FRESNO GENERAL PLAN
PUBLIC REVIEW DRAFT
PROGRAM ENVIRONMENTAL IMPACT REPORT

City of Fresno
Planning and Development Department
2600 Fresno Street
Fresno, California 93721

State Clearinghouse Number: 2019050005

March 2020

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FRESNO GENERAL PLAN
PUBLIC REVIEW DRAFT
PROGRAM ENVIRONMENTAL IMPACT REPORT

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March 2020

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LIST OF ABBREVIATIONS AND ACRONYMS

°C	Celsius
°F	Fahrenheit
ABAG	Association of Bay Area Governments
ACMs	asbestos-containing materials
AIA	American Institute of Architects
AIAs	Airport Influence Areas
ALUC	Airport Land Use Committee
ALUCP	Airport Land Use Compatibility Plan
AP Act	Alquist-Priolo Earthquake Fault Zoning Act
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
bgs	below ground surface
BMPs	Best Management Practices
C/CAG	City/County Association of Governments
CA MUTCD	California Manual of Uniform Traffic Control Devices
CAAQS	California Ambient Air Quality Standards
CAG	County Association of Governments
CAL Fire	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation

CARB	California Air Resources Board
CARE	Community Air Risk Evaluation
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
City	City of San Bruno
CMA	Congestion Management Agency
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
Corps	U.S. Army Corps of Engineers
CPTs	cone penetrometer tests
CRHR	California Register of Historical Resources
CTC	California Transportation Commission
CTR	California Toxics Rule
dB	decibel

dBA	A-weighted decibels
DDT	dichlorodiphenyltrichloroethane
DOT	U.S. Department of Transportation
DTSC	Department of Toxic Substance Control
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
ESA	Federal Endangered Species Act
ESCP	Erosion and Sediment Control Plan
ESLs	Environmental Screening Levels
FAA	Federal Aviation Administration
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIP	Federal Implementation Plan
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
GHG	greenhouse gas
GSAs	groundwater sustainability agencies
GWMP	Groundwater Management Plan
HABS	Historic American Building Survey
HAER	Historic American Engineering Record
HALS	Historic American Landscapes Survey

HBMS	Hazardous Building Materials Survey
HCM	Highway Capacity Manual
HMBPs	Hazardous Materials Business Plans
HRA	Health Risk Assessment
HRE	Historical Resource Evaluation
HVAC	heating, ventilation, and air conditioning
I-280	Interstate 280
I-380	Interstate 380
ITE	Institute of Transportation Engineers
LBP	lead-based paints
LCP	lead-containing paint
Ldn	Day-night equivalent noise level
Leq	continuous sound level
LID	low impact development
Lmax	maximum noise level
LTS	less-than-significant impact
MEI	maximally exposed individual
MLD	Most Likely Descendent
MPO	Metropolitan Planning Organization
MRP	Municipal Regional Permit
MS4	Municipal Separate Storm Sewer System
MTC	Metropolitan Transportation Commission
MUTCD	Manual on Uniform Traffic Control Devices
MW	moment magnitude

NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEHRP	National Earthquake Hazards Reduction Program
NFIP	National Flood Insurance Program
NO2	nitrogen dioxide
NOI	Notice of Intent
NOP	Notice of Preparation
NOx	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
O3	ozone
OSHA	Occupational Health and Safety Administration
pavilion	Rotary Pavilion
Pb	lead
PCBs	polychlorinated biphenyls
PG&E	Pacific Gas and Electric
PM	afternoon peak hour (related to traffic)
PM10	respirable particulate matter
PM2.5	fine particulate matter
pool	San Bruno Park Pool
POTWs	publicly owned treatment works
PPV	peak particle velocity
project	San Bruno Recreation and Aquatic Center Project

RCRA	Resource Conservation and Recovery Act of 1976
Regional Water Board	San Francisco Bay Regional Water Quality Control Board
rms	root mean square
ROG	reactive organic gases
RTP	Regional Transportation Plan
S	significant impact
SamTrans	San Mateo County Transit District
SBCC	San Bruno Community Center
SBCF	San Bruno Community Foundation
SBRAC	San Bruno Recreation and Aquatic Center (proposed project)
SDSs	Safety Data Sheets
SFO	San Francisco International Airport
SGMA	Sustainable Groundwater Management Act
SHMA	Seismic Hazards Mapping Act
SIP	State Implementation Plan
SMCEHS	San Mateo County Environmental Health Services
SMCWPPP	San Mateo County Water Pollution Prevention Program
SO2	sulfur dioxide
Sox	sulfur oxides
SR-82	State Route 82
SR-35	State Route 35
SRA	State responsibility areas
SU	significant and unavoidable impact
SWPPP	Stormwater Pollution Prevention Plan

SWRCB	State Water Resources Board
TACs	toxic air contaminants
TDM	Transportation Demand Management
TIA	Transportation Impact Analysis
TMDL	Total Maximum Daily Load
TPZ	tree protection zone
UCMP	University of California Museum of Paleontology
US 101	U.S. Route 101
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tanks
Veterans Memorial building	San Bruno Veteran Memorial Recreation Center
VMT	vehicle miles traveled
WDRs	Waste Discharge Requirements
WHO	World Health Organization
WOB	West-of-Bayshore
WTP	water treatment plant
ZORI	Zones of Required Investigation

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1.0 EXECUTIVE SUMMARY

1.1 PURPOSE

This Draft Program Environmental Impact Report (PEIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts associated with the continued implementation of the approved City of Fresno General Plan. This Draft PEIR has been prepared in conformance with CEQA (California Public Resources Code, Section 21000, et seq.); the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000, et seq.); and procedures for implementing CEQA as adopted by the City of Fresno.

The purpose of this Draft PEIR is to inform public agency decision-makers, representatives of affected and responsible agencies, the public, and other interested parties of the potential environmental effects that may result from continued implementation of the approved General Plan. In addition, this PEIR considers updates to the text of the approved General Plan in order to reflect changes in applicable statutes and regulations related to Vehicle Miles Traveled (VMT), updates the EIR to include a current baseline for the continued implementation of the approved General Plan, and changes in City planning documents that have occurred since adoption of the approved General Plan in 2014. The project also includes an update to the City's Greenhouse Gas Reduction Plan. In addition to identifying potential environmental effects, this PEIR also identifies methods by which these impacts can be mitigated, reduced, minimized, or avoided.

This Draft PEIR assesses the level of development within the City of Fresno Planning Area based on reasonable assumptions for development activity anticipated to occur through buildout of the Planning Area. To determine reasonable assumptions for the amount of new residential uses, employment uses, and population growth, the City assumed various factors such as physical capacity of the approved General Plan Land Use Diagram, the specific policy direction in the plan, and socioeconomic trends. The results of this analysis include forecasts of the number of new residences, amount of new employment, and increase in population anticipated to occur under buildout of the Planning Area. This Draft PEIR addresses environmental effects based on the potential development within the Planning Area through buildout of the approved General Plan, anticipated to occur in 2056.

