parallel to Temperance Ave. The land adjacent to the road consists of mostly rural tracts, and the road runs through the western portion of the Plan Area. The speed limit along Armstrong Avenue is 45 mph.

Fowler Avenue is a two-lane, north–south collector in eastern Fresno that runs parallel to Temperance Ave. The land adjacent to the road consists of mostly rural tracts, and the road is located at the western boundary of the Plan Area. The speed limit along Fowler Avenue is 45 mph.

North Avenue is a two-lane, east–west collector in eastern Fresno that runs parallel to Jensen Avenue. The land adjacent to the road consists of mostly rural tracts and agricultural fields, and the road runs through the southern portion of the Plan Area. The speed limit along North Avenue is 40 mph.

3.2.3 - Pedestrian Facilities

Walkability is defined as the ability to travel easily, safely, and comfortably between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal

"walkable" community includes wide and shaded sidewalks, a mix of vertical and horizontal land uses abutting the street, such as residential, employment, and shopping opportunities, a mix of densities, a limited number of conflict points with vehicle traffic, easy access to transit facilities and services, and a network of pedestrian facilities. Pedestrian facilities consist of crosswalks, sidewalks, bulb-outs, pedestrian refuges, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access the destinations such as institutions, businesses, public transportation, and recreation facilities. Pedestrian facilities must be Americans with Disabilities Act (ADA)-compliant.

As this project is a Specific Plan proposed in an area that is currently rural and developed in Fresno County, there are very limited pedestrian facilities in the project vicinity.

3.2.4 - Bicycle Facilities

The 2016 City of Fresno Active Transportation Plan (ATP) outlines policies and objectives to improve the current active transportation system that includes walking and biking. The various bicycle facilities throughout the City and its Sphere of Influence are described below.

- **Class I Shared-Use Path**: Class I bikeways are a completely separate right-of-way designed for the exclusive use of cyclists and pedestrians, with minimal crossings for motorists. These paths are often located along creeks, canals, and rail lines. There is one small Class I bike path near Temperance Avenue and Shields Avenue on the northwestern portion of the Plan Area.
- **Class II Bike Lanes**: Class II bike lanes use special lane markings, pavement legends, and signage. Bike lanes provide designated street space for bicyclists, typically adjacent to outer vehicle travel lanes. Buffered bike lanes increase separation through painted buffers between vehicle lanes and/or parking, and green paint at conflict zones (e.g., driveways or intersections). There are no existing Class II facilities, but there are many planned in the Fresno General Plan (General Plan) and in the SEDA plan for the project area.
- **Class III Bike Routes**: Bike routes provide enhanced mixed-traffic conditions for bicyclists through signage, shared arrow (sharrow) striping, and/or traffic calming treatments and provide continuity to a bikeway network. Bike routes are typically designated along gaps between bike trails or bike lanes or along low-volume, low-speed streets. Bicycle boulevards further enhance bike routes by encouraging slower speeds and discouraging non-local vehicle traffic using traffic diverters, chicanes, traffic circles, and speed tables. There are no existing Class III facilities in the project area, but there are many planned in the SEDA plan for the future.
- **Class IV Bikeway**: Bikeways are also known as cycle tracks or separated bikeways and are set aside for the exclusive use of bicycles and physically separated from vehicle traffic. Separated bikeways were adopted by the California Department of Transportation (Caltrans) in 2015. Separation may include grade separation, flexible posts, physical barriers, or on-street parking. There are no existing Class IV facilities in the project area, but there are many planned Class IV facilities in the future within SEDA.

3.2.5 - Transit Facilities

Fresno Area Express (FAX) is the local bus system for the City. Currently, there are no bus lines that run through the Plan Area. Bus Routes 1, 22, and 35 run on Clovis Street near the Plan Area but do not directly serve the Plan Area. There are plans to extend the Fresno bus rapid transit line (Route 1) into the Plan Area in the future and to add local transit routes to significant origins and destinations with the project area.

3.2.6 - Existing Peak-hour Traffic Volumes For Study Segments

The existing operations of the study roadway segments were evaluated for the highest 1-hour volumes during weekday morning and evening peak periods. In addition to peak-hour, daily volumes were also evaluated Table 3-1, below, shows the list of segments that have count data from Fresno County.

Table 3-1: Existing Conditions Study Segment Traffic Volumes

Segment Name	#	AM Peak-hour	PM Peak-hour	Daily
Clovis Avenue south of American Avenue	1	1,037	1,154	14,404
De Wolf Avenue north of McKinley Avenue	2	472	326	2,766
De Wolf Avenue south of McKinley Avenue	3	282	248	1,881
De Wolf Avenue south of Clinton Avenue	4	332	228	2,271
De Wolf Avenue north of Jensen Avenue	5	187	174	1,693
De Wolf Avenue south of Jensen Avenue	6	95	120	1,139
Jensen Avenue east of Bethel Avenue	7	924	1,057	13,941
Jensen Avenue east of De Wolf Avenue	8	608	718	9,710
Jensen Avenue west of De Wolf Avenue	9	503	715	8,609
Jensen Avenue east of Temperance Avenue	10	1,015	801	9,856
Jensen Avenue west of Temperance Avenue	11	1,019	876	10,748
Kings Canyon Road east of Temperance Avenue	12	4	4	52
Locan Avenue north of Tulare Avenue	13	18	17	162
Locan Avenue south of Tulare Avenue	14	12	19	154
McCall Avenue north of McKinley Avenue	15	500	382	4,197
McCall Avenue north of Ashlan Avenue	16	390	439	5,167
McCall Avenue north of Belmont Avenue	17	485	518	5,730
Tulare Avenue east of Locan Avenue	18	24	27	248
Tulare Avenue west of Locan Avenue	19	38	54	595
North Avenue west of Temperance Avenue	20	193	216	2,442
Source: Transportation Impact Assessment (TIA). 2022.				

3.2.7 - Existing Vehicle Miles Traveled

For existing conditions VMT, the Plan Area was overlaid on top of the Fresno County Council of Government's (Fresno COG) Activity Based Travel Demand Model (FresnoABM) loaded vehicle assignment network. Total VMT for the SEDA Specific Plan (Specific Plan) was calculated by multiplying daily volumes on the model's loaded network by distance traveled. In addition, VMT per Service Population (which is the sum of population and employees) was calculated using the FresnoABM's land use database. Table 3-2 summarizes the existing VMT from the FresnoABM for the Plan Area.

Table 3-2: Existing Conditions VMT

Category	2015 Base Year Model
SEDA VMT	330,350
Population	3,410
Employment	2,306
SEDA VMT per Service Population	57.79
Notes: SEDA = Southeast Development Area VMT = Vehicle Miles Traveled Source: Transportation Impact Assessment (TIA). 2022.	

3.3 - Regulatory Framework

3.3.1 - Federal

Applicable federal regulations pertaining to transportation are addressed in other sections of this Draft PEIR, including Air Quality, Greenhouse Gas Emissions, and Hazardous Materials.

The federal Clean Air Act, the Infrastructure Investment and Jobs Act (IIJA), and the ADA may have some relevance or influence for individual projects or actions as part of subsequent implementation of the proposed project.

Federal Highway Administration/Federal Transit Administration

The Moving Ahead for Progress in the 21st Century Act (MAP-21) established new requirements for Metropolitan Planning Organizations (MPOs) to set Transportation Performance Management (TPM) targets and to integrate those targets and plans into their planning documents by certain dates. The Bipartisan Infrastructure Law carries forward performance-based planning requirements. Beginning in 2018, federal rules require that state departments of transportation and MPOs implement federal performance measures. In response, the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) have worked with state and regional agencies to identify performance measures that meet the requirements. In California, Caltrans is directly responsible for submitting performance targets and periodic progress reports to federal agencies in a timely manner. MPOs are required to establish targets for the same performance measures on all public roads in the MPO

planning area within 180 days after the state establishes each target. MPOs may elect to support the Statewide targets, establish numerical targets specific to their region, or use a combination of both approaches. Furthermore, each MPO must incorporate these short-range targets into their planning and programming processes, including the long-range plan and Transportation Improvement Program (TIP). Transportation performance measures are managed through different metrics, including safety, bridge and pavement conditions, congestion/system performance, Transit Asset Management (TAM), and transit agency safety plan. States and MPOs must integrate performance-based planning and programming into the long-range transportation plans. Regional transportation plans must include performance measures and targets, as well as a description of progress toward the targets. In addition, the TIP must provide a description on how investment in the TIP will contribute toward achieving those targets in the Regional Transportation Plan (RTP).

The FHWA defines TPM as a strategic approach that uses system information to make investment and policy decisions to achieve national performance goals by setting and tracking the targets. TPM is systematically applied, a regular ongoing process that provides key information to help decision-makers, allowing them to understand the investment consequences across transportation assets or modes. It ensures that the targets and measures are developed in cooperative partnerships among decision-makers, stakeholders, and the traveling public, and that those targets are based on data and objective information. The Statewide and Non-metropolitan Transportation Planning and Metropolitan Planning Final Rule establishes that states and MPOs must coordinate their respective targets with each other to ensure consistency to the maximum extent practical. The individual state departments of transportation and MPOs are expected to use information and data generated to inform their transportation planning and programming decisions. TPM provides a means to achieve national transportation goals, increase federal aid programs' accountability and transparency, and improve project decision-making through performance-based planning and programming.

3.3.2 - State

California Department of Transportation Level of Service Goals

Caltrans builds, operates, and maintains the State highway system, including the interstate highway system. Caltrans's mission is to improve mobility Statewide. The department operates under strategic goals to provide a safe transportation system, optimize throughput and ensure reliable travel times, improve the delivery of State highway projects, provide transportation choices, and improve and enhance the State's investments and resources. Caltrans controls the planning of the State highway system and accessibility to the system. Caltrans establishes Level of Service (LOS) goals for highways and works with local and regional agencies to assess impacts and develop funding sources for improvements to the State highway system. Caltrans requires encroachment permits from agencies or new development before any construction work may be undertaken within the State's right-of-way. For projects that would impact traffic flow and levels of services on State highways, Caltrans would review measures to mitigate the traffic impacts. Caltrans has adopted the 2020 Transportation Analysis Framework (TAF), which sets the standards criteria used to identify impacts in the project-specific TIA and this Draft PEIR.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) sets guidelines for interactions between railroad facilities and ground transportation facilities. This includes location and type of crossing guards, design of railroad crossings, and other design criteria in and around railroad facilities. The guidelines come in the form of general orders. General Order No. 75-D: Regulations Governing Standards for Warning Devices for At-Grade Highway-Rail Crossings in the State of California provides regulations that govern the standards for warning devices for at-grade highway-rail crossings for motor vehicles, pedestrians, and/or bicycles. All warning devices shall be in substantial conformance with the applicable Standards, Guidance, and Options set forth in the Manual on Uniform Traffic Control Devices adopted by Caltrans.

Senate Bill 375

Senate Bill (SB) 375, The Sustainable Communities and Climate Protection Act of 2008 (Chapter 728, Statues of 2008) provides guidance regarding curbing emissions from cars and light trucks. There are four major components to SB 375. First, SB 375 requires regional greenhouse gas (GHG) emissions reduction targets. These targets must be updated every 8 years in conjunction with the revision of the housing and transportation elements of local general plans. Second, MPOs are required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets. Third, SB 375 requires regional housing elements and transportation plans to be synchronized on 8-year schedules. Finally, MPOs must use transportation and air emissions modeling techniques that are consistent with the guidelines prepared by the California Transportation Commission (CTC).

Under SB 375, some development and transportation projects assumed as a part of the proposed project may be eligible to use a streamlined version of the environmental review process. Among other criteria, these projects must be consistent with the land use designation, density, intensity, and policies of the Fresno COG's RTP and fall within the identified criteria for development and transportation projects.

California Complete Streets Act of 2008

Assembly Bill (AB) 1358, also known as the California Complete Streets Act of 2008, requires cities and counties to include "complete street" policies in their general plans. These policies address the safe accommodation of all users, including bicyclists, pedestrians, motorists, public transit vehicles and riders, children, the elderly, and the disabled. These policies can apply to new streets as well as the redesign of corridors. The City adopted their Complete Streets Policy (Resolution 2019-205) in 2019.

Senate Bill 743

In November 2017, the Governor's Office of Planning and Research (OPR) released a technical advisory containing recommendations regarding the assessment of VMT, proposed thresholds of significance, and potential mitigation measures for lead agencies to use while implementing the required changes contained in SB 743. Also in November 2017, OPR released the proposed text for Section 15064.3, "Determining the Significance of Transportation Impacts," which summarized the criteria for analyzing transportation impacts for land use projects and transportation projects and

directs lead agencies to "choose the most appropriate methodology to evaluate a project's VMT, including whether to express the change in absolute terms, per capita, per household or in any other measure." OPR recommends that, for most instances, a per Service Population threshold should be adopted and that a 15 percent reduction below that of existing development would be a reasonable threshold.

As noted in the OPR Guidelines, agencies are directed to choose metrics that are appropriate for their jurisdiction to evaluate the potential impacts of a project in terms of VMT. The current deadline for adopting policies to implement SB 743 was July 2020; the change to VMT was formally adopted as part of updates to the California Environmental Quality Act (CEQA) guidelines in December 2018.

The updated guidelines eliminate the use of automobile delay metrics, such as LOS, from determining significant environmental impacts from vehicle travel. VMT has been identified as the most appropriate metric to evaluate a project's transportation impacts as projects that result in lower-than-average VMT support goals of reducing GHG emissions, while projects that result in higher-than-average levels of vehicle travel contribute to an increasing rate of GHG emissions.

Projects that are within 0.5-mile of an existing major transit stop, which is defined as a rail transit station, ferry terminal served by bus or rail transit, or at the intersection of two or more major bus routes with service frequencies of 15-minutes or less during the morning and afternoon peak commute periods, are presumed to be less than significant if the project has the following characteristics:

- Has a floor area ratio (FAR) greater than 0.75.
- Does not include more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking).
- Is consistent with the applicable SCS (as determined by the lead agency, with input from the MPO).
- Does not replace affordable residential units with a smaller number of moderate or high-income residential units.

If a project meets the screening requirements, it is presumed to have a less than significant impact related to VMT.

Since there are no standards in effect on VMT analysis, a preliminary assessment of the VMT generated by the proposed project was prepared for informational and disclosure purposes only. No determination on the significance of VMT impacts is made in this document since none is legally required.

Evacuation Routes Assembly Bill 747

AB 747 requires local governments, on or after January 1, 2022, to review and update their safety element to identify evacuation routes and their capacity, safety, and viability under a range of emergency scenarios. A county or city that has adopted a local hazard mitigation plan, emergency operations plan, or other document that fulfills commensurate goals and objectives may use that

information in the safety element to comply with this section and, in that event, shall summarize and incorporate into the safety element that other plan or document.

Residential Emergency Evacuation Routes Senate Bill 99

SB 99 requires all cities and counties, upon the next revision of the housing element on or after January 1, 2020, to update the safety element to include information identifying residential developments in any hazard area identified in the safety element that do not have at least two emergency evacuation routes.

California Bicycle Transportation Act

The California Bicycle Transportation Act (1994) requires all cities and counties to have an adopted bicycle master plan to apply for the Bicycle Transportation Account (BTA) funding source. The City's existing plan, the ATP includes the City's plans for bicycle and pedestrian infrastructure.

3.3.3 - Regional Regulations

Fresno Council of Governments

The Fresno Council of Governments (Fresno COG) is an association of local governments in Fresno County. Fresno COG provides transportation planning and funding for the region and serves as a forum for the study and resolution of regional issues. In addition to preparing the region's long-range transportation plan, Fresno COG assists in planning for transit, bicycle networks, clean air, and airport land uses.

2022-2046 Fresno COG Regional Transportation Plan and Sustainable Communities Strategy

California's SB 375 (Steinberg, 2008) encourages coordinated transportation and land use planning to reduce greenhouse gas (GHG) emissions and requires each MPO to prepare an SCS as an integrated element of the RTP that is updated every four years. The SCS is intended to identify integrated land use and transportation strategies that lower per capita GHG emissions from cars and light-duty trucks and to foster communities that are more equitable, healthy, and sustainable.

The 2022-2046 Fresno COG RTP/SCS (Fresno COG 2022) is a federally mandated, long-range, fiscally constrained transportation plan for Fresno County. As a fiscally constrained plan, it includes only those projects which can be delivered with funds expected to be available and that will help attain and maintain air quality standards. The RTP/SCS also includes an integrated land use and transportation plan to meet greenhouse gas emission reduction targets set forth by the California Air Resources Board (ARB). The RTP/SCS comprehensively assesses all forms of transportation available in Fresno County as well as travel and goods movement needs through 2046.

The 2022-2046 RTP/SCS contains the following goals and policies relevant to the proposed project:

Goal 1 Improved mobility and accessibility for all.

Policy 1 Encourage and prioritize full, fair, and equitable participation by all affected communities in transportation decision-making and planning processes.

Policy 2 Actively work to ensure equitable distribution of the benefits and burdens of transportation projects.

Policy 3 Promote the improvement and expansion of accessible transportation options to serve the needs of all residents, especially those who have historically faced disproportionate transportation burdens.

Goal 2 Vibrant communities that are accessible by sustainable transportation options.

Policy 4 Encourage alternatives to single-occupancy vehicles that reduce Vehicle Miles Traveled (VMT) and greenhouse gas emissions.

Policy 5 Support investment in and promotion of active transportation and transit to improve public health and mobility, especially in historically underinvested areas.

Policy 6 Encourage sustainable development that focuses growth near activity centers and mobility options that achieve greater location efficiency.

Policy 7 Support local jurisdictions' efforts to minimize the loss of farmland, environmentally sensitive areas, and natural resources.

Policy 8 Support local jurisdictions' efforts to facilitate the development of diverse housing choices for all income groups.

Policy 9 Facilitate and promote interagency coordination and consistency across planning efforts.

Policy 10 Incentivize and support efforts to improve air quality and minimize pollutants from transportation.

Goal 3 A safe, well-maintained, efficient, and climate-resilient multimodal transportation network.

Policy 11 Prioritize investment in and promote multimodal safety measures to reduce traffic fatalities and incidents in the region.

Policy 12 Promote enhanced Transportation Systems Management (TSM) and Transportation Demand Management (TDM) strategies to reduce congestion and vehicle miles traveled.

Policy 13 Encourage improvements in travel connections across all modes to create an integrated, accessible, and seamless transportation network.

Policy 14 Maximize the cost-effectiveness of transportation improvements.

Policy 15 Encourage investments that increase the system's resilience to extreme weather events, natural disasters, and pandemics.

Policy 16 Preserve and maintain existing multimodal transportation assets in a state of good repair.

Goal 4 A transportation network that supports a sustainable and vibrant economy.

Policy 17 Support local and regional economic development by leveraging planning and transportation funds that foster public and private investment.

Policy 18 Facilitate efficient, reliable, resilient, and sustainable goods movement.

Goal 5 A region embracing clean transportation, technology, and innovation.

Policy 19 Support innovative mobility solutions that are accessible, affordable, reduce greenhouse gas emissions, and improve air quality.

Policy 20 Support efforts to expand broadband access throughout the region.

Fresno-Clovis Metropolitan Area Short Range Transit Plan

The Fiscal Year (FY) 2022-2026 is the biennial update to the operating plans and capital programs of Fresno County's two urban transit providers—FAX and Clovis Transit. The purpose of the Fresno-Clovis Metropolitan Area (FCMA) Short Range Transit Plan (SRTP) is to promote a comprehensive, coordinated, and continuous planning process for transit service in the FCMA over a 5-year planning horizon. This short-range plan proposes specific recommendations for implementing the long-range objectives of Fresno County's 2022-2046 Fresno COG RTP/SCS and will guide the provision of transit services in the FCMA over the next 5 years.

3.3.4 - Local Regulations

Fresno County Regional Bicycle and Recreational Trails Master Plan (2013)

The Fresno County Regional Bicycle and Recreational Trails Master Plan provides a comprehensive long-range view for the development of an extensive regional bikeway and recreational trails network that connects cities and unincorporated areas countywide. The plan also implements the October 2000 Fresno County General Plan, according to Transportation and Circulation Element Policy TR-D.1 - 8, and meets the requirements of Proposition 116, the Clean Air and Transportation Improvement Act of 1990, as set forth in Section 891.2 (items a–k) of the California Streets and Highways Code. With an approved plan, Fresno County and local municipalities are eligible for non-motorized transportation infrastructure project funding, including BTA grants.

Fresno General Plan

The General Plan (2014) contains the following objectives and policies relevant to the proposed project:

Objective MT-1 Create and maintain a transportation system that is safe, efficient, provides access in an equitable manner, and optimizes travel by all modes.

Policy MT-1-a **Transportation Planning Consistent with the General Plan.** Continue to review local, regional and inter-regional transportation plans and capital improvement plans, and advocate for the approval and funding of State highway and rail projects, consistent with the General Plan and discourage projects inconsistent with the General Plan.

Policy MT-1-b **Circulation Plan Diagram Implementation.** Design and construct planned streets and highways that complement and enhance the existing network, as well as future improvements to the network consistent with the goals, objectives and policies of the General Plan, as shown on the Circulation Diagram (Figure MT-1), to ensure that each new and existing roadway continues to function as intended.

Policy MT-1-d **Integrate Land Use and Transportation Planning.** Plan for and maintain a coordinated and well-integrated land use pattern, local circulation network and transportation system that accommodates planned growth, reduces impacts on adjacent land uses, and preserves the integrity of established neighborhoods.

Policy MT-1-e **Ensure Interconnectivity Across Land Uses.** Update development standards and design guidelines applicable to public and private property to achieve Activity Centers, neighborhoods and communities which are well connected by pedestrian, bicycle, appropriate public transportation and automobile travel facilities.

Policy MT-1-f **Match Travel Demand with Transportation Facilities**. Designate the types and intensities of land uses at locations such that related travel demands can be accommodated by a variety of viable transportation modes and support Complete Neighborhoods while avoiding the routing of excessive or incompatible traffic through local residential streets.

Policy MT-1-g **Complete Streets Concept Implementation.** Provide transportation facilities based upon a Complete Streets concept that facilitates the balanced use of all viable travel modes (pedestrians, bicyclists, motor vehicle and transit users), meeting the transportation needs of all ages, income groups, and abilities and providing mobility for a variety of trip purposes, while also supporting other City goals.

Policy MT-1-j **Transportation Improvements Consistent with Community Character.** Prioritize transportation improvements that are consistent with the character of surrounding neighborhoods and supportive of safe, functional and Complete Neighborhoods; minimize negative impacts upon sensitive land uses such as residences, hospitals, schools, natural habitats, open space areas, and historic and cultural resources.

Policy MT-1-k **Multimodal Level of Service Standards.** Develop and use a tiered system of flexible, multimodal Level of Service standards for streets designated by the Circulation Diagram (Figure MT-1). Strive to accommodate a peak-hour vehicle LOS

of D or better on-street segments and at intersections, except where Policies MT-1-m through MT-1-p provide greater specificity. Establish minimum acceptable service levels for other modes and use them in the development and environmental review process.

Objective MT-2 Make efficient use of the City's existing and proposed transportation system and strive to ensure the planning and provision of adequate resources to operate and maintain it.

Policy MT-2-b **Reduce Vehicle Miles Traveled and Trips.** Partner with major employers and other responsible agencies, such the San Joaquin Valley Air Pollution Control District and the Fresno Council of Governments, to implement trip reduction strategies, such as eTRIP, to reduce total vehicle miles traveled and the total number of daily and peak-hour vehicle trips, thereby making better use of the existing transportation system.

Policy MT-2-c **Reduce VMT through Infill Development.** Provide incentives for infill development that would provide jobs and services closer to housing and multimodal transportations corridors in order to reduce citywide Vehicle Miles Traveled (VMT).

Policy MT-2-f **Optimization of Roadway Operations.** Optimize roadway operations by continuing to expand the use of techniques such as the City's Intelligent Transportation System (ITS) to manage traffic signal timing coordination in order to improve traffic operations and increase traffic-carrying capacity, while reducing unnecessary congestion and decreasing air pollution emissions.

Policy MT-2-g **Transportation Demand Management and Transportation System Management.** Pursue implementation of Transportation Demand Management and Transportation System Management strategies to reduce peak-hour vehicle traffic and supplement the capacity of the transportation system.

Objective MT-4 Establish and maintain a continuous, safe, and easily accessible bikeways system throughout the metropolitan area to reduce vehicle use, improve air quality and the quality of life, and provide public health benefits.

Policy MT-4-b **Bikeway Improvements**. Establish and implement property development standards to assure that projects adjacent to designated bikeways provide adequate right-of -way and that necessary improvements are constructed to implement the planned bikeway system shown on Figure MT-2 to provide for bikeways, to the extent feasible, when existing roadways are reconstructed; and alternative bikeway alignments or routes where inadequate right-of-way is available.

Policy MT-4-c **Bikeway Linkages.** Provide linkages between bikeways, trails and paths, and other regional networks such as the San Joaquin River Trail and adjacent jurisdiction bicycle systems wherever possible.

Policy MT-4-h **Bicycle Parking Facilities.** Promote the installation of bicycle locking racks and bicycle parking facilities at public buildings, transit facilities, public and private parking lots, and recreational facilities. Establish standards for bicycle parking in the Development Code.

Policy MT-4-I **Bicycling and Public Transportation.** Promote the integration of bicycling with other forms of transportation, including public transit. Continue to provide bike racks or space for bicycles on FAX buses.

Objective MT-5 Establish a well-integrated network of pedestrian facilities to accommodate safe, convenient, practical, and inviting travel by walking, including for those with physical mobility and vision impairments.

Policy MT-5-a **Sidewalk Development.** Pursue funding and implement standards for development of sidewalks on public streets, with priority given to meeting the needs of persons with physical and vision limitations; providing safe routes to school; completing pedestrian improvements in established neighborhoods with lower vehicle ownership rates; or providing pedestrian access to public transportation routes.

Policy MT-5-b **Sidewalk Requirements.** Assure adequate access for pedestrians and people with disabilities in new residential developments per adopted City policies, consistent with the California Building Code and the Americans with Disabilities Act.

Policy MT-5-c **New Subdivision Design.** Do not approve new single-family residential subdivisions with lots that front and access on to a major roadway, unless the City Traffic Engineer determines that no other feasible alternative means of vehicle access can be provided and that sufficient design measures can be implemented, such as an on-site driveway turnaround, landscaped buffering, or an on-street parking lane to assure a desirable and enduring residential environment.

Policy MT-5-d **Pedestrian Safety.** Minimize vehicular and pedestrian conflicts on both major and non-roadways through implementation of traffic access design and control standards addressing street intersections, median island openings and access driveways to facilitate accessibility while reducing congestion and increasing safety. Increase safety and accessibility for pedestrians with vision disabilities through the installation of Accessible Pedestrian Signals at signalized intersections.

Objective MT-8 Provide public transit options that serve existing and future concentrations of residences, employment, recreation and civic uses and are feasible, efficient, safe, and minimize environmental impacts.

Policy MT-8-a **Street Design Coordinated with Transit.** Coordinate the planning, design, and construction of the major roadway network with transit operators to facilitate efficient direct transit routing throughout the Planning Area.

Policy MT-8-b **Transit Serving Residential and Employment Nodes.** Identify the location of current and future residential and employment concentrations and Activity Centers throughout the transit service area in order to facilitate planning and implementation of optimal transit services for these uses. Work with California State University, Fresno to determine locations within the campus core for bus stops.

Policy MT-8-c **New Development Facilitating Transit.** Continue to review development proposals in transportation corridors to ensure they are designed to facilitate transit. Coordinate all projects that have residential or employment densities suitable for transit services, so they are located along existing or planned transit corridors or that otherwise have the potential for transit orientation to FAX, and consider FAX's comments in decision-making.

Objective MT-9 Provide public transit opportunities to the maximum number and diversity of people practicable in balance with providing service that is high in quality, convenient, frequent, reliable, cost- effective, and financially feasible.

Policy MT-9-a **Equitable Transit Provision.** Provide transit that can serve all residents, including older residents and persons with disabilities.

City of Fresno Active Transportation Plan

The Fresno ATP, adopted in 2017, is a comprehensive guide outlining the vision for active transportation in the City and a roadmap for achieving that vision. The ATP envisions a complete, safe, and comfortable network of trails, sidewalks, and bikeways that serves all residents of Fresno. This plan seeks to achieve the following goals:

- Equitably improve the safety and perceived safety of walking and bicycling in Fresno
- Increase walking and bicycling trips in Fresno by creating user-friendly facilities
- Improve the geographic equity of access to walking and bicycling facilities in Fresno
- Fill key gaps in Fresno's walking and bicycling networks

To achieve these goals, the ATP proposes a long-term, comprehensive network of citywide bikeways, trails, and sidewalks that connect all parts of Fresno. Since this buildout network will take many years to complete, the ATP also identifies a priority network of connected bikeways and priority pedestrian areas to focus the City's efforts in the near-term. These priority networks provide links to key destinations, support existing and future walking and biking activity areas, and equitably serve neighborhoods throughout the City.

The recommended buildout network would add 166 miles of Class I Bike Paths, 691 miles of Class II bike lanes, 69 miles of Class III Bike Routes, 21 miles of Class IV Separated Bikeways, and 661 miles of

sidewalks. This recommended network only includes planned Class IV facilities in locations identified in the Downtown Neighborhoods Community Plan, Fulton Corridor Specific Plan, and on Maroa Avenue and Fresno Street as alternatives to Blackstone Avenue. However, recommendations out of the Fresno Council of Governments Separated Bikeway Feasibility Study may identify additional corridors for Class IV implementation, and some corridors planned for Class II bike lanes in this plan may be considered for Class IV treatment during the project development phases.

This plan updates and supersedes the existing City Bicycle, Pedestrian, & Trails Master Plan (CF BMP) that was adopted in 2010. In addition to updating elements of the CF BMP, the ATP includes more robust planning for pedestrian travel and infrastructure than presented in the CF BMP. While the CF BMP focused primarily on bicycling, the ATP includes goals and plans for all forms of active transportation by expanding analysis of pedestrian facilities. Therefore, this plan serves as the City's bicycle master plan and pedestrian master plan.

The City ATP contains the following goals relevant to transportation and circulation:

- Equitably improve the safety and perceived safety of walking and bicycling in Fresno
- Increase walking and bicycling trips in Fresno by creating user-friendly facilities
- Improve the geographic equity of access to walking and bicycling facilities in Fresno
- Fill key gaps in Fresno's walking and bicycling networks

Fresno Complete Streets Policy

The Fresno Complete Streets Policy's intent is to aid in the planning, design, and construction of transportation facilities that balance safety, access, and mobility for users of all abilities and ages. This Complete Streets Policy is implemented in all neighborhoods, with particular attention to areas identified as priority areas in the ATP and corridors with high collision rates. This policy is intended to guide implementation of the complete street and multimodal objectives and policies outlined in the General Plan. Prioritization of projects will be determined using the adopted Active Transportation Project Prioritization Tool. The policy requires that all development—public and private—and new construction projects within the public right-of-way, such as reconstruction/retrofit, resurfacing, repaving, restriping, and rehabilitation transportation projects, shall be planned, designed, constructed, operated, and maintained so that all modes of transportation allow all users to move safely, comfortably, conveniently, and independently.

CEQA Guidelines for Vehicle Miles Traveled

The City of Fresno adopted SB 743 guidelines in June 2020 and set significance thresholds for land use plans in Chapter 4 of the SB 743 guidance document. It shares that the ARB establishes greenhous gas (GHG) emission targets for 18 MPOs in the State.[1] The ARB established a 13 percent GHG reduction target for Fresno County, which can be accomplished by reducing VMT by 13 percent.

[1] Fresno Council of Governments. 2021. Fresno County SB 743 Implementation Regional Guidelines. Website: https://fresnocog.wpenginepowered.com/wp-content/uploads/2021/01/Fresno-COG-VMT-Report_01-08-2021.pdf. Accessed January 5, 2023.

Therefore, the City has established a threshold for land use developments of 13 percent reduction or more than existing regional VMT per capita, indicating a significant environmental impact.

Fresno Southeast Development Area Specific Plan

The SEDA Specific Plan is framed within three significant and interrelated goals: fiscal responsibility, social equity, and environmental sustainability. The proposed Plan and policies that form its implementation framework are formulated and coordinated to meet the criteria of these overlapping goals. The proposed Specific Plan contains the following policies and programs related to traffic and circulation:

Urban Form

Objective UF-5 Provide a well-balanced transportation network accessible to all users.

Policy UF-5.1 **Circulation Plan and Street Standards.** Implement a circulation plan which provides a variety of transportation options necessary to meet the needs of residents and employees within the SEDA.

In order to promote connectivity throughout the Plan Area, all SEDA streets rights-of-way shall be publicaly accessible and shall not include gates or access controls, except where permitted through special review by the City of Fresno.

Policy UF-5.2 **Transit Service.** Safe, convenient and frequent transit service will be provided to and within the SEDA via regional transit connections along Kings Canyon Boulevard alignment and potentially, along existing rail right-of-ways. Local service will be provided along primary internal circulation corridors, including Arterials and Collectors.

- **Regional transit planning:** Thoughtful transit planning must occur in order to incorporate the primary centers, particularly the Regional Town Center along Kings Canyon. A Bus Rapid Transit (BRT) extension study including planning, design, and environmental analysis should be completed to evaluate the potential costs and benefits of extending the BRT to the SEDA Plan Area.
- **Station location:** The location of transit stations and stops will better serve local community members if they are placed within or adjacent to major activity centers, schools, medical facilities, public places such as libraries, parks, senior centers, and recreation facilities, commercial uses and high-density residential and employment areas.
- **Station connectivity and accessibility:** To provide opportunities for the highest possible transit use, stations will feature a convenient and accessible path of travel and will include pedestrian and bicycle connections to the surrounding street network and transit transfer points. Bus stops and stations will be oriented toward major streets and public spaces, with primary commercial entrances opening directly toward bus stops. Important to ensuring all members within the SEDA community have access to transit opportunities, bus stops and

stations will comply with the accessibility requirements of the Americans with Disabilities Act (ADA).

Policy UF-5.3 **Bicycle and Pedestrian Travel.** Promoting a network of pedestrian and bicycle routes, including dedicated trails, multi-purpose paths, and priority Bicycle Boulevards throughout the Plan Area will serve work, school, and recreational trips and provide options for healthier outcomes within the community. In addition, both existing and proposed regional trails will be coordinated in tandem within this walkable and bikeable network. The Fresno General Plan Figure MT-2: Paths and Trails and the Active Transportation Plan (ATP) identify active trails.

Policy UF-5.4 **Safe Streets.** Streets are designed for drivers, pedestrians, bicyclists and transit users within the Southeast Fresno Development Area and will enhance safety within the community. SEDA street design will reflect best practice standards as included in the City of Fresno Complete Streets Policy, adopted by the City in 2019.

Policy UF-5.5 **Ranking of Travel Modes.** In order to create a cohesive network between all modes of travel within the SEDA, the Plan will prioritize the following travel modes:

1. Pedestrian
2. Bicycle
3. High-capacity transit
4. Automobile

Policy UF-5.6 **Performance Standards and Evaluation.** Transit will be provided as demand warrants. Upon Plan, buildout or when warranted, 10-minute peak-period headways will be provided along the BRT corridor (e.g., Kings Canyon), and 15-minute peak-period headways shall be provided for high-priority transit routes (e.g., De Wolf, Clovis).

In addition, all other transit routes in the planning area shall be operated at 30-minute headways upon Plan completion. Extended hour or late-night service shall be provided at 60-minute headways.

- Bus stop locations are generally placed at 0.25-mile spacing. Bus stop placement will be prioritized at:
  - Schools and medical facilities
  - Libraries, parks, senior centers, and recreation facilities
  - Concentrated commercial areas
  - Concentrated residential and employment areas

1. **Bicycles:** A user-friendly bicycle network will be provided to welcome all riders throughout the entire Plan Area. Bicycle lanes including Class II and Class IV facilities should be provided on all Super Arterials, Arterials, and

Local Streets. A Bicycle network should be designated on Neighborhood or Local Streets. Ensuring the safety of vulnerable users will be an important priority, as the Plan will seek to create a network of easy to use, lower stress amenities that provide the ability to connect riders to key destinations throughout the City, as descripted in the Fresno Active Transportation Plan (2017).

2. **Pedestrians:** A first-class pedestrian system shall be provided, including sidewalks on all streets, bicycle/pedestrian trails, and other design elements that prioritize safety and convenience for pedestrians, as described in the Fresno Active Transportation Plan (2017).
3. **Vehicles:** A highly connected, grid-based roadway system shall be provided for efficient vehicular travel. Please see the Streets and Circulation Standards in the Development Code and the City of Fresno's Department of Public Works Standard Drawings.

Policy UF-5.7 **Level of Service (LOS).** To promote Complete Streets and provide safe mobility for all users throughout the entire SEDA streets will be designed with no more than four through lanes and a continuous two-way left-turn lane (portions of Jensen and Temperance Avenues may have more than four lanes). In addition, these LOS standards are complemented by several other transportation related policies to reduce overall vehicle miles traveled (such as Complete Streets and Transportation Demand Management). The following LOS standards apply to SEDA roadways:

- LOS 'E' for Arterials, Collectors, and Local (both intersection and segment operations) during peak traffic hours.
- LOS 'F' Exception. LOS 'F' in areas with ample transit, pedestrian, and/or bicycle options, including in and around the Mixed-Use Districts of the SEDA, particularly if achieving a LOS with less delay would violate the four-lane maximum as described above.

Objective UF-6 Integrate urban form with a multimodal transportation network.

Policy UF-6.1 **Land Use and Circulation Integration.** The network of streets within the Mixed-Use Districts, Residential Districts, and Employment Center Districts will not only link districts to one another, but to other destinations beyond the Plan Area, as shown in Table 2.1 Network of Streets below.