1.2 PROJECT SUMMARY

The following provides a summary of the project location, project description, project objectives, potential significant and unavoidable impacts that could result from the proposed project, and a list of the agencies responsible for continued implementation of the approved General Plan and approvals required for subsequent projects.

1.2.1 Project Location

The City of Fresno is located in Fresno County in the central San Joaquin Valley. The city is located approximately 200 miles north of Los Angeles, and 170 miles south of Sacramento. The city is located on the State Route (SR) 99 corridor. To the north of Fresno is Madera County, to the

northeast and adjacent to Fresno, is the city of Clovis. Unincorporated land is located to the east, south, and west of Fresno.

The Planning Area is the geographic area for which the approved General Plan establishes policies about future growth. The boundary of the Planning Area was determined in response to State law (California Government Code Section 65300) requiring each city to include in its General Plan all territory within the boundaries of the incorporated area as well as "any land outside its boundaries which in the planning agency's judgment bears relation to its planning". The Planning Area established by the City of Fresno includes all areas within the City's current city limits, including the Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF), the areas within the current Sphere of Influence (SOI), and an area north of the city's most northeasterly portion (referred to as the North Area). The Planning Area has not been changed since it was evaluated in the previously-certified Master EIR (MEIR) for the approved General Plan.

The SOI is a boundary that encompasses lands that are expected to ultimately be annexed into the City. Until annexed, the lands are unincorporated and fall under the jurisdiction of the County of Fresno. Within the Planning Area, the current SOI covers approximately 103,570 acres, or approximately 162 square miles including the 3,293-acre RWRF and an additional 2,486 acres identified as the North Area. The Planning Area encompasses approximately 106,000 acres, or approximately 166 square miles of both incorporated (approximately 72,200 acres) and unincorporated (approximately 33,800 acres) land bearing relation to the City's future growth. The Planning Area is generally bounded by the San Joaquin River to the north, American Avenue to the south, Garfield Avenue to the west, and McCall Avenue to the east, with the RWRF generally located with Jensen Avenue to the north, American Avenue to the south, South Chateau Fresno Avenue to the west, and Cornelia Avenue to the east. The Planning Area includes various unincorporated islands surrounded by the City's limits.

1.2.2 Project Description

The intent of the project is to update the text of the approved General Plan in order to reflect changes in applicable statutes and regulations related to Vehicle Miles Traveled (VMT), as well as updating the EIR to include a current baseline for the continued implementation of the approved General Plan, and reflect changes in City planning documents that have occurred since adoption of the approved General Plan in 2014. The City is not proposing any land use changes as a part of this project, but it does include an update to the City's Greenhouse Gas Reduction Plan. In doing so, the City is converting the previously-certified MEIR to a PEIR. The MEIR was certified by the City Council in 2014. This update, consistent with Section 15168 of the CEQA Guidelines, is intended to streamline implementation of the approved General Plan's programs and projects by supporting them with updated environmental analysis, regulatory framework, and mitigation measures, pursuant to CEQA. Two major goals of updating the EIR include:

- Complying with new legislation as it relates to various resource topic area as defined by CEQA; and
- Updating the technical analyses to reflect the current baseline conditions of 2019.

This update will includes the following components:

- **Incorporation of New local, State and/or federal regulations.** Since adoption of the approved General Plan in 2014, several new regulations that have taken effect, including:
    - Climate Action Plan Legislation. The City will update the Greenhouse Gas Reduction Plan that was prepared for the MEIR (Appendix F-2) taking into account Executive Order S-03-05 (2005), SB 32 (2006), and Executive Order B-30-15 (2015);
    - Vehicle Miles Travelled (VMT) Legislation – SB 743 (2013);
    - Tribal Consultation, Assembly Bill (AB) 52 (2014);
    - Sustainable Groundwater Management Act (SGMA) (2014);
    - Cooperative Agreement between the City of Fresno Irrigation District and City of Fresno for Water Utilization and Conveyance (2016); and
    - 2017 Housing Package as described by the State of California Department of Housing and Community Development, http://www.hcd.ca.gov/policy-research/lhp.shtml#summary.
- **Corresponding technical revisions to the Mobility and Transportation Element of the approved General Plan.** Specific changes include, but are not limited to, the following:
    - Add Vehicle Miles Traveled (VMT) policies consistent with the requirements of Senate Bill (SB) 743; and
    - Revise text relating to Level of Service (LOS) metrics to update applicability.

1.2.3 Project Objectives

The City established specific objectives for the General Plan when it was adopted in 2014 which would serve to aid decision-makers in their review of the proposed project and its associated environmental impacts. Within the approved General Plan, these were referred to as Goals, but for the sake of clarity, the CEQA term of "objectives" will be used in this EIR. The following objectives were adopted for the approved General Plan in 2014, and are applicable to the proposed project:

1. Increase opportunity, economic development, business and job creation.
2. Support a successful and competitive Downtown.
3. Emphasize conservation, successful adaptation to climate and changing resource conditions, and performance effectiveness in the use of energy, water, land, buildings, natural resources, and fiscal resources required for the long-term sustainability of Fresno.
4. Emphasize achieving healthy air quality and reduced greenhouse gas emissions.

5. Support agriculture and food production as an integral industry.

6. Protect, preserve, and enhance natural, historic, and cultural resources.

7. Provide for a diversity of districts, neighborhoods, housing types (including affordable housing), residential densities, job opportunities, recreation, open space, and educational venues that appeal to a broad range of people throughout the city.

8. Develop Complete Neighborhoods and districts with an efficient and diverse mix of residential densities, building types, and affordability which are designed to be healthy, attractive, and centered by schools, parks, and public and commercial services to provide a sense of place and that provide as many services as possible within walking distance.

9. Promote a city of healthy communities and improve quality of life in established neighborhoods.

10. Emphasize increased land use intensity and mixed-use development at densities supportive of greater use of transit in Fresno.

11. Emphasize and plan for all modes of travel on local and Major Streets in Fresno.

12. Resolve existing public infrastructure and service deficiencies, make full use of existing infrastructure, and invest in improvements to increase competitiveness and promote economic growth.

13. Emphasize the City as a role model for good growth management planning, efficient processing and permit streamlining, effective urban development policies, environmental quality, and a strong economy. Work collaboratively with other jurisdictions and institutions to further these values throughout the region.

14. Provide a network of well-maintained parks, open spaces, athletic facilities, and walking and biking trails connecting the city’s districts and neighborhoods to attract and retain a broad range of individuals, benefit the health of residents, and provide the level of public amenities required to encourage and support development of higher density urban living and transit use.

15. Improve Fresno's visual image and enhance its form and function through urban design strategies and effective maintenance.

16. Protect and improve public health and safety.

17. Recognize, respect, and plan for Fresno's cultural, social, and ethnic diversity, and foster an informed and engaged citizenry.