Category	Arterial	Collector	Local
Mixed-Use Districts			
Regional Town Center	X	X	X
Community Town Center	X	X	X
Neighborhood Center	–	X	X
Residential Districts			

Category	Arterial	Collector	Local
Mixed Residential	X	X	X
Neighborhood Residential	–	X	X
Rural Residential	–	X	X
Rural Cluster Residential	–	X	X
Employment Centers			
Office Center	X	X	X
Flexible Research and Development	X	X	X
Institutional	X	X	X
Source: City of Fresno 2020.			

Objective UF-8 Manage transportation demand as it occurs.

Policy UF-8.1 **SEDA Transportation Demand Management Program.** Develop a TDM Plan consistent with the City's VMT program. A mix of uses are inteded in the Plan which seek to create a more compact lifestyle and reduce VMT to meet State requirements. The program should include physical design credits (i.e., bicycle storage, on-site showers, shared parking), lifestyle credits (i.e., on-site child care, telecommuting, flex hour programs), and credits for auto-alternative programs (i.e., shuttle service, subsidized transit, guaranteed ride home programs). Please refer to the Transportation Demand Management Programs inset for more information on these credits.

Open Space, Schools and Public Facilties ~~Element~~

Objective OS-4 Develop and maintain a greenway trail network connected to the SEDA circulation network that maximizes daily travel and recreation opportunities by linking town centers to destinations within and beyond the Southeast Development Area.

Policy OS-4.1 **Multiuse Trails.** Establish a planned network of multiuse greenway trails. These trails will serve bicyclists, pedestrians, and, where appropriate, equestrians. Cross-sections and width requirements will be provided for specific conditions- including canal side, open space, streetside and farm side trails.

Policy OS-4.2 **Regional Trails.** Coordinate regional trail planning with Fresno County, the City of Clovis, and other jurisdictions as appropriate. The City of Fresno Active Transportation Plan calls for Class I Bicycle Paths along each canal in the SEDA. A regional Rails to Trails Bicycle Path is planned to run parallel to California Avenue should existing railroad lines be vacated.

Policy OS-4.4 **Trail Segments.** Trail segments will not be constructed until all necessary property or easements are acquired for an entire segment.

Policy OS-4.5 **SEDA Trails Master Plan.** Prior to the design and construction of the SEDA trail system, a SEDA Trails Master Plan will need to be completed that would define the final location and alignment of trails.

Objective OS-14 Provide water, stormwater, and wastewater infrastructure necessary to serve development in the SEDA.

Policy OS-14.2 **Curb, Gutter and Sidewalk Infrastructure.** Require all necessary infrastructure, such as curb, gutter, sidewalk, street trees, public benches, bike parking and amenities to be installed prior to the development of new residential neighborhoods and associated facilities.

3.4 - Methodology

3.4.1 - Study Area

The Traffic Impact Analysis evaluated traffic conditions at 20 study segments during the AM and PM peak hours and daily conditions for a typical weekday. The study segments were based on availability of count data from the County of Fresno count database. From the count data, the AM peak-hour was between 6:30 a.m. to 8:30 a.m., while the PM peak-hour was between 4:30 p.m. to 6:30 p.m. Figure 1 of the TIA (Appendix A) illustrates the Plan Area and the roadways analyzed. The study segments ~~and associated traffic controls~~ are as follows:

- Clovis Avenue south of American Avenue
- De Wolf Avenue north of McKinley Avenue
- De Wolf Avenue south of McKinley Avenue
- De Wolf Avenue south of Clinton Avenue
- De Wolf Avenue north of Jensen Avenue
- De Wolf Avenue south of Jensen Avenue
- Jensen Avenue east of Bethel Avenue
- Jensen Avenue east of De Wolf Avenue
- Jensen Avenue west of De Wolf Avenue
- Jensen Avenue east of Temperance Avenue
- Jensen Avenue west of Temperance Avenue
- Kings Canyon Road east of Temperance Avenue
- Locan Avenue north of Tulare Avenue
- Locan Avenue south of Tulare Avenue
- McCall Avenue north of McKinley Avenue
- McCall Avenue north of Ashlan Avenue
- McCall Avenue north of Belmont Avenue
- Tulare Avenue east of Locan Avenue
- Tulare Avenue west of Locan Avenue
- North Avenue west of Temperance Avenue

3.4.2 - Study Area Levels of Service

LOS grades are generally defined as follows:

- **A** represents free-flow travel with excellent level of comfort and convenience and the freedom to maneuver.
- **B** represents stable operating conditions, but the presence of other road users causes a noticeable, though slight, reduction in comfort, convenience, and maneuvering freedom.
- **C** represents stable operating conditions, but the operation of individual users is substantially affected by the interaction with others in the traffic stream.
- **D** represents high-density, but stable flow. Users experience severe restriction in speed and freedom to maneuver, with poor levels of comfort and convenience.
- **E** represents operating conditions at or near capacity. Speeds are reduced to a low but relatively uniform value. Freedom to maneuver is difficult with users experiencing frustration and poor comfort and convenience. Unstable operation is frequent, and minor disturbances in traffic flow can cause breakdown conditions.
- **F** represents forced or breakdown conditions. This conditions exists when volume of traffic exceeds the capacity of the roadways. Long queues form and stop-and-go traffic becomes the norm.

Table 3-3 shows the roadway functional class and peak-hour LOS thresholds.

Table 3-3: Roadway Functional Class and Peak-hour LOS Thresholds

Functional Class	Median	Lane	Peak-hour Level of Service Capacity Thresholds				
			A	B	C	D	E
Freeway	N/A[1]	4	2,720	4,460	6,630	7,720	8,630
		3+Aux[2]	2,360	3,860	5,640	3,730	7,530
		3	2,000	3,270	4,660	5,740	6,430
		2+Aux	1,650	2,700	3,850	4,760	5,340
		2	1,300	2,130	3,050	3,790	4,260
State Expressway	Divided	6	2,410	3,960	5,730	7,450	8,450
		4	1,610	2,650	3,810	4,960	5,630
		2	810	1,340	1,890	2,470	2,810
City Expressway	Raised Median	6			1,860	6,170	6,520
		5			1,520	5,110	5,430
		4			1,180	4,050	4,340
		2			520	1,910	2,160
Super Arterial	Raised Median	6				4,910	6,240
		5				4,040	5,195
		4				3,170	4,150

Functional Class	Median	Lane	Peak-hour Level of Service Capacity Thresholds				
			A	B	C	D	E
Arterial	Raised Median	8			2,120	7,070	7,490
		6			1,560	5,270	5,610
		5			1,280	4,370	4,670
		4			1,000	3,470	3,730
		3			720	2,555	2,795
		2			440	1,640	1,860
	TWLTL	4			940	3,290	3,550
		2			420	1,550	1,760
	Undivided	4			770	2,740	2,980
		2			340	1,270	1,480
Collector	TWLTL	4			940	3,290	3,550
		2			420	1,550	1,760
	Undivided	4			770	2,740	2,980
		2			340	1,270	1,480
One-Way	Undivided	3		1960	2,240	2,430	2,610
		2		1250	1,490	1,620	1,740
		1		550	740	800	870
Rural State Highway	Undivided	2	310	570	1,020	1,730	2,470
Rural Arterial	Divided	4			1,950	3,580	3,780
	Undivided	2			570	1,230	1,310
Rural Collector/Local	Undivided	2			700	930	1,000

Notes:
[1] N/A–Not applicable for operational class
[2] Aux–Auxiliary Lane
- Level of Service (LOS) is not achievable because of the type of facility.
Source: Transportation Impact Assessment (TIA). 2022.

For daily segment volume LOS analysis, the Transportation Research Board's Highway Capacity Manual Special Report 209 was used. Table 3-4 shows the LOS criteria for daily segment volumes based on volume-to-capacity ratios.

Table 3-4: LOS Thresholds for Daily Segment Volumes based on V/C Ratios

Level of Service	Description	V/C Ratios
A	Free-flow conditions with unimpeded maneuverability. Stopped delay at signalized intersection is minimal.	0.00 to 0.60
B	Reasonably unimpeded operation with slightly restricted maneuverability. Stopped delays are not bothersome.	0.61 to 0.70
C	Stable operations with somewhat more restrictions in making mid-block lane changes than LOS B. Motorists will experience appreciable tension while driving.	0.71 to 0.80
D	Approaching unstable operations where small increases in volume produce substantial increase in delay and decrease in speed.	0.81 to 0.90
E	Operations with significant intersection approach delays and low average speeds.	0.91 to 1.00
F	Operations with extremely low speeds caused intersection congestion, high delay, and adverse signal progression.	Greater Than 1.00
Source: Transportation Research Board. Highway Capacity Manual, Special Report 209. 1994.		

The City adopted its General Plan in December 2014 and it serves as the community's guide for continued development, enhancement, and revitalization of the Fresno metropolitan area. The General Plan's policies and standards for specific plans such as the SEDA project require a transportation impact study to assess the impact on existing and planned streets. Since the SEDA project is located in Traffic Impact Zone III (TIZ-II), the General Plan standards require that the project maintain a LOS standard of D or better for all roadway segments. However, the SEDA Specific Plan calls for a standard of LOS E or better, which is the standard used in the traffic analysis.

3.4.3 - Vehicle Miles Traveled

SB 743, which was signed into law by Governor Brown in 2013 and codified in Public Resources Code 21099, tasked OPR with establishing new criteria for determining the significance of transportation impacts under CEQA. SB 743 requires the new criteria to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." SB 743 changes the way that public agencies evaluate the transportation impacts of projects under CEQA, recognizing that roadway congestion, while an inconvenience to drivers, is not itself an environmental impact (see Public Resources Code [PRC] § 21099(b)(2)). In December 2018, OPR circulated its most recent Technical Advisory on Evaluating Transportation Impacts in CEQA, which provides recommendations and describes various options for assessing VMT for transportation analysis purposes. "Vehicle miles traveled" refers to the amount and distance of automobile travel "attributable to a project." Other relevant considerations may include the effects of the project on transit or non-motorized travel. The VMT analysis options described by OPR are primarily tailored toward single-use development residential, office, or office projects, not mixed-use projects and not athletic facility projects. OPR recommends the following methodology and criteria for specific land uses:

- For residential projects, OPR recommends that VMT impacts be considered potentially significant if a residential project is expected to generate VMT per capita (i.e., VMT per resident) at a rate that exceeds 85 percent of a regional average. However, the City's VMT threshold is 87 percent of a regional average.
- For office projects, OPR recommends that VMT impacts be considered potentially significant if an office project is expected to generate VMT per employee at a rate that exceeds 85 percent of a regional average. However, the City's VMT threshold is 87 percent of a regional average.
- For retail projects, OPR recommends that VMT impacts be considered potentially significant if a project results in a net increase in total VMT. This approach takes into account the likelihood that retail developments may lead to increases or decreases in VMT, depending on previously existing retail travel patterns. This approach may also be used for other types of projects with customer components.
- OPR also indicates that local serving retail (projects smaller than 50,000 square feet) may be presumed to have a less than significant VMT impact.
- OPR does not provide specific guidance on evaluating other land use types, except to say that other land uses could choose to use the method applicable to the land use with the most similarity to the proposed project.
- For mixed-use projects, OPR describes several options that include (1) evaluating each land use separately; or (2) evaluating mixed-use projects based on the method applicable to the dominant land use. Evaluating each land use separately would potentially fail to measure the positive effects of mixed-use projects in reducing VMT.

OPR also recommends exempting some project types from VMT analysis based on the likelihood that such projects will generate low rates of VMT:

- OPR recommends that projects generating less than 110 trips per day generally may be assumed to cause a less than significant transportation impact.
- OPR notes that residential and office projects located in areas with low VMT, and that incorporate similar features, will tend to exhibit similar low VMT and can be screened out.
- OPR states that residential, retail, office, and mixed-use projects near transit stations or major transit stops should be screened out based on the likelihood that such projects will have a less than significant impact on VMT.

3.4.4 - VMT Screening Criteria

City of Fresno guidelines include the following screening criteria for identifying projects that can be presumed to have a less than significant impact:

- Residential, retail, office projects, or mixed-use projects proposed within 0.5 mile of an existing major transit stop or an existing stop along a high-quality transit corridor.
- Projects involving local serving retail space of less than 50,000 square feet.

- Projects having a high level of affordable housing units.
- Projects that generate or attract fewer than 110 daily vehicle trips.
- Projects generating less than 500 Average Daily Trips (ADT).
- Projects that develop institutional/government and public service uses that support community health, safety, and welfare.
- Residential and office projects located in areas with low VMT and incorporate similar features.
- Consistency with other plans to reduce GHG emissions.

3.4.5 - Fresno Activity Based Travel Demand Model

The latest approved version of the Fresno Activity Based Travel Demand Model (FresnoABM) was obtained for use in travel demand forecasting, ~~and~~ VMT analysis, and queueing analysis for this project. All traffic volume forecasts were adjusted, using the difference (delta) method, to account for the difference between existing counts and base year model forecasts. The FresnoABM has a base year of 2019 and a forecast year of 2035, while the count data collected from the Fresno City count database were from the year 2018.

3.5 - Thresholds of Significance

The lead agency utilizes the criteria in the CEQA Guidelines Appendix G Environmental Checklist to determine whether transportation and traffic impacts are significant environmental effects. Would the project:

a) Conflict with a program plan, ordinance or policy of the circulation system, including transit, roadway, bicycle and pedestrian facilities?

b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

d) Result in inadequate emergency access?

3.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the proposed project and provides mitigation measures where necessary.

3.6.1 - Effect to Circulation System

Impact TRANS-1:	**The proposed project would not conflict with a program plan, ordinance or policy of the circulation system, including transit, roadway, bicycle and pedestrian facilities.**

Impact Analysis

Proposed Project Trip Generation

Table 3-5 summarizes daily and PM peak-hour trip generation for the proposed project. Institute of Traffic Engineers (ITE) Trip Generation 11th Edition was used to generate the trip rates for the four types of land uses in the proposed project.

Table 3-5: Proposed Project Trip Generation

Land Use (units)	Size		Daily		PM Peak-hour	
			Rate	Trips	Rate	Trips
Housing (dwelling units)	45,274	Dwelling units	8.35	378,038	0.77	34,861
Retail/Commercial (employees)	12,648	Employees	26.60	336,437	3.49	44,142
Office (employees)	8,069	Employees	3.33	26,870	0.45	3,631
Government/Civic (employees)	16,681	Employees	7.50	125,108	0.71	11,844
Total Trips				**866,452**		**94,477**
Source: Transportation Research Board. Highway Capacity Manual, Special Report 209. 1994.						

In total, the proposed project is expected to generate 866,452 total daily trips and 94,477 PM peak-hour trips from the 45,274 total dwelling units and 37,398 total employees at full buildout.

Roadway Impact Analysis–Traffic Increase

The proposed project would result in less than significant impacts on the existing roadways within the project area. Certain roadways within the Plan Area would be upgraded into a network of Complete Streets as defined by the Fresno Complete Streets Policy adopted in 2019. A Complete Street is defined as a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users—including bicyclists, pedestrians, transit vehicles, trucks, and motorists. In addition to Complete Streets, the safety of the designed roadway network environment would be implemented such that driver, pedestrian, and bicyclist safety are paramount.

The proposed project would be consistent with General Plan Policy MT-1-k, which calls for planning and design of roadway systems to meet LOS D on major roadways. Roadway improvements to increase capacity and maintain LOS standards would be planned and programmed based on consideration of the total overall needs of the roadway system, recognizing the priority of maintenance, rehabilitation, and operation of the existing road system. Convenient transit stops would be provided in the Plan Area, and sidewalks would be constructed pursuant to City standards.

Further, the proposed project would be consistent with the General Plan objectives and policies to create and maintain a transportation system that is safe, efficient, provides access in an equitable manner, and optimizes travel by all modes. The proposed project is a comprehensive planning document for the nearly 9,000-acre growth area and addresses wide-ranging infrastructure and community challenges associated with accommodating a large increment of the City's growth.

Planning at this scale allows design and phasing of infrastructure improvements that are more efficient, environmentally sensitive, and cost-effective. The plan provides for mobility within and across town centers, neighborhoods, schools, and open spaces by comprehensively planning roadways, high-quality transit service, and safe walking and biking connections. The plan also provides for variety of transportation options necessary to meet the needs of the residents and employees within the Plan Area. Centers would be designed with a clear pattern of pedestrian-scaled streets, blocks, buildings, and public spaces based on the block connectivity and size standards specified in the SEDA Development Code Update, including a transportation network that is based on a high-density grid system. These policies would ensure consistency with applicable goals, objectives, and policies of the various transportation plans locally and regionally.

Because site-specific designs showing driveway locations have not been developed, there are no specific details to review and assess impacts on pedestrian, bicycle, and transit facilities. As part of the standard development review process, the City will require all future proposed development of parcels to go through a review of pedestrian, bicycle, and transit facilities in the area surrounding the individual development project to ensure that future developments do not conflict with existing or planned facilities supporting those travel modes. All pedestrian, bicycle, and transit facilities proposed would be designed using the appropriate design standards. The impact on these facilities would be less than significant.

Level of Significance Before Mitigation

~~None.~~ Potentially significant impact.

Fresno General Plan PEIR Mitigation Measures

None.

Project Specific Mitigation Measures

MM TRANS-1a Provide more options for shorter trips by encouraging vertical mixed uses and locating residential uses in walking distance (0.5 mile) to retail and employment uses.

MM TRANS-1b Provide pedestrian and bicycle network improvements within the development connecting complementary uses (i.e., residential, employment, retail, and transit stops) internally and to existing off-site facilities.

MM TRANS-1c Ensure that design of key intersections and roadways encourage the use of walking, biking, and transit.

MM TRANS-1d Collaborate with the Fresno Transit (FAX) to provide new transit services to the proposed project and within the proposed project area.

MM TRANS-1e In addition, the following Transportation Demand Management (TDM) strategies may be applicable at the implementing project level:

- Reduce Parking Supply for Retail Uses (maximum reduction: 12.5 percent)

- Add Transit Rerouting and Transit Stops (maximum reduction: 5 percent)
- Implementation of Local Shuttle Service (grouped strategy with transit system improvements)
- Mandatory Travel Behavior Change Program, Promotions and Marketing (maximum reduction: 1 percent)
- Promotions and Marketing (maximum reduction: 1 percent)
- Emergency Ride Home (ERH) Program (maximum reduction: 3 percent)
- School Carpool Program (maximum reduction: 15 percent)
- Bike Share (maximum reduction: 0.25 percent)
- Implement/Improve On-street Bicycle Facility (maximum reduction: 0.625 percent)
- Traffic Calming Improvements (maximum reduction: 1 percent)
- Pedestrian Network Improvements (maximum reduction: 2 percent)

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

3.6.2 - Conflict with CEQA Guidelines Section 15064.3, Subdivision (b)

Impact TRANS-2: The proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

Impact Analysis

The primary components of Section 15064.3 include:

- Identifies VMT (amount and distance of automobile traffic attributable to a project) as the most appropriate measure of transportation impacts;
- Declares that a project's effect on automobile delay shall not constitute a significant environmental impact (except for projects increasing roadway capacity);
- Creates a rebuttable presumption of no significant transportation impacts for (a) land use projects within 0.5 mile of either an existing major transit stop or a stop along an existing high-quality transit corridor, (b) land use projects that reduce VMT below existing conditions, and (c) transportation projects that reduce or have no impact on VMT;
- Allows a lead agency to qualitatively evaluate VMT if existing models are not available; and
- Gives lead agencies discretion to select a methodology to evaluate a proposed project's VMT but requires lead agencies to document that methodology in the environmental document prepared for the proposed project (OPR's technical advisory provides recommendation on preferable methodology).

The City of Fresno CEQA standards for land use plans, such as SEDA, states that the project should be compared base year existing VMT per capita and/or VMT per employee with the horizon year with project VMT per capita and/or VMT per employee. If the horizon year with project VMT is higher

than the base year, then there will be an impact. The project generates fewer VMT/capita and VMT/employee in the horizon year, and thus the impact would be less than significant.

3.6.3 - Year 2035 No Project Conditions Vehicle Miles Traveled

For the Year 2035 baseline No Project conditions VMT, the SEDA project area was overlaid on top of the FresnoABM loaded vehicle assignment network and the total VMT for the SEDA project was calculated by multiplying daily volumes by distance traveled. In addition, VMT per Service Population (which is the sum of population and employees) was calculated. Table 3-6 summarizes the 2035 baseline No Project VMT from the FresnoABM for the SEDA project area. In the forecast year No Project condition, VMT per Service Population for the SEDA project area falls slightly compared to the existing base year condition.

Table 3-6: Year 2035 No Project Conditions VMT

Category	2035 Base Year Model
Plan Area VMT	371,397
Population	5,046
Employment	3,077
SEDA VMT per Service Population	45.72
Notes: SEDA = Southeast Development Area VMT = Vehicle Miles Traveled Source: Transportation Impact Assessment (TIA). 2022.	

3.6.4 - Year 2035 With Project Conditions Vehicle Miles Traveled

For the Year 2035 with project conditions VMT, the SEDA project area was overlaid on top of the FresnoABM loaded vehicle assignment network and the total VMT for the SEDA project was calculated by multiplying daily volumes by distance traveled. In addition, VMT per Service Population (which is the sum of population and employees) was calculated. Table 3-7 summarizes the 2035 baseline with project VMT from the FresnoABM for the project area.

Table 3-7: Year 2035 With Project Conditions VMT

Category	2035 With Project Model (SEDA)
Plan Area VMT	974,369
Population	151,670
Employment	40,490
SEDA VMT per Service Population	5.07
Notes: SEDA = Southeast Development Area VMT = Vehicle Miles Traveled Source: Transportation Impact Assessment (TIA). 2022.	

The VMT per Service Population in the project area with the project built out in 2035 drops from 45.72 to 5.07. The transition from a mostly rural area (which the project area currently is) to a developed urbanized mixed-use site results in a large VMT reduction. This is because trip distances for both the production side (residential) and attraction side (commercial) are shortened since residents and employees are now better connected to jobs and services within the project area.

Level of Significance Before Mitigation

Less than significant impact.

Fresno General Plan PEIR Mitigation Measures

None.

Project Specific Mitigation Measures

None.

3.6.5 - Hazards

Impact TRANS-3:	**The proposed project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).**

Impact Analysis

As previously discussed, ~~T~~the proposed project does not approve or entitle any specific development and specific project design is unknown at this time. However, Caltrans comments on the Notice of Preparation (NOP) for the proposed project requested that peak-hour ramp queue analyses be prepared for specific SR-180 interchanges and intersection at project buildout to determine potential impacts. The requested interchanges include Clovis Avenue, Fowler Avenue, and Temperance Avenue, and the requested intersections include De Wolf Avenue, Highland Avenue, and McCall Avenue. An unacceptable queueing condition exists if queue lengths extend past existing queue lanes or exit ramps (queue spillback), creating a potential traffic hazard. A significant impact could occur if new or worsening queue spillback occurs. Excess queueing can generate speed differentials between slow or stopped traffic on ramps or in turn pockets, and faster traffic in through lanes. Thus, the following analysis contains results of queue length analyses for all of the interchanges and intersections identified above.

The queueing analysis was conducted using expected lane geometry and traffic control at the Specific Plan buildout in 2035, which includes the anticipated widening of Temperance Avenue to six lanes, De Wolf Avenue to four lanes, and signal timings obtained from Caltrans. Estimated turning movements at all study locations were extracted from the Fresno Activity Based Model (FresnoABM) and adjusted to projected 2035 No Project and 2035 Proposed Project conditions using current ramp and mainline volumes. Using these volumes, the queueing analysis was conducted using Synchro 11 and SimTraffic 11 software. Simulation results were based on the average results of five one-hour runs, in accordance with Caltrans methodology and are included in Appendix A. All of the interchanges and intersections analyzed, and the results of queueing analysis, are included in Table 3-8 below.

Table 3-8: 2035 Project and No Project Queue Analyses Results

#	Intersection/ Interchange	Direction	Lane Group	Storage	Peak	No Project Conditions (2035)	Proposed Project Conditions (2035)	Change
1	Clovis Avenue and SR-180 EB Ramp	EB	Left (pocket)	255	AM	11	6	-5
					PM	57	24	-33
			Left (full lane)	1,540	AM	317	40	-277
					PM	**1574**	**1705**	**131**
			Right (full lane)	1,540	AM	769	257	-512
					PM	**1583**	**1676**	**93**
			Right (pocket)	885	AM	736	251	-485
					PM	**985**	**1008**	**23**
2	Clovis Avenue and SR-180 WB Ramp	WB	Left	440	AM	**881**	**676**	**-205**
					PM	71	**96**	25
			Right	1360	AM	**1763**	**1814**	**51**
					PM	156	122	-34
3	Fowler Avenue and SR-180 EB Ramp	EB	Left (pocket)	400	AM	0	12	12
					PM	0	0	0
			Left (full lane)	1530	AM	4	9	5
					PM	0	0	0
			Right (full lane)	1530	AM	109	129	20
					PM	195	227	32
			Right (pocket)	235	AM	91	104	13
					PM	192	228	36
4	Fowler Avenue and SR-180 WB Ramp	WB	Left	650	AM	32	88	56
					PM	28	40	12
			Right	1690	AM	177	105	-72
					PM	70	58	-12
5	Temperance Avenue and SR-180 EB Ramp	EB	Left (pocket)	440	AM	4	0	-4
					PM	6	224	218
			Left (full lane)	1935	AM	22	29	7
					PM	30	**1945**	**1915**
			Right (full lane)	1935	AM	122	95	-27
					PM	163	**2026**	**1863**
			Right (pocket)	680	AM	105	74	-31

#	Intersection/ Interchange	Direction	Lane Group	Storage	Peak	No Project Conditions (2035)	Proposed Project Conditions (2035)	Change
					PM	152	**925**	**773**
6	Temperance Avenue and SR-180 WB Ramp	WB	Left (pocket)	400	AM	72	44	-28
					PM	56	34	-22
			Left (full lane)	1755	AM	110	76	-34
					PM	91	63	-28
			Right (pocket)	840	AM	0	182	182
					PM	0	0	0
7	De Wolf Avenue and SR-180	EB	Left	725	AM	487	**787**	**300**
					PM	21	**864**	**843**
			Right	700	AM	505	**1134**	**629**
					PM	10	**841**	**831**
		WB	Left	690	AM	92	166	74
					PM	65	**185**	120
			Right	690	AM	25	35	10
					PM	46	41	-5
8	Highland Avenue and SR-180	EB	Left	965	AM	39	72	33
					PM	16	146	130
		WB	Left	550	AM	11	7	7
					PM	10	13	13
9	McCall Avenue and SR-180	EB	Left	555	AM	92	32	21
					PM	102	117	107
			Right	510	AM	**641**	177	85
					PM	72	183	81
		WB	Left	550	AM	**996**	165	-476
					PM	30	94	22
			Right	630	AM	**796**	**760**	**-236**
					PM	38	38	8

Notes:
EB = eastbound
WB = westbound
Bold text indicates queues extending beyond available storage
Source: TJKM, 2023

As shown in Table 3.17-8 above, under 2035 No Project conditions, queueing on exit ramps is expected to extend into the mainline through lanes at the Clovis Avenue interchange in the westbound direction in the AM peak-hour and the eastbound direction in the PM peak-hour. No other ramps would experience excessive queues. At the intersection of McCall Avenue and SR-180, queueing in excess of the available turn pocket storage would occur in the AM peak-hour at the eastbound right, westbound left, and westbound right turn lanes.

With the addition of project traffic under 2035 Proposed Project conditions, queueing at the Clovis Avenue interchange would continue to be excessive and would increase at both the westbound direction in the AM peak-hour and eastbound direction in the PM peak-hour, resulting in a potentially significant impact and requiring mitigation at both locations. Therefore, the proposed project would implement MM TRANS-3a at the eastbound ramps, which would restripe the eastbound approach to Clovis Avenue to one left-turn lane and three right turn lanes. Implementation of MM TRANS-3a would reduce impacts at Clovis Avenue and SR-180 eastbound interchange to a less than significant level. The proposed project would also implement MM TRANS-3b at the westbound ramps, which would widen the westbound approach to Clovis Avenue to two left-turn lanes and two right turn lanes. Implementation of MM TRANS-3b would reduce impacts at Clovis Avenue and SR-180 westbound interchange to a less than significant level.

At the Temperance Avenue interchange, the eastbound ramp would experience new excessive queueing extending into the mainline through lanes during the PM peak-hour, resulting in a potentially significant impact and requiring mitigation. Therefore, the proposed project would implement MM TRANS-3c, which would restripe the eastbound approach to Temperance Avenue to one left-turn lane and three right turn lanes. Implementation of MM TRANS-3c would reduce impacts at Temperance Avenue and SR-180 eastbound interchange to a less than significant level.

At the intersections of De Wolf Avenue and SR-180 and McCall Avenue and SR-180, new or worsening queues at multiple turn pockets may cause queues to exceed the length of the queueing lanes and would thus would also result in a potentially significant impact and require mitigation to accommodate the projected queueing at project buildout. Therefore, the proposed project would implement MM TRANS-3d and MM TRANS-3e, which would lengthen the existing turn pockets to accommodate longer queues. With the implementation of MM TRANS-3d and MM TRANS-3e, the proposed project's impacts to these intersections would be less than significant.

In addition, future ~~D~~development consistent with the proposed project would undergo individual planning review at the time of application and additional project-specific environmental review may be required. It is not anticipated that development would substantially increase hazards due to a geometric design feature or incompatible uses because the City would require review of proposed future developments for consistency with applicable regulations, including the policies in the General Plan, designed to ensure safety, during planning review to eliminate any such hazards. Thus, with implementation of project-specific MM TRANS-3a, MM TRANS-3b, MM TRANS-3c, MM TRANS-3d, and MM TRANS-3e, ~~The~~ impacts would be less than significant.

Level of Significance

~~Less than~~ Potentially significant impact.

Fresno General Plan PEIR Mitigation Measures

None.

Project Specific Mitigation Measures

The following mitigation measures shall be implemented as necessary through monitoring and coordination between Caltrans and the City of Fresno:

MM TRANS-3a Restripe the State Route (SR) 180 eastbound off-ramp at Clovis Avenue to provide one left-turn lane and three right turn lanes.

MM TRANS-3b Widen the State Route (SR) 180 westbound off-ramp at Temperance Avenue to provide two left-turn lanes and two right turn lanes.

MM TRANS-3c Restripe the State Route (SR) 180 eastbound off-ramp at Temperance Avenue to provide one left-turn lane and three right turn lanes.

MM TRANS-3d Extend the eastbound left-turn pocket to 1,075 feet and the eastbound right turn pocket to 1,150 feet at the intersection of De Wolf Avenue and State Route (SR) 180.

MM TRANS-3e Extend the westbound right turn pocket to 1,075 feet at the intersection of McCall Avenue and State Route (SR) 180, extend the westbound right turn pocket to 1,075 feet.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

3.6.6 - Emergency Access

Impact TRANS-4: The proposed project would not result in inadequate emergency access.

Impact Analysis

The proposed project may require temporary lane closures or detours during construction activity. However, all lane closures or detours would be coordinated with the sheriff and fire departments to ensure that access to existing businesses and through circulation are maintained as well as emergency access. The construction contractor would provide signage, cones, and/or flag persons as deemed necessary through a project-specific Construction Management Plan (CMP) to ensure adequate emergency access. All development will be required to prepare a CMP to demonstrate to the City and the associated sheriff and fire departments that emergency access would be maintained at all times during construction. Preparation of a CMP, as required by MM TRANS-4, would reduce any impact of temporary lane closures or detours to less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Fresno General Plan PEIR Mitigation Measures

None.

Project Specific Mitigation Measures

MM TRANS-4a At the time of planning application submittal, the project applicant shall prepare a Construction Management Plan (CMP) that shall specify traffic controls required to maintain adequate circulation and access throughout the Southeast Development (SEDA) Specific Plan Area. At least one lane shall remain open in each direction during construction and access to all existing businesses shall be maintained. This plan shall be subject to approval by the jurisdictional police and fire departments prior to commencement of construction.

Level of Significance After Mitigation

Less than significant impact with mitigation incorporated.

3.7 - Cumulative Impacts

The geographic context for an analysis of cumulative impacts to transportation and circulation is the City of Fresno and the existing transportation network.

3.7.1 - Year 2035 Baseline (No Project) Conditions

The following presents the results of the LOS calculations under the year 2035 baseline conditions without the project. LOS analysis at the study segments were conducted for 2035 No Project conditions to establish a base to evaluate the impacts due to the addition of traffic from the proposed project. Study segment volumes were forecasted using the Fresno Activity Based Travel Demand Model. Table 3-9 shows the forecasted study segment volumes for the year 2035 baseline (No Project) conditions.

Table 3-9: Year 2035 Baseline (No Project) Conditions Study Segment Traffic Volumes

Segment Name	#	AM Peak-hour	PM Peak-hour	Daily
Clovis Avenue south of American Avenue	1	1,071	1,163	15,309
De Wolf Avenue north of McKinley Avenue	2	688	495	4,237
De Wolf Avenue south of McKinley Avenue	3	282	258	1,881
De Wolf Avenue south of Clinton Avenue	4	484	347	3,470
De Wolf Avenue north of Jensen Avenue	5	187	174	1,693
De Wolf Avenue south of Jensen Avenue	6	95	137	1,221
Jensen Avenue east of Bethel	7	1,006	1,105	15,079
Jensen Avenue east of De Wolf Avenue	8	705	830	11,518
Jensen Avenue west of De Wolf Avenue	9	597	850	10,143
Jensen Avenue east of Temperance Avenue	10	1,606	1,095	13,894

Segment Name	#	AM Peak-hour	PM Peak-hour	Daily
Jensen Avenue west of Temperance Avenue	11	1,333	1,107	12,676
Kings Canyon Road east of Temperance Avenue	12	4	4	52
Locan Avenue north of Tulare Avenue	13	18	32	218
Locan Avenue south of Tulare Avenue	14	12	34	199
McCall Avenue north of McKinley Avenue	15	500	382	4,197
McCall Avenue north of Ashlan Avenue	16	390	439	5,167
McCall Avenue north of Belmont Avenue	17	485	518	5,730
Tulare Avenue east of Locan Avenue	18	38	45	363
Tulare Avenue west of Locan Avenue	19	59	90	861
North Avenue west of Temperance Avenue	20	193	216	2,442
Source: Transportation Impact Assessment (TIA). 2022.				

Study Segment Level of Service Analysis–Year 2035 No Project Conditions

The study segment LOS analysis for the forecasted volumes are presented in Table 3-10**.** All of the study segments in the year 2035 No Project conditions are forecasted to perform at a LOS of D or better.

Table 3-10: Year 2035 Baseline (No Project) Conditions Study Segment LOS

Segment Name	#	AM Peak-hour	PM Peak-hour	Daily
Clovis Avenue south of American Avenue	1	C	C	B
De Wolf Avenue north of McKinley Avenue	2	D	D	C
De Wolf Avenue south of McKinley Avenue	3	C	C	B
De Wolf Avenue south of Clinton Avenue	4	D	C	B
De Wolf Avenue north of Jensen Avenue	5	C	C	A
De Wolf Avenue south of Jensen Avenue	6	B	B	A
Jensen Avenue east of Bethel Avenue	7	C	C	B
Jensen Avenue east of De Wolf Avenue	8	B	B	A
Jensen Avenue west of De Wolf Avenue	9	B	B	A
Jensen Avenue east of Temperance Avenue	10	C	C	B
Jensen Avenue west of Temperance Avenue	11	C	C	B
Kings Canyon Road east of Temperance Avenue	12	A	A	A
Locan Avenue north of Tulare Avenue	13	A	A	A
Locan Avenue south of Tulare Avenue	14	A	A	A

Segment Name	#	AM Peak-hour	PM Peak-hour	Daily
McCall Avenue north of McKinley Avenue	15	D	D	C
McCall Avenue north of Ashlan Avenue	16	D	D	C
McCall Avenue north of Belmont Avenue	17	D	D	C
Tulare Avenue east of Locan Avenue	18	A	A	A
Tulare Avenue west of Locan Avenue	19	A	A	A
North Avenue west of Temperance Avenue	20	A	A	A
Source: Transportation Impact Assessment (TIA). 2022.				

Level of Service

This analysis presents the results of the LOS calculations for the year 2035 conditions with the proposed project. LOS analysis at the study segments were conducted for 2035 with project conditions. Study segment volumes were forecasted using delta method, using the FresnoABM. Table 3-11 shows the forecasted study segment volumes for the year 2035 with project conditions.

Table 3-11: Year 2035 With Project Conditions Study Segment Traffic Volumes

Segment Name	#	AM Peak-hour	PM Peak-hour	Daily
Clovis Avenue south of American Avenue	1	1,266	1,367	18,223
De Wolf Avenue north of McKinley Avenue	2	838	544	5,510
De Wolf Avenue south of McKinley Avenue	3	457	357	3,614
De Wolf Avenue south of Clinton Avenue	4	610	395	4,678
De Wolf Avenue north of Jensen Avenue	5	322	305	3,549
De Wolf Avenue south of Jensen Avenue	6	178	235	2,166
Jensen Avenue east of Bethel	7	1,135	1,375	18,813
Jensen Avenue east of De Wolf	8	1,040	1,179	16,757
Jensen Avenue west of De Wolf	9	866	1,180	15,122
Jensen Avenue east of Temperance	10	2,096	1,519	20,017
Jensen Avenue west of Temperance Avenue	11	1,862	1,562	19,744
Kings Canyon Road east of Temperance Avenue	12	8	8	111
Locan Avenue north of Tulare Avenue	13	44	44	392
Locan Avenue south of Tulare Avenue	14	29	48	320
McCall Avenue north of McKinley Avenue	15	831	651	6,377
McCall Avenue north of Ashlan Avenue	16	562	612	5,662
McCall Avenue north of Belmont Avenue	17	867	919	9,956

Segment Name	#	AM Peak-hour	PM Peak-hour	Daily
Tulare Avenue east of Locan Avenue	18	54	61	582
Tulare Avenue west of Locan Avenue	19	80	118	1,391
North Avenue west of Temperance Avenue	20	193	286	2,442
Source: Transportation Impact Assessment (TIA). 2022.				