1.2.4 Significant Unavoidable Adverse Impacts

The proposed project and continued implementation of the approved General Plan would result in the following significant unavoidable impacts:

- Aesthetics –visual character and quality of public views.
- Agricultural Resources – loss of farmland and removal of Williamson Act Contract land.
- Air Quality – criteria pollutant emissions and toxic air contaminants pollutant concentrations.
- Noise – exceed noise standards and substantial permanent increases in noise levels.
- Transportation – potentially exceed thresholds of levels of service on roadways in conflict with approved General Plan.
- Utility and Service Systems – construction of water, wastewater, and electric, natural gas, and telecommunications facilities that could cause substantial environmental impacts.

1.2.5 Lead Agency, Responsible and Trustee Agencies

The project applicant and lead agency for the proposed project is the City of Fresno. The City is the public agency that has the principal responsibility for certifying the EIR, approving or carrying out the project, or disapproving the project.

The responsible agencies are State and local public agencies other than the lead agency that have authority to carry out or approve a project or that are required to approve a portion of a project for which the lead agency is preparing or has prepared an EIR or Negative Declaration. There are no agencies other than the City of Fresno that have approval or permitting authority for the adoption of the approved General Plan. Implementation of the project would involve many responsible agencies depending upon the specifics of the subsequent projects. Following are some of the agencies that could be required to act as responsible agencies for subsequent projects:

- Caltrans, including the Division of Aeronautics
- California Air Resources Board
- California Department of Conservation
- California Department of Fish and Wildlife
- California Department of Forestry and Fire Protection
- California Department of Housing and Community Development
- California Department of Parks and Recreation
- California Department of Toxic Substances Control
- California Public Utilities Commission
- California State Office of Historic Preservation
- California State Lands Commission
- California State University, Fresno
- California State Water Resources Control Board

- Central Valley Regional Water Quality Control Board
- County of Fresno
- County of Fresno Local Agency Formation Commission
- Fire Districts (Various)
- Fresno Airport Land Use Commission
- Fresno Council of Governments
- Fresno Metropolitan Flood Control District
- Fresno Irrigation District
- San Joaquin River Conservancy
- San Joaquin Valley Air Pollution Control District
- School Districts (Various)
- Sewer Districts (Various)
- Water Districts (Various)

1.3 SUMMARY OF PROJECT ALTERNATIVES

Below is a summary of the alternatives that were considered and evaluated in Chapter 6.0, Alternatives to the Proposed Project.

1.3.1 No Project Alternative

Under the No Project Alternative, the development within the Planning Area would continue to be implemented as proposed under the approved General Plan, however, changes to the Mobility and Transportation Element and updates to the Greenhouse Gas Reduction Plan would not be implemented. The approved General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the approved General Plan and zoning documents. Buildout of the approved General Plan would result in a population of approximately 921,000 people by 2056.

1.3.2 Net Zero Energy Consumption Alternative

Under the Net Zero Energy Consumption Alternative, both residential and non-residential development would be required to achieve net zero energy consumption in 2020. The 2019 Title 24 standards require that all new residential development starting in 2020 consume net zero energy, and by 2030, all non-residential development would do the same. By achieving net zero energy consumption for non-residential development in 2020, the city would reduce overall GHG emissions. All other components of the approved General Plan would remain in effect and would continue to be implemented, including the updated text in the approved General Plan related to assessing transportation impacts relative to VMT.

1.4 AREAS OF CONTROVERSY

Pursuant to CEQA Guidelines Section 15123(b), a summary section includes a discussion of areas of controversy known to the lead agency, including issues raised by agencies and the public. Following are the known areas of controversy.

- Air Quality – increases in air emissions and increases in concentrations of toxic air contaminants
- Greenhouse Gases – increases in greenhouse gas emissions
- Noise – increases in noise levels
- Transportation – increases in traffic within and outside of the Planning Area
- Utilities and Service Systems – availability of water supplies

1.5 PUBLIC REVIEW OF THE DRAFT EIR

Upon completion of this Draft PEIR, the City of Fresno prepared and filed a Notice of Completion (NOC) with the California Office of Planning and Research/State Clearinghouse to begin the public review period (Public Resources Code, Section 21161). Concurrent with the NOC, the City of Fresno distributed a Notice of Availability (NOA) in accordance with Section 15087 of the CEQA Guidelines. The NOA was mailed to the organizations and individuals who previously requested such a notice to comply with Public Resources Code Section 21092(b)(3). This Draft PEIR was distributed to the California Office of Planning and Research/State Clearinghouse and the Fresno Council of Governments in accordance with Section 15206 of the CEQA Guidelines. This Draft PEIR was also published in the Fresno Bee newspaper to comply with Section 15087(a) of the State CEQA Guidelines and was distributed to affected agencies, surrounding cities and municipalities, and all interested parties. During the public review period, this Draft PEIR, including the appendices, is available for review at the following locations:

City of Fresno
Planning and Development Department
2600 Fresno Street, Room 3065, Third Floor
Fresno, CA 93721
Monday through Friday: 8:00 a.m. to 5:00 p.m.
Saturday and Sunday: Closed

City of Fresno Central Library
2420 Mariposa Street
Fresno, CA 93721
Monday through Thursday: 10:00 a.m. to 7:00 p.m.
Friday and Saturday: 10:00 a.m. to 5:00 p.m.
Sunday: 12:00 p.m. to 5:00 p.m.

In addition, the Draft PEIR, including the appendices, is available for review at all public libraries within the City of Fresno and at the following City of Fresno website.

https://www.fresno.gov/darm/planning-development/plans-projects-under-review/#tab-07

Agencies, organizations, individuals, and all other interested parties not previously contacted, or who did not respond to the NOP/IS or attended the scoping meeting, currently have the opportunity

to comment on this Draft PEIR during the 45-day public review period. Written comments on this Draft PEIR should be addressed to:

Sophia Pagoulatos, Planning Manager
City of Fresno
Planning and Development Department
2600 Fresno Street, Room 3065, Third Floor
Fresno, CA 93721
Email: Sophia.Pagoulatos@fresno.gov

Upon completion of the public review period, written responses to all substantive environmental issues raised will be prepared and made available for review at least 10 days prior to the public hearing on the project before the City of Fresno City Council, at which the certification of the Final Program EIR will be considered. Comments received and the responses to comments will be included as part of the record for consideration by decision-makers for the project.

1.6 EXECUTIVE SUMMARY MATRIX

Table 1-1 below summarizes the impacts, mitigation measures, and resulting level of significance after mitigation for the relevant environmental issue areas evaluated for the proposed changes to the approved General Plan. Table 1-1 is intended to provide an overview; narrative discussions for the issue areas are included in the corresponding sections of this Draft PEIR. Table 1-1 is included in the Draft PEIR pursuant to CEQA Guidelines Section 15123(b)(1).

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.1: AESTHETICS			
AES-1: The proposed project would not have a substantial adverse effect on a scenic vista.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
AES-2: The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
AES-3: The proposed project would substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage point), and due to the location of the project in an urbanized area, the project would conflict with applicable zoning and other regulations governing scenic quality.	Potentially Significant Impact.	No feasible mitigation measures are available.	Significant and Unavoidable Impact.
AES-4: Continued implementation of the approved General Plan would increase the amount of light and glare within the Planning Area.	Potentially Significant Impact.	**Mitigation Measure AES-4.1**: Lighting for Street and Parking Areas. Lighting systems for street and parking areas shall include shields to direct light to the roadway surfaces and parking areas. Vertical shields on the light fixtures shall also be used to direct light away from adjacent light sensitive land uses such as residences. **Mitigation Measure AES-4.2**: Lighting for Public Facilities. Lighting systems for public facilities such as active play areas shall provide adequate illumination for the activity; however, low intensity light fixtures and shields shall be used to minimize spillover light onto adjacent properties. **Mitigation Measure AES-4.3:** Lighting for Non-Residential Uses. Lighting systems for non-residential uses, not including public facilities, shall provide shields on the light fixtures and orient the lighting system away from adjacent properties. Low	Significant and Unavoidable Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		intensity light fixtures shall also be used if excessive spillover light onto adjacent properties will occur. **Mitigation Measure AES-4.4:** Signage Lighting. Lighting systems for freestanding signs shall not exceed 100 foot Lamberts (FT-L) when adjacent to streets which have an average light intensity of less than 2.0 horizontal footcandles and shall not exceed 500 FT-L when adjacent to streets which have an average light intensity of 2.0 horizontal footcandles or greater. **Mitigation Measure AES-4.5:** Use of Non-Reflective Materials. Materials used on building facades shall be non-reflective.	
AES-5: The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to aesthetics.	Potentially Significant Impact.	Refer to Mitigation Measures AES-4.1 through AES-4.5, above.	Significant and Unavoidable Impact.
4.2: AGRICULTURE AND FORESTRY			
AG-1: Continued implementation of the approved General Plan would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use.	Potentially Significant Impact.	**Mitigation Measure AG-1.1:** Consistent with Policy RC-9-c of the approved General Plan, the City, in coordination with regional partners or independently, shall establish a Farmland Preservation Program by 2025. The intent of the Farmland Preservation Program would be that, when Prime Farmland, Unique Farmland, or Farmland of Statewide Importance are proposed for development and converted to urban uses within the Sphere of Influence outside City limits, this program would require that the developer of such a project mitigate the loss of farmland consistent with the requirements of CEQA. The Farmland Preservation Program shall establish thresholds of significance and provide several mitigation options	Significant and Unavoidable Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		that may include, but are not limited to, the following: • Restrictive Covenants or Deeds • In Lieu Fees • Mitigation Banks • Fee Title Acquisition • Conservation Easements • Land Use Regulations The Farmland Preservation Program may be modeled after some or all of the programs described by the California Council of Land Trusts. Prior to the adoption of the Farmland Preservation Program, projects shall be required to comply with CEQA to address potential environmental impacts on an individual basis.	
AG-2: Continued implementation of the approved General Plan would conflict with existing zoning for agricultural use or a Williamson Act contract.	Potentially Significant Impact.	No feasible mitigation measures are available.	Significant and Unavoidable Impact.
AG-3: The proposed project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).	No impact.	No mitigation is required.	No impact.
AG-4: The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use.	No impact.	No mitigation is required.	No impact.
AG-5: The proposed project would not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.	No impact.	No mitigation is required.	No impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
AG-6: Continued implementation of the approved General Plan, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to agricultural resources.	Potentially Significant Impact.	No feasible mitigation measures are available.	Significant and Unavoidable Impact.
4.3: AIR QUALITY			
AQ-1: The proposed project would not conflict with or obstruct implementation of the applicable air quality plan	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
AQ-2: The proposed project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is non-attainment under an applicable federal or State ambient air quality standards.	Potentially Significant Impact.	**Mitigation Measure AIR-2.1**: Prior to future discretionary project approval, development project applicants shall prepare and submit to the Director of the City Planning and Development Department, or designee, a technical assessment evaluating potential project construction phase-related air quality impacts. The evaluation shall be prepared in conformance with SJVAPCD methodology for assessing construction impacts. If construction related air pollutants are determined to have the potential to exceed the SJVAPCD adopted threshold of significance, the Planning and Development Department shall require that applicants for new development projects incorporate mitigation measures into construction plans to reduce air pollutant emissions during construction activities. The identified measures shall be included as part of the Project Conditions of Approval. Possible mitigation measures to reduce construction emissions include but are not limited to: • Install temporary construction power supply meters on site and use these to provide power to electric power tools whenever feasible. If temporary electric power is available on site, forbid the use of portable gasoline- or diesel-fueled electric generators.	Significant and Unavoidable Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Use of diesel oxidation catalysts and/or catalyzed diesel particulate traps on diesel equipment, as feasible. • Maintain equipment according to manufacturers' specifications. • Restrict idling of equipment and trucks to a maximum of 5 minutes (per California Air Resources Board [CARB] regulation). • Phase grading operations to reduce disturbed areas and times of exposure. • Avoid excavation and grading during wet weather. • Limit on-site construction routes and stabilize construction entrance(s). • Remove existing vegetation only when absolutely necessary. • Sweep up spilled dry materials (e.g., cement, mortar, or dirt track-out) immediately. Never attempt to wash them away with water. Use only minimal water for dust control. • Store stockpiled materials and wastes under a temporary roof or secured plastic sheeting or tarp. **Mitigation Measure AIR-2.2:** Prior to future discretionary project approval, development project applicants shall prepare and submit to the Director of the City Planning and Development Department, or designee, a technical assessment evaluating potential project operation-related air quality impacts. The evaluation shall be prepared in conformance with SJVAPCD methodology in assessing air quality impacts. If operation-related air pollutants are determined to have the potential to exceed the SJVAPCD-adopted thresholds of	

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		significance, the Planning and Development Department shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during operational activities. The identified measures shall be included as part of the Project Conditions of Approval. Possible mitigation measures to reduce long-term emissions include but are not limited to: • For site-specific development that requires refrigerated vehicles, the construction documents shall demonstrate an adequate number of electrical service connections at loading docks for plugging in the anticipated number of refrigerated trailers to reduce idling time and emissions. • Applicants for manufacturing and light industrial uses shall consider energy storage (i.e., battery) and combined heat and power (CHP, also known as cogeneration) in appropriate applications to optimize renewable energy generation systems and avoid peak energy use. • Site-specific developments with truck delivery and loading areas and truck parking spaces shall include signage as a reminder to limit idling of vehicles while parked for loading/unloading in accordance with CARB Rule 2845 (13 California Code of Regulations [CCR] Chapter 10, Section 2485). • Require that 240-volt electrical outlets or Level 3 chargers be installed in parking lots that would enable charging of neighborhood electric vehicles (NEVs) and/or battery powered vehicles. • Maximize use of solar energy including solar panels; installing the maximum possible number of solar energy arrays on building roofs	