Compared to the 2035 No Project condition, Jensen Way and McCall Lane saw the most growth in AM peak-hour, PM peak-hour, and daily volumes with the proposed project built out. Because of the existing low volumes from the City of Fresno count data, the forecasted with project volumes are not as high as raw FresnoABM output volumes.

Study Segment Level of Service Analysis–Year 2035 With Project Conditions

The study segment LOS analysis for the forecasted volumes are presented in Table 3-12. All of the study segments in the year 2035 with project conditions are forecasted to perform at a LOS of D or better.

Table 3-12: Year 2035 With Project Conditions Study Segment LOS

Segment Name	#	AM Peak-hour	PM Peak - hour	Daily
Clovis Avenue south of American Avenue	1	C	C	B
De Wolf Avenue north of McKinley Avenue	2	D	D	D
De Wolf Avenue south of McKinley Avenue	3	D	D	D
De Wolf Avenue south of Clinton Avenue	4	D	D	D
De Wolf Avenue north of Jensen Avenue	5	D	D	D
De Wolf Avenue south of Jensen Avenue	6	D	D	D
Jensen Avenue east of Bethel Avenue	7	C	C	B
Jensen Avenue east of De Wolf Avenue	8	C	C	B
Jensen Avenue west of De Wolf Avenue	9	C	C	B
Jensen Avenue east of Temperance Avenue	10	C	C	B
Jensen Avenue west of Temperance Avenue	11	C	C	A
Kings Canyon Road east of Temperance Avenue	12	A	A	A
Locan Avenue north of Tulare Avenue	13	A	A	A
Locan Avenue south of Tulare Avenue	14	A	A	A
McCall Avenue north of McKinley Avenue	15	D	D	C
McCall Avenue north of Ashlan Avenue	16	D	D	C
McCall Avenue north of Belmont Avenue	17	D	D	C
Tulare Avenue east of Locan Avenue	18	A	A	A

Segment Name	#	AM Peak-hour	PM Peak - hour	Daily
Tulare Avenue west of Locan Avenue	19	A	A	A
North Avenue west of Temperance Avenue	20	A	A	A
Source: Transportation Impact Assessment (TIA). 2022.				

Proposed project development in combination with future cumulative development in the City could result in localized impacts on the transportation network in the City. It is anticipated that cumulative development would be required to implement similar mitigation measures as the proposed project to reduce potential impacts on the transportation system, although there may be residual significant and unavoidable impacts. MM TRANS-1a through TRANS-~~6~~1e would apply to the proposed project to reduce any project-level impacts to less than significant. Therefore, the proposed project would not make a cumulatively considerable contribution to potential cumulative transportation and circulation impacts and the cumulative impact would be less than significant.

Level of Cumulative Significance Before Mitigation

Potentially significant impact.

Fresno General Plan PEIR Cumulative Mitigation Measures

None.

Project Specific Cumulative Mitigation Measures

MM TRANS-1a through MM TRANS-~~6~~1e would apply.

Level of Cumulative Significance After Mitigation

Less than significant impact with mitigation incorporated.

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix A:
Transportation Supporting Information

THIS PAGE INTENTIONALLY LEFT BLANK

A.1 - Queueing Analysis Worksheets

THIS PAGE INTENTIONALLY LEFT BLANK

Intersection: 1: N Clovis Ave & EB Off Ramp

Movement	EB	EB	EB	EB	NB	NB	NB	NB	B32	B32	B32	SB
Directions Served	L	LT	R	R	T	T	T	TR	T	T	T	L
Maximum Queue (ft)	23	417	826	799	280	291	277	252	356	342	357	387
Average Queue (ft)	1	51	471	451	263	263	258	206	327	326	330	386
95th Queue (ft)	11	317	769	736	273	274	276	248	343	335	346	390
Link Distance (ft)		1539	1539		190	190	190	190	310	310	310	
Upstream Blk Time (%)					72	69	64	29	54	66	77	
Queuing Penalty (veh)					0	0	0	0	0	0	0	
Storage Bay Dist (ft)	255			885								310
Storage Blk Time (%)			1	0								88
Queuing Penalty (veh)			4	0								602

Intersection: 1: N Clovis Ave & EB Off Ramp

Movement	SB	SB	SB	SB
Directions Served	L	T	T	T
Maximum Queue (ft)	465	564	383	357
Average Queue (ft)	464	538	162	169
95th Queue (ft)	465	555	298	292
Link Distance (ft)		520	520	520
Upstream Blk Time (%)		73	0	
Queuing Penalty (veh)		620	0	
Storage Bay Dist (ft)	310			
Storage Blk Time (%)	98	0		
Queuing Penalty (veh)	672	0		

Intersection: 2: N Clovis Ave & WB Ramps

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	TR	T	T	T
Maximum Queue (ft)	620	1479	50	80	70	1322	1315	1289
Average Queue (ft)	427	1185	13	37	29	1210	1190	986
95th Queue (ft)	881	1763	41	73	64	1559	1566	1591
Link Distance (ft)		1424	520	520	520	1274	1274	1274
Upstream Blk Time (%)		41				77	31	1
Queuing Penalty (veh)		0				0	0	0
Storage Bay Dist (ft)	440							
Storage Blk Time (%)		78						
Queuing Penalty (veh)		48						

Intersection: 3: N Fowler Ave & EB Ramps

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	T	T	R	L	L	T	T
Maximum Queue (ft)	5	125	119	291	332	226	127	158	102	118
Average Queue (ft)	0	70	51	158	175	23	40	73	29	39
95th Queue (ft)	4	109	91	263	299	108	96	124	76	93
Link Distance (ft)	1566	1566		632	632			442	442	442
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			235			180	85			
Storage Blk Time (%)					7		1	6		
Queuing Penalty (veh)					3		1	6		

Intersection: 4: N Fowler Ave & WB Ramps

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	T	T	T
Maximum Queue (ft)	42	217	312	283	158	119
Average Queue (ft)	9	99	134	51	80	44
95th Queue (ft)	32	177	270	180	134	93
Link Distance (ft)		1418	442	442	495	495
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	650					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: N Temperance Ave & EB Ramps

Movement	EB	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	R	T	T	T	T	T	T
Maximum Queue (ft)	5	32	140	123	148	181	268	216	208	194
Average Queue (ft)	0	5	79	57	70	45	100	89	83	95
95th Queue (ft)	4	22	122	105	121	123	199	179	182	164
Link Distance (ft)		1702	1702		524	524	524	558	558	558
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	440			680						
Storage Blk Time (%)								3		
Queuing Penalty (veh)								0		

Intersection: 6: N Temperance Ave & WB Ramps

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	T	T	TR	T	T	T
Maximum Queue (ft)	84	116	161	150	111	170	166	139
Average Queue (ft)	37	71	82	59	22	115	100	69
95th Queue (ft)	72	110	139	121	71	157	150	124
Link Distance (ft)		1652	558	558	558	382	382	382
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	400							
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 7: De Wolf Ave & SR-180

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	L	TR	L
Maximum Queue (ft)	602	1764	1745	740	107	516	506	37	45	81	108	215
Average Queue (ft)	75	1167	1157	82	44	254	272	6	9	35	49	213
95th Queue (ft)	487	2029	1990	505	92	425	437	25	32	69	97	217
Link Distance (ft)		2403	2403			2522	2522				1324	
Upstream Blk Time (%)		0	0									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)	725			700	690			690	360	360		135
Storage Blk Time (%)		38	40									78
Queuing Penalty (veh)		2	8									170

Intersection: 7: De Wolf Ave & SR-180

Movement	SB	SB	B36
Directions Served	T	R	T
Maximum Queue (ft)	692	231	561
Average Queue (ft)	640	5	464
95th Queue (ft)	772	84	726
Link Distance (ft)	586		513
Upstream Blk Time (%)	72		65
Queuing Penalty (veh)	0		0
Storage Bay Dist (ft)		450	
Storage Blk Time (%)	14		
Queuing Penalty (veh)	48		

Intersection: 8: N Highland Ave & SR-180

Movement	EB	WB	NB	NB	SB	SB	B37
Directions Served	L	L	L	TR	L	TR	T
Maximum Queue (ft)	58	21	360	645	155	445	349
Average Queue (ft)	10	2	278	300	65	358	131
95th Queue (ft)	39	11	440	660	159	579	397
Link Distance (ft)				851		374	426
Upstream Blk Time (%)				0		66	14
Queuing Penalty (veh)				0		0	0
Storage Bay Dist (ft)	965	550	295		80		
Storage Blk Time (%)			53	26	33	81	
Queuing Penalty (veh)			9	7	11	14	

Intersection: 9: N McCall AVe & SR-180

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	259	796	824	566	810	4629	4628	755	420	1483	435	1580
Average Queue (ft)	41	549	563	271	375	4598	4599	236	418	1452	307	1548
95th Queue (ft)	92	780	805	641	996	4618	4619	796	422	1470	600	1566
Link Distance (ft)		2509	2509			4575	4575			1431		1528
Upstream Blk Time (%)						97	96			97		97
Queuing Penalty (veh)						0	0			0		0
Storage Bay Dist (ft)	555			510	550			630	220		385	
Storage Blk Time (%)		11	18	0		61	62		86	0	0	85
Queuing Penalty (veh)		5	95	2		74	45		164	0	0	141

Intersection: 34: Bend

Movement	NB	NB
Directions Served	T	
Maximum Queue (ft)	101	103
Average Queue (ft)	4	4
95th Queue (ft)	74	75
Link Distance (ft)	495	495
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 38: Dummy & SR-180

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (ft)	14	318
Average Queue (ft)	1	294
95th Queue (ft)	9	312
Link Distance (ft)	2522	282
Upstream Blk Time (%)		100
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 40: Dummy & SR-180

Movement	WB	WB	NB
Directions Served	LT	T	LR
Maximum Queue (ft)	1117	1096	356
Average Queue (ft)	633	518	329
95th Queue (ft)	1374	1313	345
Link Distance (ft)	2509	2509	310
Upstream Blk Time (%)			100
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 2753

Intersection: 1: N Clovis Ave & EB Off Ramp

Movement	EB	EB	EB	EB	NB	NB	NB	NB	B32	B32	B32	SB
Directions Served	L	LT	R	R	T	T	T	TR	T	T	T	L
Maximum Queue (ft)	102	1585	1596	985	293	276	285	263	353	346	361	387
Average Queue (ft)	5	1558	1563	985	264	262	256	217	325	327	329	385
95th Queue (ft)	57	1574	1583	985	277	271	281	260	351	338	345	391
Link Distance (ft)		1539	1539		190	190	190	190	310	310	310	
Upstream Blk Time (%)		50	81		75	70	64	42	50	68	82	
Queuing Penalty (veh)		0	0		0	0	0	0	0	0	0	
Storage Bay Dist (ft)	255			885								310
Storage Blk Time (%)			74	77								82
Queuing Penalty (veh)			751	785								447

Intersection: 1: N Clovis Ave & EB Off Ramp

Movement	SB	SB	SB	SB
Directions Served	L	T	T	T
Maximum Queue (ft)	465	554	357	360
Average Queue (ft)	464	536	204	221
95th Queue (ft)	464	552	329	336
Link Distance (ft)		520	520	520
Upstream Blk Time (%)		56		
Queuing Penalty (veh)		428		
Storage Bay Dist (ft)	310			
Storage Blk Time (%)	94	0		
Queuing Penalty (veh)	517	1		

Intersection: 2: N Clovis Ave & WB Ramps

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	TR	R	T	T	T
Maximum Queue (ft)	87	208	123	135	201	98	1320	1309	1293
Average Queue (ft)	31	87	21	21	23	3	1273	1264	956
95th Queue (ft)	71	156	76	80	104	71	1450	1447	1660
Link Distance (ft)		1424	520	520	520	520	1274	1274	1274
Upstream Blk Time (%)							91	32	2
Queuing Penalty (veh)							0	0	0
Storage Bay Dist (ft)	440								
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 3: N Fowler Ave & EB Ramps

Movement	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	R	R	T	T	R	L	L	T	T
Maximum Queue (ft)	208	222	328	305	114	156	193	80	101
Average Queue (ft)	129	115	200	147	14	71	100	31	43
95th Queue (ft)	195	192	299	255	62	135	159	67	86
Link Distance (ft)	1566		632	632			442	442	442
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		235			180	85			
Storage Blk Time (%)	0	0		2		4	18		
Queuing Penalty (veh)	0	0		0		5	26		

Intersection: 4: N Fowler Ave & WB Ramps

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	T	T	T
Maximum Queue (ft)	34	80	266	207	130	83
Average Queue (ft)	7	41	75	27	49	23
95th Queue (ft)	28	70	200	113	104	65
Link Distance (ft)		1418	442	442	495	495
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	650					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: N Temperance Ave & EB Ramps

Movement	EB	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	R	T	T	T	T	T	T
Maximum Queue (ft)	12	39	189	172	346	317	313	205	198	176
Average Queue (ft)	0	8	111	96	199	155	128	125	107	77
95th Queue (ft)	6	30	163	152	313	276	237	197	183	147
Link Distance (ft)		1702	1702		524	524	524	558	558	558
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	440			680						
Storage Blk Time (%)								6		
Queuing Penalty (veh)								0		

Intersection: 6: N Temperance Ave & WB Ramps

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	T	T	TR	T	T	T
Maximum Queue (ft)	70	108	190	195	172	133	125	75
Average Queue (ft)	21	53	63	63	47	76	51	19
95th Queue (ft)	56	91	161	159	136	117	100	52
Link Distance (ft)		1652	558	558	558	382	382	382
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	400							
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 7: De Wolf Ave & SR-180

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	L	TR	L
Maximum Queue (ft)	28	710	713	15	89	221	247	55	26	43	114	126
Average Queue (ft)	5	373	377	2	27	124	137	20	3	15	41	61
95th Queue (ft)	21	621	624	10	65	203	221	46	16	40	89	116
Link Distance (ft)		2403	2403			2522	2522				1324	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	725			700	690			690	360	360		135
Storage Blk Time (%)		1	1									1
Queuing Penalty (veh)		0	0									1

Intersection: 7: De Wolf Ave & SR-180

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	113	26
Average Queue (ft)	45	5
95th Queue (ft)	89	19
Link Distance (ft)	586	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		450
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 8: N Highland Ave & SR-180

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	L	L	TR	L	TR
Maximum Queue (ft)	21	22	97	80	31	41
Average Queue (ft)	4	2	29	19	7	8
95th Queue (ft)	16	10	80	61	27	29
Link Distance (ft)				851		374
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	965	550	295		80	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 9: N McCall AVe & SR-180

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	117	306	312	96	39	205	214	52	241	224	71	159
Average Queue (ft)	55	150	168	36	9	109	124	13	124	103	24	51
95th Queue (ft)	102	261	280	72	30	179	197	38	213	177	57	107
Link Distance (ft)		2509	2509			4575	4575			1431		1528
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	555			510	550			630	220		385	
Storage Blk Time (%)									1	0		
Queuing Penalty (veh)									3	0		

Intersection: 34: Bend

Movement	NB
Directions Served	T
Maximum Queue (ft)	209
Average Queue (ft)	7
95th Queue (ft)	110
Link Distance (ft)	495
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 38: Dummy & SR-180

Movement	EB	EB	NB
Directions Served	T	TR	LR
Maximum Queue (ft)	4	9	326
Average Queue (ft)	0	0	293
95th Queue (ft)	3	5	336
Link Distance (ft)	2522	2522	282
Upstream Blk Time (%)			83
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 40: Dummy & SR-180

Movement	EB	EB	WB	WB
Directions Served	T	TR	LT	T
Maximum Queue (ft)	13	22	251	232
Average Queue (ft)	0	2	111	70
95th Queue (ft)	6	12	209	192
Link Distance (ft)	2522	2522	2509	2509
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 2965

Intersection: 1: N Clovis Ave & EB Off Ramp

Movement	EB	EB	EB	EB	NB	NB	NB	NB	B32	B32	B32	SB
Directions Served	L	LT	R	R	T	T	T	TR	T	T	T	L
Maximum Queue (ft)	12	53	282	281	290	291	280	260	351	364	360	150
Average Queue (ft)	0	13	181	169	264	264	256	215	317	327	329	81
95th Queue (ft)	6	40	257	251	276	279	281	261	363	340	343	144
Link Distance (ft)		1539	1539		190	190	190	190	310	310	310	
Upstream Blk Time (%)					71	64	58	36	36	65	77	
Queuing Penalty (veh)					0	0	0	0	0	0	0	
Storage Bay Dist (ft)	255			885								310
Storage Blk Time (%)												
Queuing Penalty (veh)												

Intersection: 1: N Clovis Ave & EB Off Ramp

Movement	SB	SB	SB	SB
Directions Served	L	T	T	T
Maximum Queue (ft)	293	463	501	525
Average Queue (ft)	111	238	287	289
95th Queue (ft)	216	408	430	429
Link Distance (ft)		520	520	520
Upstream Blk Time (%)		0	0	0
Queuing Penalty (veh)		1	0	1
Storage Bay Dist (ft)	310			
Storage Blk Time (%)		2		
Queuing Penalty (veh)		5		

Intersection: 2: N Clovis Ave & WB Ramps

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	TR	R	T	T	T
Maximum Queue (ft)	620	1469	336	342	394	214	515	492	400
Average Queue (ft)	605	1319	182	192	188	10	297	261	177
95th Queue (ft)	676	1814	367	372	374	107	459	429	343
Link Distance (ft)		1424	520	520	520	520	1274	1274	1274
Upstream Blk Time (%)		35			0				
Queuing Penalty (veh)		0			0				
Storage Bay Dist (ft)	440								
Storage Blk Time (%)	55	13							
Queuing Penalty (veh)	469	102							

Intersection: 3: N Fowler Ave & EB Ramps

Movement	EB	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	R	R	T	T	R	L	L	T	T
Maximum Queue (ft)	23	16	145	133	657	677	230	64	98	89	103
Average Queue (ft)	2	1	80	57	534	611	44	15	48	33	40
95th Queue (ft)	12	9	129	104	857	798	173	46	85	77	91
Link Distance (ft)		1566	1566		632	632			442	442	442
Upstream Blk Time (%)					7	47					
Queuing Penalty (veh)					0	0					
Storage Bay Dist (ft)	400			235			180	85			
Storage Blk Time (%)						44	0	0	1		
Queuing Penalty (veh)						14	0	0	1		