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		throughout the city to generate solar energy. • Maximize the planting of trees in landscaping and parking lots. • Use light-colored paving and roofing materials. • Require use of electric or alternatively fueled street-sweepers with HEPA filters. • Require use of electric lawn mowers and leaf blowers. • Utilize only Energy Star heating, cooling, and lighting devices, and appliances. • Use of water-based or low volatile organic compound (VOC) cleaning products.	
AQ-3: Development projects associated with the continued implementation of the approved General Plan could expose sensitive receptors to substantial pollutant concentrations.	Potentially significant impact.	**Mitigation Measure AIR-3.1**: Prior to future discretionary approval for projects that require environmental evaluation under CEQA, the City of Fresno shall evaluate new development proposals for new industrial or warehousing land uses that: (1) have the potential to generate 100 or more truck trips per day or have 40 or more trucks with operating diesel-powered transport refrigeration units, and (2) are within 1,000 feet of a sensitive land use (e.g., residential, schools, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use. Such projects shall submit a Health Risk Assessment (HRA) to the City Planning and Development Department. The HRA shall be prepared in accordance with policies and procedures of the most current State Office of Environmental Health Hazard Assessment (OEHHA) and the SJVAPCD. If the HRA shows that the incremental health risks exceed their respective thresholds, as established by the SJVAPCD at the time a project is considered, the Applicant will be required to identify and demonstrate that best available control technologies for toxics (T-BACTs),	Significant and Unavoidable Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		including appropriate enforcement mechanisms to reduce risks to an acceptable level. T-BACTs may include, but are not limited to: • Restricting idling on site or electrifying warehousing docks to reduce diesel particulate matter; • Requiring use of newer equipment and/or vehicles; • Provide charging infrastructure for: electric forklifts, electric yard trucks, local drayage trucks, last mile delivery trucks, electric and fuel-cell heavy duty trucks; and/or • Install solar panels, zero-emission backup electricity generators, and energy storage to minimize emissions associated with electricity generation at the project site. T-BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan. **Mitigation Measure AIR-3.2:** Locate sensitive land uses (e.g., residences, schools, and daycare centers) to avoid incompatibilities with recommended buffer distances identified in the most current version of the CARB Air Quality and Land Use Handbook: A Community Health Perspective (CARB Handbook). Sensitive land uses that are within the recommended buffer distances listed in the CARB Handbook shall provide enhanced filtration units or submit a Health Risk Assessment (HRA) to the City. If the HRA shows that the project would exceed the applicable SJVAPCD thresholds, mitigation measures capable of reducing potential impacts to an acceptable level must be identified and approved by the City.	

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
AQ-4: The proposed project could result in significant odors that could adversely affect a substantial number of people.	Potentially Significant Impact.	**Mitigation Measure AIR-4.1:** Require developers of projects with the potential to generate significant odor impacts as determined through review of SJVAPCD odor complaint history for similar facilities and consultation with the SJVAPCD, to prepare an odor impact assessment and to implement odor control measures recommended by the SJVAPCD or the City as needed to reduce the impact to a level deemed acceptable by the SJVAPCD. The City's Planning and Development Department shall verify that all odor control measures have been incorporated into the project design specifications prior to issuing a permit to operate.	Less than Significant Impact.
AQ-5: The proposed project in combination with other projects, would contribute to a significant cumulative impact related to air quality.	Potentially Significant Impact.	Refer to Mitigation Measures AIR-2.1, AIR-2.2, AIR-3.1, AIR-3.2 and AIR-4.1.	Significant and Unavoidable Impact.
4.4: BIOLOGICAL RESOURCES			
BIO-1: Continued implementation of the General Plan could result in adverse effects to special-status species and associated habitat.	Potentially significant impact.	**Mitigation Measure BIO-1.1:** Construction of a proposed project shall avoid, where possible, vegetation communities that provide suitable habitat for a special-status species known to occur within the Planning Area. If construction within potentially suitable habitat must occur, the presence/absence of any special-status plant or wildlife species must be determined prior to construction, to determine if the habitat supports any special-status species. If a special-status species are determined to occupy any portion of a project site, avoidance and minimization measures shall be incorporated into the construction phase of a project to avoid direct or incidental take of a listed species to the greatest extent feasible. **Mitigation Measure BIO-1.2:** Direct or incidental take of any state or federally listed species shall be	Less than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		avoided to the greatest extent feasible. If construction of a proposed project will result in the direct or incidental take of a listed species, consultation with the resources agencies and/or additional permitting may be required. Agency consultation through the CDFW 2081 and USFWS Section 7 or Section 10 permitting processes shall take place prior to any action that may result in the direct or incidental take of a listed species. Specific mitigation measures for direct or incidental impacts to a listed species will be determined on a case-by-case basis through agency consultation. **Mitigation Measure BIO-1.3:** Development within the Planning Area shall avoid, where possible, special-status natural communities and vegetation communities that provide suitable habitat for special-status species. If a proposed project will result in the loss of a special-status natural community or suitable habitat for special-status species, compensatory habitat-based mitigation is required under CEQA and CESA. Mitigation shall consist of preserving on-site habitat, restoring similar habitat or purchasing off-site credits from an approved mitigation bank. Compensatory mitigation shall be determined through consultation with the City and/or resource agencies. An appropriate mitigation strategy and ratio shall be agreed upon by the developer and lead agency to reduce project impacts to special-status natural communities to a less than significant level. Agreed-upon mitigation ratios shall depend on the quality of the habitat and presence/absence of a special-status species. The specific mitigation for project level impacts shall be determined on a case-by-case basis.	

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Mitigation Measure BIO-1.4: Proposed projects within the Planning Area should avoid, if possible, construction within the general nesting season of February through August for avian species protected under Fish and Game Code 3500 and the Migratory Bird Treaty Act (MBTA), if it is determined that suitable nesting habitat occurs on a project site. If construction cannot avoid the nesting season, a pre-construction clearance survey shall be conducted by a qualified biologist to determine if any nesting birds or nesting activity is observed on or within 500-feet of a project site. If an active nest is observed during the survey, a biological monitor shall be on site to ensure that no proposed project activities would impact the active nest. A suitable buffer shall be established around the active nest until the nestlings have fledged and the nest is no longer active. Project activities may continue in the vicinity of the nest only at the discretion of the biological monitor. Prior to commencement of grading activities and issuance of any building permits, the Director of the City of Fresno Planning and Development Department, or designee, shall verify that all proposed project grading and construction plans include specific documentation regarding the requirements of the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Section 3503, that preconstruction surveys have been completed and the results reviewed by staff, and that the appropriate buffers (if needed) are noted on the plans and established in the field.	