Intersection: 4: N Fowler Ave & WB Ramps

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	T	T	T
Maximum Queue (ft)	110	114	246	176	108	95
Average Queue (ft)	45	63	107	27	55	39
95th Queue (ft)	88	105	209	108	98	80
Link Distance (ft)		1418	442	442	495	495
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	650					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: N Temperance Ave & EB Ramps

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	T	T	T	L	T	T	T
Maximum Queue (ft)	37	115	92	209	198	227	28	186	185	172
Average Queue (ft)	8	58	39	111	78	96	4	78	74	76
95th Queue (ft)	29	95	74	181	159	181	20	165	164	150
Link Distance (ft)	1702	1702		524	524	524		558	558	558
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			680				125			
Storage Blk Time (%)								1		
Queuing Penalty (veh)								0		

Intersection: 6: N Temperance Ave & WB Ramps

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	TR	T	T	T
Maximum Queue (ft)	60	98	233	218	222	188	250	224	184
Average Queue (ft)	14	42	104	123	108	66	127	110	65
95th Queue (ft)	44	76	182	210	197	150	198	179	138
Link Distance (ft)		1652		558	558	558	382	382	382
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400		840						
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 7: De Wolf Ave & SR-180

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	819	1645	1629	770	184	444	448	46	422	485	1378	1347
Average Queue (ft)	214	1049	1048	422	98	279	289	15	414	483	1345	1060
95th Queue (ft)	787	1911	1906	1134	166	415	417	35	445	489	1364	1851
Link Distance (ft)		2391	2391			2513	2513				1324	1324
Upstream Blk Time (%)											96	15
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	725			700	690			690	360	360		
Storage Blk Time (%)		34	36						72	88		
Queuing Penalty (veh)		22	79						92	114		

Intersection: 7: De Wolf Ave & SR-180

Movement	SB	SB	SB	SB	B36	B36
Directions Served	L	T	T	R	T	T
Maximum Queue (ft)	215	688	633	130	562	540
Average Queue (ft)	213	660	266	6	533	475
95th Queue (ft)	219	674	535	84	549	680
Link Distance (ft)		586	586		513	513
Upstream Blk Time (%)		94	5		97	24
Queuing Penalty (veh)		0	0		0	0
Storage Bay Dist (ft)	135			450		
Storage Blk Time (%)	85	39	9			
Queuing Penalty (veh)	251	167	1			

Intersection: 8: N Highland Ave & SR-180

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	B37
Directions Served	L	R	L	T	T	L	TR	L	TR	T
Maximum Queue (ft)	85	11	48	20	14	390	881	155	466	452
Average Queue (ft)	31	0	9	1	1	383	860	54	441	433
95th Queue (ft)	72	7	32	13	9	396	874	151	457	450
Link Distance (ft)				2522	2522		851		374	426
Upstream Blk Time (%)							100		100	100
Queuing Penalty (veh)							0		0	0
Storage Bay Dist (ft)	965	630	550			295		80		
Storage Blk Time (%)						100	1	10	100	
Queuing Penalty (veh)						262	6	36	116	

Intersection: 9: N McCall AVe & SR-180

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	235	451	464	204	810	4629	4629	755	420	1480	435	1582
Average Queue (ft)	104	311	325	85	211	4334	4332	617	391	1451	324	1549
95th Queue (ft)	177	440	450	165	760	5289	5278	1070	515	1468	601	1567
Link Distance (ft)		2509	2509			4575	4575			1431		1528
Upstream Blk Time (%)						71	75			81		97
Queuing Penalty (veh)						0	0			0		0
Storage Bay Dist (ft)	555			510	550			630	220		385	
Storage Blk Time (%)						65	64		34	75		84
Queuing Penalty (veh)						28	148		206	257		252

Intersection: 32: Bend

Movement	SB
Directions Served	T
Maximum Queue (ft)	14
Average Queue (ft)	1
95th Queue (ft)	8
Link Distance (ft)	190
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 35: Bend

Movement	NB
Directions Served	T
Maximum Queue (ft)	16
Average Queue (ft)	1
95th Queue (ft)	9
Link Distance (ft)	382
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 38: Dummy & SR-180

Movement	EB	EB	NB
Directions Served	T	TR	LR
Maximum Queue (ft)	26	40	325
Average Queue (ft)	1	2	296
95th Queue (ft)	8	20	313
Link Distance (ft)	2513	2513	282
Upstream Blk Time (%)			100
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 40: Dummy & SR-180

Movement	EB	WB	WB	NB
Directions Served	TR	LT	T	LR
Maximum Queue (ft)	4	642	611	363
Average Queue (ft)	0	363	317	331
95th Queue (ft)	0	594	580	350
Link Distance (ft)	2522	2509	2509	310
Upstream Blk Time (%)				100
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 2631

Intersection: 1: N Clovis Ave & EB Off Ramp

Movement	EB	EB	EB	EB	NB	NB	NB	NB	B32	B32	B32	SB
Directions Served	L	LT	R	R	T	T	T	TR	T	T	T	L
Maximum Queue (ft)	44	1590	1587	985	289	284	265	279	325	354	360	387
Average Queue (ft)	5	1545	1551	984	263	253	230	248	241	325	329	386
95th Queue (ft)	24	1705	1676	1008	277	292	283	283	382	345	342	392
Link Distance (ft)		1539	1539		190	190	190	190	310	310	310	
Upstream Blk Time (%)		46	76		64	52	40	56	8	42	79	
Queuing Penalty (veh)		0	0		0	0	0	0	0	0	0	
Storage Bay Dist (ft)	255			885								310
Storage Blk Time (%)		0	71	75								80
Queuing Penalty (veh)		0	663	704								361

Intersection: 1: N Clovis Ave & EB Off Ramp

Movement	SB	SB	SB	SB
Directions Served	L	T	T	T
Maximum Queue (ft)	465	573	322	339
Average Queue (ft)	464	540	174	193
95th Queue (ft)	466	557	286	303
Link Distance (ft)		520	520	520
Upstream Blk Time (%)		55		
Queuing Penalty (veh)		367		
Storage Bay Dist (ft)	310			
Storage Blk Time (%)	95	0		
Queuing Penalty (veh)	427	0		

Intersection: 2: N Clovis Ave & WB Ramps

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	TR	T	T	T
Maximum Queue (ft)	100	157	95	100	91	1323	1305	1302
Average Queue (ft)	46	72	21	20	14	1279	1254	937
95th Queue (ft)	96	122	67	63	53	1403	1438	1633
Link Distance (ft)		1424	520	520	520	1274	1274	1274
Upstream Blk Time (%)						91	31	1
Queuing Penalty (veh)						0	0	0
Storage Bay Dist (ft)	440							
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: N Fowler Ave & EB Ramps

Movement	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	R	R	T	T	R	L	L	T	T
Maximum Queue (ft)	269	267	450	382	196	99	108	101	117
Average Queue (ft)	142	137	278	227	28	31	58	37	46
95th Queue (ft)	227	228	413	363	117	75	99	79	89
Link Distance (ft)	1566		632	632			442	442	442
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)		235			180	85			
Storage Blk Time (%)	1	1		9		0	3		
Queuing Penalty (veh)	6	5		4		0	2		

Intersection: 4: N Fowler Ave & WB Ramps

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	T	T	T
Maximum Queue (ft)	47	68	307	293	80	62
Average Queue (ft)	13	34	114	60	29	13
95th Queue (ft)	40	58	267	194	68	45
Link Distance (ft)		1418	442	442	495	495
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	650					
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 5: N Temperance Ave & EB Ramps

Movement	EB	EB	EB	EB	NB	NB	SB	SB	SB	SB
Directions Served	L	LT	R	R	T	TR	L	T	T	T
Maximum Queue (ft)	260	1724	1736	795	580	581	185	327	337	314
Average Queue (ft)	29	890	1208	722	543	545	118	202	185	166
95th Queue (ft)	224	1945	2026	925	560	562	204	307	305	273
Link Distance (ft)		1702	1702		524	524		558	558	558
Upstream Blk Time (%)		10	23		77	94				
Queuing Penalty (veh)		0	0		0	0				
Storage Bay Dist (ft)	440			680			125			
Storage Blk Time (%)		5	68	66			7	15		
Queuing Penalty (veh)		1	369	353			51	26		

Intersection: 6: N Temperance Ave & WB Ramps

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	T	T	TR	T	T	T
Maximum Queue (ft)	43	73	292	194	151	192	181	141
Average Queue (ft)	10	34	156	100	54	104	83	47
95th Queue (ft)	34	63	268	181	115	176	154	114
Link Distance (ft)		1652	558	558	558	382	382	382
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	400							
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 7: De Wolf Ave & SR-180

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	746	1222	1224	618	234	395	401	61	246	268	272	274
Average Queue (ft)	369	731	736	246	107	235	253	17	156	180	164	167
95th Queue (ft)	864	1325	1332	841	185	371	388	41	232	248	246	251
Link Distance (ft)		2391	2391			2513	2513				1324	1324
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	725			700	690			690	360	360		
Storage Blk Time (%)		19	20									
Queuing Penalty (veh)		40	57									

Intersection: 7: De Wolf Ave & SR-180

Movement	SB	SB	SB	SB	B36	B36
Directions Served	L	T	T	R	T	T
Maximum Queue (ft)	215	680	591	34	555	530
Average Queue (ft)	213	651	209	6	459	314
95th Queue (ft)	218	716	533	23	715	689
Link Distance (ft)		586	586		513	513
Upstream Blk Time (%)		85	0		73	14
Queuing Penalty (veh)		0	0		0	0
Storage Bay Dist (ft)	135			450		
Storage Blk Time (%)	87	5	0			
Queuing Penalty (veh)	100	18	0			

Intersection: 8: N Highland Ave & SR-180

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB	B37
Directions Served	L	R	L	T	T	L	TR	L	TR	T
Maximum Queue (ft)	191	23	141	22	15	390	890	155	461	463
Average Queue (ft)	73	2	59	1	1	137	859	26	441	424
95th Queue (ft)	146	13	117	10	8	388	879	109	452	490
Link Distance (ft)				2522	2522		851		374	426
Upstream Blk Time (%)							100		100	95
Queuing Penalty (veh)							0		0	0
Storage Bay Dist (ft)	965	630	550			295		80		
Storage Blk Time (%)							100	0	100	
Queuing Penalty (veh)							82	0	33	

Intersection: 9: N McCall AVe & SR-180

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	L	TR	L	TR
Maximum Queue (ft)	206	413	421	135	54	393	390	142	420	1479	435	1067
Average Queue (ft)	107	213	224	42	10	254	272	44	351	1274	257	590
95th Queue (ft)	183	372	381	94	38	361	378	98	561	1789	501	1286
Link Distance (ft)		2509	2509			4575	4575			1431		1528
Upstream Blk Time (%)										59		5
Queuing Penalty (veh)										0		0
Storage Bay Dist (ft)	555			510	550			630	220		385	
Storage Blk Time (%)		0	0						4	79		34
Queuing Penalty (veh)		0	0						20	151		59

Intersection: 34: Bend

Movement	NB	NB
Directions Served	T	
Maximum Queue (ft)	508	186
Average Queue (ft)	28	7
95th Queue (ft)	217	99
Link Distance (ft)	495	495
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	1	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 38: Dummy & SR-180

Movement	EB	WB	NB
Directions Served	TR	T	LR
Maximum Queue (ft)	6	9	303
Average Queue (ft)	0	0	188
95th Queue (ft)	4	0	323
Link Distance (ft)	2513	2579	282
Upstream Blk Time (%)			16
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 40: Dummy & SR-180

Movement	EB	EB	WB	WB
Directions Served	T	TR	LT	T
Maximum Queue (ft)	20	33	302	315
Average Queue (ft)	1	2	111	64
95th Queue (ft)	12	17	228	206
Link Distance (ft)	2522	2522	2509	2509
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 3900

Intersection: 1: N Clovis Ave & EB Off Ramp

Movement	EB	EB	EB	EB	NB	NB	NB	NB	B32	B32	B32	SB
Directions Served	L	TR	R	R	T	T	T	TR	T	T	T	L
Maximum Queue (ft)	50	243	243	212	292	286	280	262	349	360	361	220
Average Queue (ft)	9	168	158	94	265	262	255	215	318	327	329	88
95th Queue (ft)	35	232	225	196	279	283	282	262	360	339	345	171
Link Distance (ft)		1539	1539		190	190	190	190	310	310	310	
Upstream Blk Time (%)					71	64	58	32	39	64	77	
Queuing Penalty (veh)					0	0	0	0	0	0	0	
Storage Bay Dist (ft)	255			885								310
Storage Blk Time (%)		0										0
Queuing Penalty (veh)		0										0

Intersection: 1: N Clovis Ave & EB Off Ramp

Movement	SB	SB	SB	SB
Directions Served	L	T	T	T
Maximum Queue (ft)	464	518	533	518
Average Queue (ft)	166	380	396	383
95th Queue (ft)	382	553	563	539
Link Distance (ft)		514	514	514
Upstream Blk Time (%)		1	2	2
Queuing Penalty (veh)		8	15	16
Storage Bay Dist (ft)	310			
Storage Blk Time (%)	0	16		
Queuing Penalty (veh)	1	35		

Intersection: 2: N Clovis Ave & WB Ramps

Movement	WB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	R	T	T	TR	R	T	T	T
Maximum Queue (ft)	494	658	409	235	324	378	316	122	433	395	299
Average Queue (ft)	258	305	151	117	171	178	174	4	275	230	151
95th Queue (ft)	470	640	332	194	344	354	343	64	408	360	280
Link Distance (ft)		1423			514	514	514	514	1256	1256	1256
Upstream Blk Time (%)		1									
Queuing Penalty (veh)		0									
Storage Bay Dist (ft)	600		600	600							
Storage Blk Time (%)	2	2	0								
Queuing Penalty (veh)	18	20	0								

Intersection: 5: N Temperance Ave & EB Ramps

Movement	EB	EB	EB	EB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	R	R	T	T	T	L	T	T	T
Maximum Queue (ft)	34	114	78	41	193	185	193	33	180	207	193
Average Queue (ft)	3	58	43	8	105	67	91	4	73	91	86
95th Queue (ft)	18	92	72	28	172	130	158	21	157	181	165
Link Distance (ft)		1702	1702		524	524	524		558	558	558
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	440			680				125			
Storage Blk Time (%)									1		
Queuing Penalty (veh)									0		

Intersection: 6: N Temperance Ave & WB Ramps

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	T	TR	T	T	T
Maximum Queue (ft)	56	88	168	208	207	157	208	178	156
Average Queue (ft)	13	44	94	114	97	57	129	109	69
95th Queue (ft)	41	74	148	206	185	136	192	170	136
Link Distance (ft)		1652		558	558	558	382	382	382
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400		840						
Storage Blk Time (%)									
Queuing Penalty (veh)									

Zone Summary

Zone wide Queuing Penalty: 113

Intersection: 1: N Clovis Ave & EB Off Ramp

Movement	EB	EB	EB	EB	NB	NB	NB	NB	B32	B32	B32	SB
Directions Served	L	TR	R	R	T	T	T	TR	T	T	T	L
Maximum Queue (ft)	178	443	440	410	287	282	273	264	330	350	362	387
Average Queue (ft)	25	273	267	224	263	254	234	245	243	323	330	385
95th Queue (ft)	100	385	382	340	276	291	286	282	373	345	348	391
Link Distance (ft)		1539	1539		190	190	190	190	310	310	310	
Upstream Blk Time (%)					64	54	44	59	7	42	78	
Queuing Penalty (veh)					0	0	0	0	0	0	0	
Storage Bay Dist (ft)	255			885								310
Storage Blk Time (%)		10										81
Queuing Penalty (veh)		4										368

Intersection: 1: N Clovis Ave & EB Off Ramp

Movement	SB	SB	SB	SB
Directions Served	L	T	T	T
Maximum Queue (ft)	465	583	313	360
Average Queue (ft)	464	542	170	197
95th Queue (ft)	466	566	282	310
Link Distance (ft)		514	514	514
Upstream Blk Time (%)		55		
Queuing Penalty (veh)		369		
Storage Bay Dist (ft)	310			
Storage Blk Time (%)	94	0		
Queuing Penalty (veh)	425	0		

Intersection: 2: N Clovis Ave & WB Ramps

Movement	WB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	R	T	T	TR	T	T	T
Maximum Queue (ft)	39	89	136	107	96	90	81	1311	1277	1276
Average Queue (ft)	7	35	60	41	20	16	17	1256	1217	861
95th Queue (ft)	30	72	101	75	64	59	60	1394	1460	1640
Link Distance (ft)		1423			514	514	514	1256	1256	1256
Upstream Blk Time (%)								89	30	4
Queuing Penalty (veh)								0	0	0
Storage Bay Dist (ft)	600		600	600						
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 5: N Temperance Ave & EB Ramps

Movement	EB	EB	EB	EB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	R	R	T	TR	L	T	T	T
Maximum Queue (ft)	67	287	292	263	572	569	184	318	331	322
Average Queue (ft)	17	209	205	164	543	544	117	175	191	181
95th Queue (ft)	49	278	273	246	559	560	191	288	300	278
Link Distance (ft)		1702	1702		524	524		558	558	558
Upstream Blk Time (%)					77	95				
Queuing Penalty (veh)					0	0				
Storage Bay Dist (ft)	440			680			125			
Storage Blk Time (%)							5	10		
Queuing Penalty (veh)							41	19		

Intersection: 6: N Temperance Ave & WB Ramps

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	T	T	TR	T	T	T
Maximum Queue (ft)	39	71	281	198	123	196	186	142
Average Queue (ft)	11	32	152	100	51	109	85	51
95th Queue (ft)	36	60	263	184	106	181	155	113
Link Distance (ft)		1652	558	558	558	382	382	382
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	400							
Storage Blk Time (%)								
Queuing Penalty (veh)								

Zone Summary

Zone wide Queuing Penalty: 1226

A.2 - Transportation Impact Analysis

THIS PAGE INTENTIONALLY LEFT BLANK

Traffic Impact Analysis Report

Fresno Southeast Development Area (SEDA) Specific Plan TIA DRAFT

City of Fresno, California

June 30, 2022

TJKM

Contents

Figures

Tables

EXECUTIVE SUMMARY

This report summarizes the results of the Traffic Impact Analysis (TIA) conducted for the Southeast Development Area (SEDA) located east of the city of Fresno, California. The SEDA comprises approximately 9,000 acres of land and was formally designated as a Growth Area in the 2035 Fresno General Plan. The plan consists of various mixed uses. There will be approximately 37,000 new jobs created along with 45,000 new housing units. The SEDA area is located southeast of the City of Fresno, with East North Avenue as its southern border, McCall Avenue as its eastern border, and Ashlan Avenue as its northern border.

This report provides the roadway segment level of service (LOS) related to the project. Additionally, the report also includes evaluations and recommendations concerning project site access and on-site circulation for vehicles, bicycles, and pedestrians, as well as a vehicle miles traveled (VMT) analysis.