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
BIO-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community.	Potentially Significant Impact.	**Mitigation Measure BIO-2.1**: A pre-construction clearance survey shall be conducted by a qualified biologist to determine if a proposed project will result in the removal or impact to any riparian habitat and/or a special-status natural community with potential to occur in the Planning Area, compensatory habitat-based mitigation shall be required to reduce project impacts. Compensatory mitigation must involve the preservation or restoration or the purchase of off-site mitigation credits for impacts to riparian habitat and/or a special-status natural community. Mitigation must be conducted in-kind or within an approved mitigation bank in the region. The specific mitigation ratio for habitat-based mitigation shall be determined through consultation with the appropriate agency (i.e., CDFW or USFWS) on a case-by-case basis. The project applicant/developer for a proposed project shall develop and implement appropriate mitigation regarding impacts on their respective jurisdictions. **Mitigation Measure BIO-2.2:** A pre-construction clearance survey shall be conducted by a qualified biologist to determine if a proposed project will result in significant impacts to streambeds or waterways protected under Section 1600 of Fish and Wildlife Code and Section 404 of the CWA. The project applicant/developer for a proposed project shall consult with partner agencies such as CDFW and/or USACE to develop and implement appropriate mitigation regarding impacts on their respective jurisdictions, determination of mitigation strategy, and regulatory permitting to reduce impacts, as required for projects that remove	Less Than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		riparian habitat and/or alter a streambed or waterway. The project applicant/developer shall implement mitigation as directed by the agency with jurisdiction over the particular impact identified. **Mitigation Measure BIO-2.3:** Prior to project approval, a pre-construction clearance survey shall be conducted by a qualified biologist to determine if a proposed project will result in project-related impacts to riparian habitat or a special-status natural community or if it may result in direct or incidental impacts to special-status species associated with riparian or wetland habitats. The project applicant/developer for a proposed project shall be obligated to address project-specific impacts to special-status species associated with riparian habitat through agency consultation, development of a mitigation strategy, and/or issuing incidental take permits for the specific special-status species, as determined by the CDFW and/or USFWS.	
BIO-3: Implementation of the project would have a substantial adverse effect on state or federally protected wetlands.	Potentially Significant Impact.	**Mitigation Measure BIO-3.1:** If a proposed project will result in the significant alteration or fill of a federally protected wetland, a formal wetland delineation conducted according to USACE accepted methodology is required for each project to determine the extent of wetlands on a project site. The delineation shall be used to determine if federal permitting and mitigation strategy are required to reduce project impacts. Acquisition of permits from USACE for the fill of wetlands and USACE approval of a wetland mitigation plan would ensure a “no net loss” of wetland habitat within the Planning Area. Appropriate wetland mitigation/creation shall be	Less Than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		implemented in a ratio according to the size of the impacted wetland. **Mitigation Measure BIO-3.2:** In addition to regulatory agency permitting, Best Management Practices identified from a list provided by the USACE shall be incorporated into the design and construction phase of the project to ensure that no pollutants or siltation drain into a federally protected wetland. Project design features such as fencing, appropriate drainage and incorporating detention basins shall assist in ensuring project-related impacts to wetland habitat are minimized to the greatest extent feasible.	
BIO-4: The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
BIO-5: The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
BIO-6: The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	No Impact.	No mitigation is required.	No Impact.
BIO-7: Implementation of the project would have a substantial adverse cumulative effect on state or federally protected wetlands.	Potentially Significant Impact.	Refer to Mitigation Measures BIO-1.1 through BIO-1.4, Mitigation Measures BIO-2.1 through BIO-2.3, and Mitigation Measures BIO-3.1 through BIO-3.2.	Less Than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.5: CULTURAL RESOURCES			
CUL-1: The project could cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines.	Potentially Significant Impact.	**Mitigation Measure CUL-1.1**: If previously unknown resources are encountered before or during grading activities, construction shall stop in the immediate vicinity of the find and a qualified historical resources specialist shall be consulted to determine whether the resource requires further study. The qualified historical resources specialist 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 in accordance with Section 15064.5 of the CEQA Guidelines and the City's Historic Preservation Ordinance. If the resources are determined to be unique historical resources as defined under Section 15064.5 of the CEQA Guidelines, measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate 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 historical artifacts 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. **Mitigation Measure CUL-1.2:** Prior to approval of any discretionary project that could result in an adverse change to a potential historic and/or cultural resource, the City shall require a site-	Less Than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		specific evaluation of historic and/or cultural resources by a professional who meets the Secretary of Interior's Qualifications. The evaluation shall provide recommendations to mitigate potential impacts to historic and/or cultural resources and shall be approved by the Directory of Planning and Development.	
CUL-2: The project could cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5 of the CEQA Guidelines.	Potentially Significant Impact.	**Mitigation Measure CUL-2:** 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 prehistoric archaeological resources shall be conducted. The following procedures shall be followed. • If prehistoric resources are not found during either the field survey or literature search, excavation and/or construction activities can commence. In the event that buried prehistoric archaeological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archaeologist 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 in accordance with Section 15064.5 of the CEQA Guidelines. If the resources are determined to be unique prehistoric archaeological resources as defined under Section 15064.5 of the CEQA Guidelines, mitigation measures shall be identified by the	Less Than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		monitor and recommended to the Lead Agency. Appropriate 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 prehistoric archaeological artifacts 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 prehistoric resources are found during the field survey or literature review, the resources shall be inventoried using appropriate State record forms and submit the forms to the Southern San Joaquin Valley Information Center. The resources shall be evaluated for significance. If the resources are found to be significant, measures shall be identified by the qualified archaeologist. 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 an archaeological monitor. The monitoring period shall be determined by the qualified archaeologist. If additional prehistoric archaeological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.	

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
CUL-3: The project could disturb human remains, including those interred outside of formal cemeteries.	Potentially Significant Impact.	**Mitigation Measure CUL-3**: In the event that human remains are unearthed during excavation and grading activities of any future development project, all activity shall cease immediately. Pursuant to Health and Safety Code (HSC) Section 7050.5, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98(a). If the remains are determined to be of Native American descent, the coroner shall within 24 hours notify the Native American Heritage Commission (NAHC). The NAHC shall then contact the most likely descendent of the deceased Native American, who shall then serve as the consultant on how to proceed with the remains. Pursuant to PRC Section 5097.98(b), upon the discovery of Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.	Less Than Significant Impact.
CUL-4: Implementation of the proposed project would have the potential to impact TCRs, the disturbance of which could result in a significant impact under CEQA.	Potentially Significant Impact.	Refer to Mitigation Measures CUL-1, CUL-2 and CUL-3.	Less Than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
CUL-5: Continued implementation of the approved General Plan could result in cumulative impacts to cultural resources.	Potentially Significant Impact.	Refer to Mitigation Measures CUL-1.1 and CUL-1.2, Mitigation Measure CUL-2, and Mitigation Measure CUL-3.	Less Than Significant Impact.
4.6: ENERGY			
ENG-1: The proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.
ENG-2: The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.
ENG-3: The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to energy.	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.
4.7: GEOLOGY AND SOILS			
GEO-1: The project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: a. 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 California Geological Survey Special Publication 42.); b. Strong seismic ground shaking; c. Seismic-related ground failure, including liquefaction; d. Landslides	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.
GEO-2: The project would not result in substantial soil erosion or the loss of topsoil.	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
GEO-3: The 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.	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.
GEO-4: The project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property.	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.
GEO-5: The project does not contain soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.	No impact.	No mitigation is required.	No Impact.
GEO-6: Implementation of the project may directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	Potentially Significant Impact.	**Mitigation Measure 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	Less Than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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	