To evaluate the impacts on the transportation infrastructure due to the addition of traffic from the proposed project, 20 study roadway segments were evaluated during the weekday morning (a.m.) peak hour and evening (p.m.) peak hour, and daily scenarios. The study segments were evaluated under *Existing Conditions, Year 2035 Baseline (No Project) Conditions,* and *Year 2035 Project Conditions*. For the purpose of this analysis, potential traffic operational effects from the proposed project are identified based on established operational thresholds described in the report.

Project Trip Generation

The proposed project is expected to generate approximately 94,477 weekday p.m. peak hour trips and 866,452 total daily trips.

Existing Conditions

Existing volumes for the SEDA area for AM/PM peak hour and daily are low due to the rural nature of the project area. Peak daily volumes are less than 15,000 while the highest AM/PM peak volumes observed hover around 1,000.

Year 2035 Baseline (No Project) Condition

Year 2035 no project scenario volumes for the project area were projected from existing volumes using the delta method and the Fresno Council of Governments Travel Demand Model (Fresno ABM). Low growth in the no project condition results in volumes very similar to existing conditions.

Year 2035 Project Conditions

Year 2035 project scenario volumes were projected with SEDA project land use coded into the Fresno ABM. Higher growth rates derived from the model resulted in almost doubling of daily volumes in some roadway segments for the daily time period.

Vehicle Miles Traveled

The proposed project will be located at the southeast boundary of Fresno. The project is expected to increase the total VMT in the area; but will not have a significant impact due to the mixed use nature of the project. The construction of additional sidewalks, other walkways, and bicycle facilities on the project site will encourage future residents and customers to use alternate modes (walking, biking, transit), further

reducing potential VMT impacts. In addition, the mixed use nature of the project with added commercial destinations mean that residents will travel shorter for their needs, shortening the VMT per capita and VMT per employee impacts. Future transit operations are anticipated for the SEDA project area, further reducing its VMT impacts.

1.0 INTRODUCTION

This report summarizes the results of the Traffic Impact Analysis (TIA) for the proposed SEDA Specific Plan development in Fresno, California.

1.1 Project Description

The project proposes to 9,000 acres of mixed use development in the southeast of the city of Fresno in its sphere of influence. In total, there will be around 45,000 housing units (split between 26,000 single family dwelling units and 19,000 multi family dwelling units), 12,000 retail employees, 8,000 office employees, and 17,000 civic institutional employees for a total of 37,000 employees.

The project is located in the southeast of the City of Fresno, with Ashlan Avenue as the northern border, McCall Avenue as eastern border, E North Avenue as southern border, and Temperance Road as the western border.

The following section discusses the TIA Purpose, study segments, and analysis scenarios.

1.2 Project Purpose

The purpose of the Traffic Impact Analysis is to evaluate the impacts on the transportation infrastructure due to the addition of the traffic from the proposed SEDA project. The report also includes evaluations and recommendations concerning project site access and on-site circulation for vehicles, bicycles, and pedestrians, queuing analysis at the study intersections, parking supply, and a VMT analysis.

1.3 Study Segments

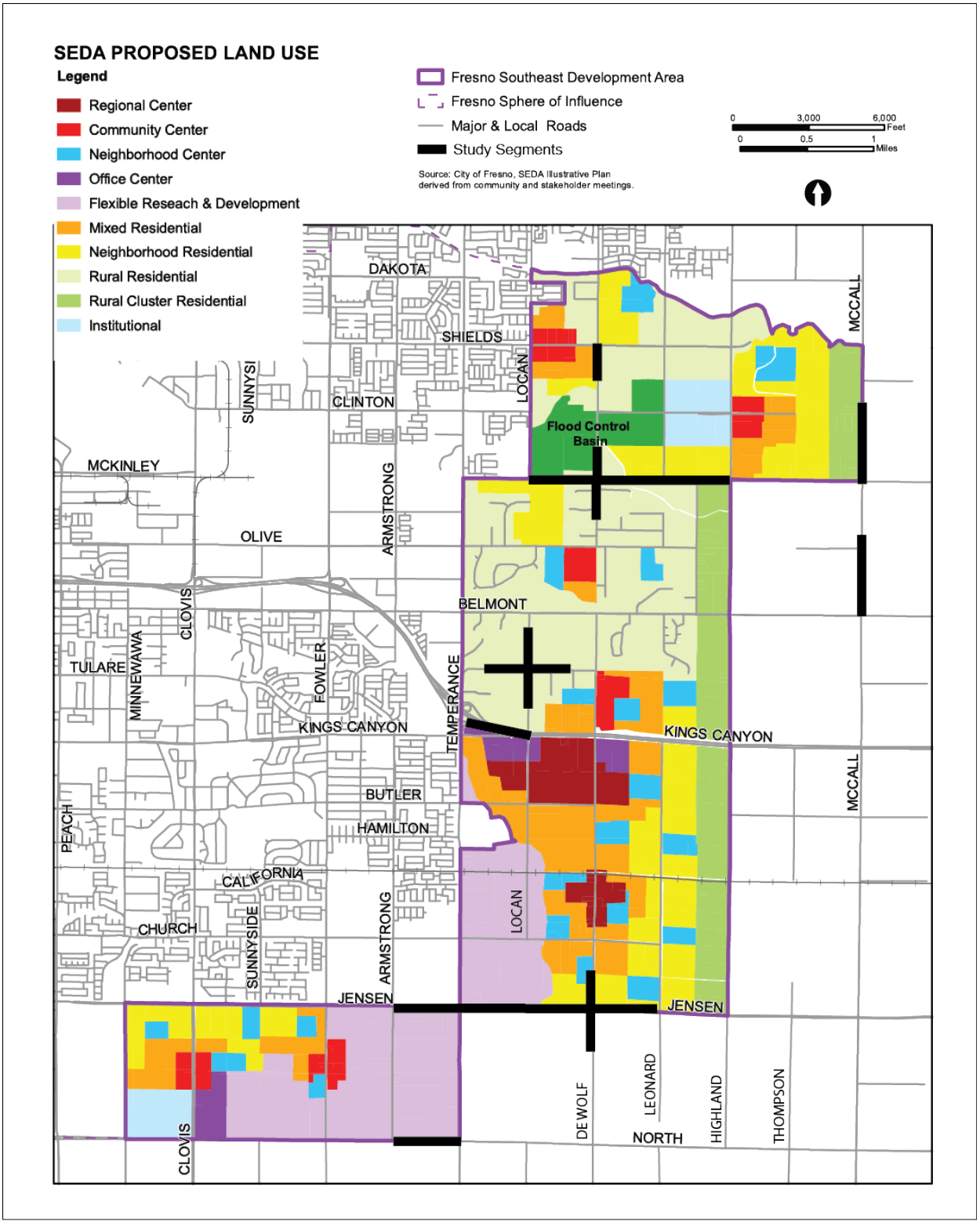
TJKM evaluated traffic conditions at twenty study segments during the a.m. and p.m. peak hours and daily conditions for a typical weekday. The study segments were based on availability of count data from both the City and County of Fresno count databases. No new counts were conducted due to the worldwide COVID-19 pandemic affecting recent traffic patterns. The peak periods were between 6:30 a.m. – 8:30 a.m. and 4:30 p.m. – 6:30 p.m. The study segments and associated traffic controls are as follows:

1. Clovis Ave south of American Ave
2. De Wolf Ave north of McKinley Ave
3. De Wolf Ave south of McKinley Ave
4. De Wolf Ave south of Clinton Ave
5. De Wolf Ave north of Jensen Ave
6. De Wolf Ave south of Jensen Ave
7. Jensen Ave east of Bethel Ave
8. Jensen Ave east of De Wolf Ave
9. Jensen Ave west of De Wolf Ave
10. Jensen Ave east of Temperance Ave
11. Jensen Ave west of Temperance Ave
12. Kings Canyon Rd east of Temperance Ave
13. Locan Ave north of Tulare Ave

14. Locan Ave south of Tulare Ave
15. McCall Ave north of McKinley Ave
16. McCall Ave north of Ashlan Ave
17. McCall Ave north of Belmont Ave
18. Tulare Ave east of Locan Ave
19. Tulare Ave west of Locan Ave
20. North St west of Temperance Ave

Figure 1 illustrates the study segments and the vicinity map of the proposed project.

Figure 1: SEDA Site Plan and Study Segments



Source: City of Fresno, SEDA Regulating Districts, 02/10/2022.

1.4 Analysis Scenarios

This study addresses the following three traffic scenarios:

- **Existing Conditions** – This scenario evaluates the study segments based on existing traffic volumes, lane geometry, and traffic controls.
- **Year 2035 Baseline (No Project) Conditions** – This scenario evaluates study segments for the future with no build conditions.
- **Year 2035 Project Conditions** – This scenario is identical to the earlier one but in addition to build conditions. It presumes building of SEDA plan land uses by 2035 for impact analysis, consistent with General Plan EIR.

2.0 STUDY METHODOLOGY

Traffic impacts related to the proposed project were evaluated for both compliance with applicable regulatory documents and environmental significance as defined in the California Environmental Quality Act (CEQA). In Accordance with the *Technical Advisory* published by the Governor's Office of Planning and Research (OPR), a qualitative and quantitative VMT analysis forms the basis of the CEQA analysis for the proposed project. An LOS analysis was conducted to determine consistency with City of Fresno plans and standards.

2.1 Level of Service Analysis Methodology

Roadway segment traffic operations were conducted using the roadway segment analysis methodology utilized in Fresno's General Plan. Traffic volumes on the study roadway segments are used to determine the overall usage and congestion. Do note that roadway segment analysis is based on the traffic counts taken at a single location, which are intended to be representative of the entire segment. A roadway link connects two intersections; and a segment is a series of links. The segments used in the SEDA analysis were developed based on where existing count data have been collected in the SEDA project area.

Traffic operations on the study roadway segments were measured using a qualitative measure called level of service (LOS). LOS generally measures traffic operating conditions whereby a letter grade from A (the best) to F (the worst) are assigned. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving, as well as speed, travel time, traffic interruptions, and freedom to maneuver. The next section of this report denotes the LOS standards.

2.2 Level of Service Standards

LOS grades are generally defined as follows:

- **A** represents free flow travel with excellent level of comfort and convenience and the freedom to maneuver.
- **B** represents stable operating conditions, but the presence of other road users causes a noticeable, though slight, reduction in comfort, convenience, and maneuvering freedom.
- **C** represents stable operating conditions, but the operation of individual users is substantially affected by the interaction with others in the traffic stream.
- **D** represents high density, but stable flow. Users experience severe restriction in speed and freedom to maneuver, with poor levels of comfort and convenience.
- **E** represents operating conditions at or near capacity. Speeds are reduced to a low but relatively uniform value. Freedom to maneuver is difficult with users experiencing frustration and poor comfort and convenience. Unstable operation is frequent, and minor disturbances in traffic flow can cause breakdown conditions.
- **F** represents forced or breakdown conditions. This conditions exists when volume of traffic exceeds the capacity of the roadways. Long queues form and stop and go traffic becomes the norm.

The LOS was calculated for each of the study roadway segments to evaluate the quality of traffic conditions. LOS was determined by comparing traffic volumes for each roadway segment, incorporating roadway functional classification, the number of travel lanes, and the presence of left turn lanes at peak hour LOS capacity thresholds. The LOS thresholds are shown in table 1 below.

Table 1: Roadway Functional Class and Peak Hour LOS Thresholds

Functional Class	Median	Lanes	Peak Hour Level of Service Capacity Thresholds				
			A	B	C	D	E
Freeway	N/A[1]	4	2,720	4,460	6,630	7,720	8,630
		3+Aux[2]	2,360	3,860	5,640	6,730	7,530
		3	2,000	3,270	4,660	5,740	6,430
		2+Aux	1,650	2,700	3,850	4,760	5,340
		2	1,300	2,130	3,050	3,790	4,260
State Expressway	Divided	6	2,410	3,960	5,730	7,450	8,450
		4	1,610	2,650	3,810	4,960	5,630
		2	810	1,340	1,890	2,470	2,810
City Expressway	Raised Median	6			1,860	6,170	6,520
		5			1,520	5,110	5,430
		4			1,180	4,050	4,340
		2			520	1,910	2,160
Super Arterial	Raised Median	6				4,910	6,240
		5				4,040	5,195
		4				3,170	4,150
Arterial	Raised Median	8			2,120	7,070	7,490
		6			1,560	5,270	5,610
		5			1,280	4,370	4,670
		4			1,000	3,470	3,730
		3			720	2,555	2,795
		2			440	1,640	1,860
	TWLTL	4			940	3,290	3,550
		2			420	1,550	1,760
	Undivided	4			770	2,740	2,980
		2			340	1,270	1,480
Collector	TWLTL	4			940	3,290	3,550
		2			420	1,550	1,760
	Undivided	4			770	2,740	2,980
		2			340	1,270	1,480
One-Way	Undivided	3		1,960	2,240	2,430	2,610
		2		1,250	1,490	1,620	1,740
		1		550	740	800	870
Rural State Highway	Undivided	2	310	570	1,020	1,730	2,470
Rural Arterial	Divided	4			1,950	3,580	3,780
	Undivided	2			570	1,230	1,310
Rural Collector/Local	Undivided	2			700	930	1,000

Notes:
[1] N/A – Not applicable for operational class
[2] Aux – Auxiliary Lane
– LOS is not achievable because of type of facility.

For daily segment volume LOS analysis, the Transportation Research Board's Highway Capacity Manual special report 209 was used. **Table 2** shows the level of service criteria for daily segment volumes based on volume to capacity ratios.

Table 2: LOS Thresholds for Daily Segment Volumes based on V/C Ratios

Level of Service	Description	V/C[b]
A	Free-flow conditions with unimpeded maneuverability. Stopped delay at signalized intersection is minimal.	0.00 to 0.60
B	Reasonably unimpeded operations with slightly restricted maneuverability. Stopped delays are not bothersome.	0.61 to 0.70
C	Stable operations with somewhat more restrictions in making mid-block lane changes than LOS B. Motorists will experience appreciable tension while driving.	0.71 to 0.80
D	Approaching unstable operations where small increases in volume produce substantial increases in delay and decreases in speed.	0.81 to 0.90
E	Operations with significant intersection approach delays and low average speeds.	0.91 to 1.00
F	Operations with extremely low speeds caused by intersection congestion, high delay, and adverse signal progression.	Greater Than 1.00

[a] For arterials that are multilane divided or undivided with some parking, a signalized intersection density of four to eight per mile, and moderate roadside development.
[b] Volume-to-capacity ratio.

≥ greater than or equal to.
< less than.

Source: Transportation Research Board, *Highway Capacity Manual, Special Report 209* (Washington, D.C., 1994).

The City of Fresno adopted its General Plan in December 2014 and serves as the community's guide for continued development, enhancement, and revitalization of the Fresno metropolitan area. The General Plan's policies and standards for specific plans such as the SEDA project requires a transportation impact study to assess the impact on existing and planned streets. Since the SEDA project is located in Traffic Impact Zone IV (TIZ-IV), the project would need to maintain a LOS standard of E or better for all roadway segments.

2.3 Vehicle Miles Traveled

SB 743, which was signed into law by Governor Brown in 2013 and codified in Public Resources Code 21099, tasked OPR with establishing new criteria for determining the significance of transportation impacts under CEQA. SB 743 requires the new criteria to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." SB 743 changes the way that public agencies evaluate the transportation impacts of projects under CEQA, recognizing that roadway congestion, while an inconvenience to drivers, is not itself an environmental impact (see Pub. Resource Code, § 21099, subd. (b)(2)). In December 2018, OPR circulated its most recent *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR) that provides recommendations and describes various options for assessing VMT for transportation analysis purposes. "Vehicle miles traveled" refers to the amount and distance of automobile travel "attributable to a project". Other relevant considerations may include the effects of the project on transit or non-motorized travel. The VMT analysis options described by OPR are primarily tailored towards single-use development residential, office or office projects, not mixed use projects and not athletic facility projects. OPR recommends the following methodology and criteria for specific land uses:

- For residential projects, OPR recommends that VMT impacts be considered potentially significant if a residential project is expected to generate VMT per Capita (i.e., VMT per resident) at a rate that exceeds 85 percent of a regional average.
- For office projects, OPR recommends that VMT impacts be considered potentially significant if an office project is expected to generate VMT per Employee at a rate that exceeds 85 percent of a regional average.
- For retail projects, OPR recommends that VMT impacts be considered potentially significant if a project results in a net increase in total VMT. This approach takes into account the likelihood that retail developments may lead to increases or decreases in VMT, depending on previously existing retail travel patterns. This approach may also be used for other types of projects with customer components.
- OPR also indicates that local serving retail (projects smaller than 50,000 square feet) may be presumed to have a less than significant VMT impact.
- OPR does not provide specific guidance on evaluating other land use types, except to say that other land uses could choose to use the method applicable to the land use with the most similarity to the proposed project.
- For mixed-use projects, OPR describes several options that include (1) evaluating each land use separately; or (2) evaluating mixed-use projects based on the method applicable to the dominant land use. Evaluating each land use separately would potentially fail to measure the positive effects of mixed-use projects in reducing VMT.

OPR also recommends exempting some project types from VMT analysis based on the likelihood that such projects will generate low rates of VMT:

- OPR recommends that projects generating less than 110 trips per day generally may be assumed to cause a less than significant transportation impact.

- OPR notes that residential and office projects that located in areas with low VMT, and that incorporate similar features, will tend to exhibit similar low VMT, and can be screened out.
- OPR states that residential, retail, office and mixed-use projects near transit stations or major transit stops should be screened out based on the likelihood that such projects will have a less than significant impact on VMT.

VMT Screening Criteria

City of Fresno guidelines include the following screening criteria for identifying projects that can be presumed to have a less-than-significant impact:

- Projects that generate or attract fewer than 110 daily vehicle trips; or,
- Projects of 10,000 square feet or less of non-residential space or 20 residential units or less, or otherwise generating less than 836 VMT per day.
- Residential, retail, office projects, or mixed-use projects proposed within ½ mile of an existing major transit stop or an existing stop along a high quality transit corridor.
- Residential projects (home-based VMT) at 13% or below the baseline County-wide home-based average VMT per capita, or employment projects (employee VMT) at 13% or below the baseline Bay Area average commute VMT per employee in areas with low VMT that incorporate similar VMT reducing features (i.e., density, mix of uses, transit accessibility)
- Public facilities (e.g. emergency services, passive parks (low-intensity recreation, open space, libraries, community centers, public utilities) and government buildings.

2.4 Fresno Travel Demand Model (FresnoABM)

The latest approved version of the Fresno Activity Based Travel Demand Model (Fresno ABM) was obtained for use in travel demand forecasting and VMT analysis for this project. All traffic volume forecasts were adjusted, using the difference (DELTA) method, to account for the difference between existing counts and base year model forecasts. The FresnoABM has a base year of 2015 and a forecast year of 2035, while the count data collected from the Fresno City count database were from the year 2018.

3.0 EXISTING CONDITIONS

This section describes existing conditions in the immediate project site vicinity, including roadway facilities, bicycle and pedestrian facilities, and available transit service. In addition, existing traffic volumes and operations are presented for the study intersections, including the results of LOS calculations.

3.1 Existing Setting and Roadway System

Regional roadway facilities providing access to the proposed SEDA development is provided via State Route 180. Local access to the SEDA plan area is provided by various arterials and connectors.

State Route 180 (SR180) is a six-lane, east-west state highway in Fresno County connecting Centerville to the east and Mendota to the west. It runs through the central portion of the SEDA development and its speed limit is 65 miles per hour (mph). The highway merges with Kings Canyon Road when the highway portion ends near De Wolf Avenue.

Kings Canyon Road is a four-lane, east-west arterial that connects downtown Fresno to SR180 in the east It runs through the central portion of the SEDA development and its speed limit is 45 miles per hour (mph) to Argyle.

Clovis Avenue is primarily a four-lane, north-south arterial in eastern Fresno, connecting residents from Clovis all the way down to State Route 99. It is primarily a six lane arterial within the SEDA area and surrounding land uses include single-family and commercial/retail uses. The speed limit along Clovis Ave is 45 mph to Butler Ave.

Temperance Avenue is a four-lane, north-south super arterial in Fresno with an interchange at SR180. Temperance Avenue consists of mostly farmland and becomes a two-lane road south of Hamilton Avenue. The speed limit along Temperance Avenue is 45 mph to Church.

De Wolf Avenue is a two-lane, north-south collector in eastern Fresno that runs perpendicular to SR180. The road consists of mostly farmland and connects multiple elementary schools. It runs through the central portion of SEDA. The speed limit along De Wolf Avenue is 45 mph.

McCall Avenue is a two-lane, north-south collector in eastern Fresno that intersects with SR180. The road consists of mostly farmland and connects the city of Selma to Fresno. It runs through the eastern edge of SEDA. The speed limit along De Wolf Avenue is 45 mph.

Jensen Avenue is a four-lane, east-west super arterial in southern Fresno that connects SR99 with Sanger. Jensen Avenue consists of mostly farmland and runs through the southern portion of SEDA. The speed limit along Jensen Avenue is 45 mph within Fresno City limits, 60 mph outside in County.

Belmont Avenue is a two-lane, east-west collector in eastern Fresno that runs north of and parallel to SR180. The road consists of mostly farmland and runs through the central portion of SEDA. The speed limit along Belmont Avenue is 45 mph to Armstrong, 50 mph to Temperance Ave.

Tulare Avenue is a two-lane, east-west collector in eastern Fresno that runs south of and parallel to SR180. The road consists of mostly suburban tracts and runs through the central portion of SEDA. The speed limit along Tulare Avenue is 40 mph.

Armstrong Avenue is a two-lane, north-south collector in eastern Fresno that runs parallel to Temperance Ave. The road consists of mostly rural tracts and runs through the western portion of SEDA. The speed limit along Armstrong Avenue is 45 mph.

Fowler Avenue is a two-lane, north-south collector in eastern Fresno that runs parallel to Temperance Ave. The road consists of mostly rural tracts and is located at the western boundary of SEDA. The speed limit along Fowler Avenue is 45 mph.

3.2 Existing Pedestrian Facilities

Walkability is defined as the ability to travel easily and safely between various origins and destinations without having to rely on automobiles or other motorized travel. The ideal "walkable" community includes wide sidewalks, a mix of land uses such as residential, employment, and shopping opportunities, a limited number of conflict points with vehicle traffic, easy access to transit facilities and services and a network of pedestrian facilities. Pedestrian facilities are comprised of crosswalks, sidewalks, pedestrian signals, and off-street paths, which provide safe and convenient routes for pedestrians to access the destinations such as institutions, businesses, public transportation, and recreation facilities.

As this project is a Specific Plan for a rural area, currently there are very limited pedestrian facilities in the project vicinity.

3.3 Existing Bicycle Facilities

The 2016 City of Fresno Active Transportation Plan outlines policies and objectives to improve the current active transportation system that includes walking and biking. The various bicycle facilities throughout the county are described below.

- **Class I Shared-Use Path**: Class I bikeways are a completely separate right-of-way designed for the exclusive use of cyclists and pedestrians, with minimal crossings for motorists. These paths are often located along creeks, canals, and rail lines. There is one small Class I bike path near Temperance Ave near Shields Ave on the northern end of the SEDA area.
- **Class II Bike Lanes**: Class II bike lanes use special lane markings, pavement legends, and signage. Bike lanes provide designated street space for bicyclists, typically adjacent to outer vehicle travel lanes. Buffered bike lanes increase separation through painted buffers between vehicle lanes and/or parking, and green paint at conflict zones (e.g., driveways or intersections). There are no existing Class II facilities, but there are many planned in the Fresno General Plan and in the SEDA plan for the project area.
- **Class III Bike Routes**: Bike routes provide enhanced mixed-traffic conditions for bicyclists through signage, shared arrow (sharrow) striping, and/or traffic calming treatments and provide continuity to a bikeway network. Bike routes are typically designated along gaps between bike trails or bike lanes or along low-volume, low-speed streets. Bicycle boulevards further enhance bike routes by encouraging slower speeds and discouraging non-local vehicle traffic using traffic diverters, chicanes, traffic circles, and speed tables. There are no existing Class III facilities in the project area, but there are many planned in the SEDA plan for the project area.

- **Class IV Bikeway**: Bikeways are also known as cycle tracks or separated bikeways, are set aside for the exclusive use of bicycles and physically separated from vehicle traffic. Separated bikeways were adopted by Caltrans in 2015. Separation may include grade separation, flexible posts, physical barriers, or on-street parking. There are no existing or planned Class IV bikeways in the project area.

3.4 Existing Transit Facilities

Fresno Area Express (FAX) is the local bus system for the city of Fresno. Currently, there are no bus lines that run through the SEDA area. Bus routes 1, 22, and 35 runs on Clovis Street near the SEDA area, but do not directly serve the plan area. There are plans to bring in Fresno bus rapid transit lines into the SEDA plan area in the future.

3.5 Existing Peak Hour Traffic Volumes For Study Segments

The existing operations of the study roadway segments were evaluated for the highest one-hour volumes during weekday morning and evening peak periods. In addition to peak hour, daily volumes were also evaluated. The table below shows the list of segments that have count data from both the City and County of Fresno.

Table 3: Existing Conditions Study Segment Traffic Volumes

Segment Name	#	AM Peak	PM Peak	Daily
Clovis south of American	1	1,037	1,154	14,404
De Wolf north of McKinley	2	472	326	2,766
De Wolf south of McKinley	3	282	248	1,881
De Wolf south of Clinton	4	332	228	2,271
De Wolf north of Jensen	5	187	174	1,693
De Wolf south of Jensen	6	95	120	1,139
Jensen east of Bethel	7	924	1,057	13,941
Jensen east of De Wolf	8	608	718	9,710
Jensen west of De Wolf	9	503	715	8,609
Jensen east of Temperance	10	1,015	801	9,856
Jensen west of Temperance	11	1,019	876	10,748
Kings Canyon east of Temperance	12	4	4	52
Locan north of Tulare	13	18	17	162
Locan south of Tulare	14	12	19	154
McCall north of McKinley	15	500	382	4,197
McCall north of Ashlan	16	390	439	5,167
McCall north of Belmont	17	485	518	5,730
Tulare east of Locan	18	24	27	248

Tulare west of Locan	19	38	54	595
North Ave west of Temperance	20	193	216	2,442

3.6 Existing Vehicle Miles Traveled

For existing conditions VMT, the SEDA project area was overlaid on top of the FresnoABM loaded vehicle assignment network and the total VMT for the SEDA project was calculated by multiplying daily volumes by distance travelled. In addition, VMT per service population (which is the sum of population and employees) was calculated. **Table 4** summarizes the existing VMT from the FresnoABM for the SEDA project area.

Table 4: Existing Conditions VMT

	2015 Base Year Model
SEDA VMT	330,350
Population	3,410
Employment	2,306
SEDA VMT per Service Population	57.79

4.0 YEAR 2035 BASELINE (NO PROJECT) CONDITIONS

This chapter presents the results of the level of service calculations under the year 2035 baseline conditions without the project. Level of service analysis at the study segments were conducted for 2035 no project conditions to establish a base to evaluate the impacts due to the addition of traffic from the proposed project. Study segment volumes were forecasted using the Fresno Activity Based Travel Demand Model. **Table 5** shows the forecasted study segment volumes for the year 2035 baseline (no project) conditions.

Table 5: Year 2035 Baseline (No Project) Conditions Study Segment Traffic Volumes

Segment Name	#	AM Peak	PM Peak	Daily
Clovis south of American	1	1,071	1,163	15,309
De Wolf north of McKinley	2	688	495	4,237
De Wolf south of McKinley	3	282	258	1,881
De Wolf south of Clinton	4	484	347	3,470
De Wolf north of Jensen	5	187	174	1,693
De Wolf south of Jensen	6	95	137	1,221
Jensen east of Bethel	7	1,006	1,105	15,079
Jensen east of De Wolf	8	705	830	11,518
Jensen west of De Wolf	9	597	850	10,143
Jensen east of Temperance	10	1,606	1,095	13,894
Jensen west of Temperance	11	1,333	1,107	12,676
Kings Canyon east of Temperance	12	4	4	52
Locan north of Tulare	13	18	32	218
Locan south of Tulare	14	12	34	199
McCall north of McKinley	15	500	382	4,197
McCall north of Ashlan	16	390	439	5,167
McCall north of Belmont	17	485	518	5,730
Tulare east of Locan	18	38	45	363
Tulare west of Locan	19	59	90	861
North Ave west of Temperance	20	193	216	2,442

4.1 Study segment Level of Service Analysis – Year 2035 No Project Conditions

The study segment level of service analysis for the forecasted volumes are presented in **Table 6.** All of the study segments in the year 2035 no project conditions are forecasted to perform at a LOS of D or better.

Table 6: Year 2035 Baseline (No Project) Conditions Study Segment LOS

Segment Name	#	AM Peak	PM Peak	Daily
Clovis south of American	1	C	C	B
De Wolf north of McKinley	2	D	D	C
De Wolf south of McKinley	3	C	C	B
De Wolf south of Clinton	4	D	C	B
De Wolf north of Jensen	5	C	C	A
De Wolf south of Jensen	6	B	B	A
Jensen east of Bethel	7	C	C	B
Jensen east of De Wolf	8	B	B	A
Jensen west of De Wolf	9	B	B	A
Jensen east of Temperance	10	C	C	B
Jensen west of Temperance	11	C	C	B
Kings Canyon east of Temperance	12	A	A	A
Locan north of Tulare	13	A	A	A
Locan south of Tulare	14	A	A	A
McCall north of McKinley	15	D	D	C
McCall north of Ashlan	16	D	D	C
McCall north of Belmont	17	D	D	C
Tulare east of Locan	18	A	A	A
Tulare west of Locan	19	A	A	A
North St west of Temperance	20	A	A	A

4.2 Year 2035 No Project Conditions Vehicle Miles Traveled

For the Year 2035 baseline no project conditions VMT, the SEDA project area was overlaid on top of the FresnoABM loaded vehicle assignment network and the total VMT for the SEDA project was calculated by multiplying daily volumes by distance travelled. In addition, VMT per service population (which is the sum of population and employees) was calculated. **Table 7** summarizes the 2035 baseline no project VMT from the FresnoABM for the SEDA project area. In the forecast year no project condition, VMT per service population for the SEDA project area falls slightly compared to the existing base year condition.

Table 7: Year 2035 No Project Conditions VMT

	2035 Baseline No Project Model
SEDA Project Area VMT	371,397
Population	5,046
Employment	3,077
SEDA VMT per Service Population	45.72

5.0 YEAR 2035 PROJECT CONDITIONS

This chapter presents the results of the level of service calculations for the year 2035 conditions with the SEDA project. Level of service analysis at the study segments were conducted for 2035 with project conditions. Study segment volumes were forecasted using delta method using the Fresno Activity Based Travel Demand Model. **Table 8** shows the forecasted study segment volumes for the year 2035 with project conditions.

Table 8: Year 2035 With Project Conditions Study Segment Traffic Volumes

Segment Name	#	AM Peak	PM Peak	Daily
Clovis south of American	1	1,266	1,367	18,223
De Wolf north of McKinley	2	838	544	5,510
De Wolf south of McKinley	3	457	357	3,614
De Wolf south of Clinton	4	610	395	4,678
De Wolf north of Jensen	5	322	305	3,549
De Wolf south of Jensen	6	178	235	2,166
Jensen east of Bethel	7	1,135	1,375	18,813
Jensen east of De Wolf	8	1,040	1,179	16,757
Jensen west of De Wolf	9	866	1,180	15,122
Jensen east of Temperance	10	2,096	1,519	20,017
Jensen west of Temperance	11	1,862	1,562	19,744
Kings Canyon east of Temperance	12	8	8	111
Locan north of Tulare	13	44	44	392
Locan south of Tulare	14	29	48	320
McCall north of McKinley	15	831	651	6,377
McCall north of Ashlan	16	562	612	5,662
McCall north of Belmont	17	867	919	9,956
Tulare east of Locan	18	54	61	582
Tulare west of Locan	19	80	118	1,391
North Ave west of Temperance	20	193	286	2,442

Compared to the 2035 no project condition, Jensen Way and McCall Lane saw the most growth in AM peak, PM peak, and daily volumes with the SEDA project built out. Due to the existing low volumes from the City of Fresno count data, the forecasted with project SEDA volumes are not as high as raw FresnoABM output volumes.

5.1 Study Segment Level of Service Analysis – Year 2035 With Project Conditions

The study segment level of service analysis for the forecasted volumes are presented in **Table 9.** All of the study segments in the year 2035 with project conditions are forecasted to perform at a LOS of D or better.

Table 9: Year 2035 With Project Conditions Study Segment LOS

Segment Name	#	AM Peak	PM Peak	Daily
Clovis south of American	1	C	C	B
De Wolf north of McKinley	2	D	D	D
De Wolf south of McKinley	3	D	D	D
De Wolf south of Clinton	4	D	D	D
De Wolf north of Jensen	5	D	D	D
De Wolf south of Jensen	6	D	D	D
Jensen east of Bethel	7	C	C	B
Jensen east of De Wolf	8	C	C	B
Jensen west of De Wolf	9	C	C	B
Jensen east of Temperance	10	C	C	B
Jensen west of Temperance	11	C	C	A
Kings Canyon east of Temperance	12	A	A	A
Locan north of Tulare	13	A	A	A
Locan south of Tulare	14	A	A	A
McCall north of McKinley	15	D	D	C
McCall north of Ashlan	16	D	D	C
McCall north of Belmont	17	D	D	C
Tulare east of Locan	18	A	A	A
Tulare west of Locan	19	A	A	A
North Ave west of Temperance	20	A	A	A

5.2 Year 2035 With Project Conditions Vehicle Miles Traveled

For the Year 2035 with project conditions VMT, the SEDA project area was overlaid on top of the FresnoABM loaded vehicle assignment network and the total VMT for the SEDA project was calculated by multiplying daily volumes by distance travelled. In addition, VMT per service population (which is the sum of population and employees) was calculated. **Table 10** summarizes the 2035 baseline no project VMT from the FresnoABM for the SEDA project area.

Table 10: Year 2035 With Project Conditions VMT

	2035 With Project Model (SEDA)
SEDA VMT	974,369
Population	151,670
Employment	40,490
SEDA VMT per Service Population	5.07

The VMT per Service Population in the SEDA project area with the project built out in 2035 drops from 45.72 to 5.07. The transition from a mostly rural area (which the SEDA project area currently is) to a developed urbanized mixed use site results in a large VMT reduction. This is because trip distances for both the production side (residential) and attraction side (commercial) are shortened since residents and employees are now better connected to jobs and services within the SEDA project area.

5.3 SEDA Project Trip Generation

Table 11 summarizes daily and PM peak hour trip generation for the proposed SEDA Project. ITE Trip Generation 11th Edition was used to generate the trip rates for the four types of land uses in the SEDA Project.

Table 11: SEDA Project Trip Generation

Land Use (Units)	***Size***		***Daily***		***P.M. Peak***	
			Rate	***Trips***	***Rate***	***Trips***
Housing (Dwelling Units)	45,274	Dwelling Units	8.35	378,038	0.77	34,861
Retail / Commercial (Employees)	12,648	Employees	26.60	336,437	3.49	44,142
Office (Employees)	8,069	Employees	3.33	26,870	0.45	3,631
Government / Civic (Employees)	16,681	Employees	7.50	125,108	0.71	11,844
Total Trips				**866,452**		**94,477**

In total, the SEDA project is expected to generate 866,452 total daily trips and 94,477 PM peak hour trips from the 45,274 total dwelling units and 37,398 total employees.

6.0 FINDINGS AND RECOMMENDATIONS

The following sections provide additional analyses of other transportation issues associated with the project site, including:

- Roadway Impact Analysis
- Pedestrian, Bicycle, and Transit Recommendations

Unlike the LOS impact methodology, the analyses in these sections is based on professional judgment in accordance with the standards and methods employed by traffic engineers. Although operational issues are not considered CEQA impacts, they do describe traffic conditions that are relevant to the project environment.

6.1 Roadway Impact Analysis – Traffic Increase

The SEDA Project would have an impact on the existing roadways within the project area. While the LOS analysis does not show any deficient roadways for the 2035 project condition, De Wolf Avenue and McCall Avenue are most impacted with LOS of D in the project scenario. Widening these two collector streets from 1 lane in each direction to 2 lanes in each direction will better serve the SEDA project and allow for smoother north-south traffic flow within the SEDA project. Likewise, it is recommended that McKinley Avenue be widened from its current configuration of 1 lane in each direction to 2 lanes in each direction for better east west connectivity within the SEDA area.

Other roadways within the SEDA plan should be upgraded into a network of Complete Streets as defined by the Fresno Complete Streets Policy adopted in 2019. A Complete Street is defined as a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users – including bicyclists, pedestrians, transit vehicles, trucks, and motorists. In addition to Complete Streets, the safety of the designed roadway network environment shall be implemented such that driver, pedestrian, and bicyclist safety are paramount.

6.2 Pedestrian, Bicycle, and Transit Recommendations

Pedestrian facilities recommended for the SEDA area include sidewalks on all roadways, trails and greenways to connect the regional town center (De Wolf and Kings Canyon Blvd) with the community town centers, and should complement the natural landscape of the SEDA plan area.

Bicycle facilities within SEDA should be compliant with the latest Fresno Active Transportation Plan guidelines and enhance connectivity between the SEDA mixed use areas to the residential areas.

Transit facilities within SEDA should provide for a safe, integrated, and efficient multimodal transportation system. The regional center of SEDA should be well connected by transit to provide access to and from central Fresno to the SEDA area. Transit stations and stops should be located near major activity centers and mixed use zones. Bus lines should connect public places, schools, medical facilities, concentrations of commercial space, and high density residential and employment areas.

THIS PAGE INTENTIONALLY LEFT BLANK