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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.	
GEO-7: Continued implementation of the approved General Plan, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to paleontological resources.	Potentially Significant Impact.	Refer to Mitigation Measures GEO-6.1.	Less than Significant Impact
4.8: GREENHOUSE GAS EMISSIONS			
GHG-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment	Potentially Significant Impact.	**Mitigation Measure GHG-1.1:** Development projects that require discretionary approval shall be consistent with the GHG Reduction Plan Update (2020) and shall implement all measures deemed applicable to the project through the GHG Reduction Plan Update-Project Consistency Checklist (Appendix B to the GHG Reduction Plan Update).	Less than Significant Impact.
GHG-2: The proposed project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.
GHG-3: The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to greenhouse gas emissions.	Potentially Significant Impact.	Refer to Mitigation Measure GHG-1.1.	Less Than Significant Impact.
4.9: HAZARDS AND HAZARDOUS MATERIALS			
HAZ-1: The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
HAZ-2: The project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment.	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.
HAZ-3: The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.
HAZ-4: The project could be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.
HAZ-5: The project would be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and would not result in a safety hazard for people residing or working in the project area.	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.
HAZ-6: Implementation of the project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Potentially Significant Impact.	**Mitigation Measure HAZ-6.1:** The City shall establish an alternative Emergency Operations Center in the event the current Emergency Operations Center is under redevelopment or inaccessible.	Less Than Significant Impact.
HAZ-7: The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.
HAZ-8: Continued implementation of the approved General Plan, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to implementation of adopted emergency response plan or emergency evacuation.	Potentially Significant Impact.	Refer to Mitigation Measure HAZ-6.1.	Less Than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.10: HYDROLOGY AND WATER QUALITY			
HYD-1: The project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality	Less Than Significant Impact.	No mitigation is required.	Less Than Significant Impact.
HYD-2: Implementation of the project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.	Potentially Significant Impact.	Mitigation Measure HYD-2.1 The City shall continue to be an active participant in the North Kings Groundwater Sustainability Agency and the implementation of the North Kings Groundwater Sustainability Plan in order to ensure that the Kings Subbasin has balanced levels of pumping and recharge.	Less Than Significant Impact.
HYD-3: The project could create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	Potentially Significant Impact.	**Mitigation Measure HYD-3.1:** The City shall implement the following measures to reduce the impacts on the capacity of existing or planned SDFCMP collection systems: • Coordinate with FMFCD to implement the existing Storm Drainage and Flood Control Master Plan (SDFCMP) for collection systems in drainage areas where the amount of imperviousness is unaffected by the change in land uses. • Coordinate with FMFCD to update the SDFCMP in those drainage areas where the amount of imperviousness increased due to the change in land uses to determine the changes in the collection systems that would need to occur to provide adequate capacity for the stormwater runoff from the increased imperviousness. • As development is proposed, implement current SDFCMP to provide stormwater collection systems that have sufficient capacity to convey the peak runoff rates from the areas of increased imperviousness. • Require developments that increase site	Less Than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		imperviousness to install, operate, and maintain FMFCD approved on-site detention systems to reduce the peak runoff rates resulting from the increased imperviousness to the peak runoff rates that will not exceed the capacity of the existing stormwater collection systems. **Mitigation Measure HYD-3.2:** The City shall implement the following measures to reduce the impacts on the capacity of existing or planned SDFCMP retention basins: Prior to approval of development projects, coordinate with FCMFCD to analyze the impacts to existing and planned retention basins to determine remedial measures required to reduce the impact on retention basin capacity to less than significant. Remedial measures would include: 1. Increase the size of the retention basin through the purchase of more land or deepening the basin or a combination for planned retention basins. 2. Increase the size of the emergency relief pump capacity required to pump excess runoff volume out of the basin and into adjacent canal that convey the stormwater to a disposal facility for existing retention basins. 3. Require developments that increase runoff volume to install, operate, and maintain, Low Impact Development (LID) measures to reduce runoff volume to the runoff volume that will not exceed the capacity of the existing retention basins.	

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Mitigation Measure HYD-3.3: The City shall implement the following measures to reduce the impacts on the capacity of existing or planned SDFCMP urban detention (stormwater quality) basins: Prior to approval of development projects, coordinate with FCMFCD to determine the impacts to the urban detention basin weir overflow rates and determine remedial measures required to reduce the impact on the detention basin capacity to less than significant. Remedial measures would include: 1. Modify overflow weir to maintain the suspended solids removal rates adopted by the FMFCD Board of Directors. 2. Increase the size of the urban detention basin to increase residence time by purchasing more land. The existing detention basins are already at the adopted design depth. 3. Require developments that increase runoff volume to install, operate, and maintain, Low Impact Development (LID) measures to reduce peak runoff rates and runoff volume to the runoff rates and volumes that will not exceed the weir overflow rates of the existing urban detention basins. **Mitigation Measure HYD-3.4**: The City shall implement the following measures to reduce the impacts on the capacity of existing or planned SDFCMP pump disposal systems: 1. Prior to approval of development projects, coordinate with FCMFCD to determine the extent and degree to which the capacity of the	

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		existing pump system will be exceeded. 2. Require new developments to install, operate, and maintain on-site detention facilities, consistent with FMFCD design standards, to reduce peak stormwater runoff rates to existing planned peak runoff rates. 3. Provide additional pump system capacity to maximum allowed by existing permitting to increase the capacity to match or exceed the peak runoff rates determined by the SDFCMP. **Mitigation Measure HYD-3.5**: The City shall coordinate with FCMFCD to develop and adopt a storm drainage update to the SDFCMP for the Southeast Development Area that is designed to collect, convey and dispose of runoff rates and volumes based on the planned land uses of the approved General Plan.	
HYD-4: The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
HYD-5: Continued implementation of the approved General Plan could result in cumulative impacts to water supply and hydrology.	Potentially Significant Impact.	Refer to Mitigation Measures HYD-2.1, HYD-3.1, HYD-3.2, HYD-3.3, HYD-3.4, and HYD-3.5.	Less than Significant Impact.
4.11: LAND USE AND PLANNING			
LU-1: The proposed project would not physically divide an established community.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
LU-2: The proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
LU-3: The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to land use and planning.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
4.12: MINERAL RESOURCES			
MIN-1: The proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
MIN-2: The proposed project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
MIN-3: The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to mineral resources.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
4.13: NOISE			
NOI-1: The proposed project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards	Potentially Significant Impact.	No mitigation measures beyond implementation of General Plan policies are feasible.	Significant and Unavoidable Impact.
NOI-2: The proposed project would generate excessive groundborne vibration or groundborne noise levels.	Potentially Significant Impact.	**Mitigation Measure NOI-2:** Construction Vibration. The use of heavy construction equipment within 25 feet of existing structures shall be prohibited.	Less than Significant Impact.
NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the proposed project would not expose people residing or working in the project area to excessive noise levels	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
NOI-4: The proposed project, in combination with past, present, and reasonably foreseeable projects, would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards.	Potentially Significant Impact.	No mitigation measures beyond implementation of General Plan policies are feasible.	Significant and Unavoidable Impact.
NOI-5: The proposed project, in combination with past, present, and reasonably foreseeable projects, would not generate excessive groundborne vibration or groundborne noise levels	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
NOI-6: The proposed project, in combination with past, present, and reasonably foreseeable projects, would not expose people residing or working in the project area to excessive aircraft-related noise.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
4.14: POPULATION AND HOUSING			
POP-1: The project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
POP-2: The project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
POP-3: The proposed project would not contribute to a significant cumulative impact related to population and housing.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.15: PUBLIC SERVICES AND RECREATION			
PSR-1: The proposed project not would result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, or the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
PSR-1.1: The proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities.	Potentially Significant Impact.	**Mitigation Measure PSR-1.1:** As future fire facilities are planned, environmental review of proposed facilities shall be completed to meet the requirements of CEQA. Typical impacts from fire facilities include air quality/greenhouse gas emissions, noise, traffic, and lighting.	Less than Significant Impact.
PSR-1.2: The proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities.	Potentially Significant Impact.	**Mitigation Measure PSR-1.2:** As future police facilities are planned, environmental review of proposed facilities shall be completed to meet the requirements of CEQA. Typical impacts from police facilities include air quality/greenhouse gas emissions, noise, traffic, and lighting.	Less than Significant Impact.
PSR-1.3: The proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered park and recreational facilities.	Potentially Significant Impact.	**Mitigation Measure PSR-1.3:** As future parks and recreational facilities are planned, environmental review of proposed facilities shall be completed to meet the requirements of CEQA. Typical impacts from park facilities include air quality/greenhouse gas emissions, noise, traffic, and lighting.	Less than Significant Impact.
PSR-1.4: The proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered public facilities.	Potentially Significant Impact.	**Mitigation Measure PSR-1.4:** As future public facilities are planned by the City of Fresno (e.g., court, library, and hospital facilities), environmental review of the proposed facilities shall be completed to meet the requirements of CEQA. Typical impacts from public facilities include air quality/greenhouse gas emissions, noise, traffic, and lighting.	Less than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
PSR-2: Continued implementation of the approved General Plan, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to fire protection, police protection, schools, parks and other public facilities.	Potentially Significant Impact.	Refer to Mitigation Measures PSR-1.1 through PSR-1.5, above.	Less than Significant Impact.
4.16: TRANSPORTATION			
TRA-1: Continued Implementation of the approved General Plan would increase vehicle traffic and would result in 12 roadway segments to exceed General Plan LOS standards, which is in conflict with LOS-related policies in the Mobility and Transportation Element of the approved General Plan.	Potentially Significant Impact.	No feasible mitigation measures are available.	Significant and unavoidable impact.
TRA-2: The proposed project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
TRA-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).	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
TRA-4: The proposed project would not result in inadequate emergency access	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
TRA-5: Continued Implementation of the approved General Plan would result in a cumulative impact related to an increase in vehicle traffic that would result in 12 roadway segments exceeding General Plan LOS standards, and thereby conflicting with LOS-related policies in the Mobility and Transportation Element of the approved General Plan	Potentially Significant Impact.	No feasible mitigation measures are available.	Significant and unavoidable impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.18: UTILITIES			
UTL-1.1: Continued implementation of the approved General Plan would require or result in the relocation or construction of new or expanded water conveyance facilities, the construction or relocation of which could cause significant environmental effects. Although mitigation measures are proposed to reduce impacts associated with the provision of water conveyance facilities, such mitigation would not reduce impacts to a less than significant level because project specifics are unknown at this time, and project-level environmental analysis has not occurred.	Potentially Significant Impact.	**Mitigation Measure UTL-1.1.1:** The City shall evaluate the water conveyance system and, at the time that discretionary projects are submitted for approval by the City, the City shall not approve development that would demand additional water and exceed the capacity of a facility until additional capacity is provided. The following capacity improvements shall be evaluated for potential environmental impacts and constructed by the City by approximately 2025. • Construct 65 new groundwater wells, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update. • Construct a 2.0 million gallon potable water reservoir (Reservoir T2) near the intersection of Clovis and California Avenues, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update. • Construct a 4.0 million gallon potable water reservoir (Reservoir T5) near the intersection of Ashlan and Chestnut Avenues, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update. • Construct a 4.0 million gallon potable water reservoir (Reservoir T6) near the intersection of Ashlan Avenue and Highway 99, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update. • Construct 50.3 miles of regional water transmission mains ranging in size from 24- inch to 48-inch, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update.	Significant and unavoidable impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Construct 95.9 miles of 16-inch transmission grid mains, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update. Prior to initiating construction of any of the capacity improvement projects identified above, the City shall conduct appropriate environmental analyses for each project to determine whether environmental impacts would occur. **Mitigation Measure UTL-1.1.2:** The City shall evaluate the water conveyance system at the time discretionary projects are submitted and shall not approve development that would demand additional water and exceed the capacity of a facility until additional capacity is provided. The following capacity improvements shall be evaluated for potential environmental impacts and constructed by the City after approximately the year 2035 and additional water conveyance facilities shall be provided prior to exceedance of capacity within the water conveyance facilities to accommodate full buildout of the approved General Plan. • Construct a 4.0 million gallon potable water reservoir (SEDA Reservoir 1) within the northern part of the Southeast Development Area. • Construct a 4.0 million gallon potable water reservoir (SEDA Reservoir 2) within the southern part of the Southeast Development Area.	

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
UTL-1.2: Continued implementation of the approved General Plan would require or result in the relocation or construction of new or expanded surface water treatment facilities, the construction or relocation of which could cause significant environmental effects. Although mitigation is proposed to reduce impacts associated with the provision of water treatment facilities, such mitigation would not reduce impacts to a less than significant level because project specifics are unknown at this time, and project-level environmental analysis has not occurred.	Potentially Significant Impact.	**Mitigation Measure UTL-1.2.1:** The City shall evaluate the water supply system at the time discretionary projects are submitted and shall not approve development that would demand additional water until additional capacity is provided. By approximately the year 2025, the following capacity improvements shall be evaluated for potential environmental impacts and constructed by the City. • Construct an approximately 30 mgd expansion of the existing northeast surface water treatment facility for a total capacity of 60 mgd, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update. • Construct an approximately 20 mgd surface water treatment facility in the southwest portion of the City, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update. • Construct a 25,000 AF/year recycled water facility as an expansion to the RWRF in accordance with the January 2014 City of Fresno Metropolitan Water Resources Management Plan. This improvement is required after the year 2025.	Significant and unavoidable impact.
UTL-1.3: Continued implementation of the approved General Plan would require construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. Although mitigation measures are proposed to reduce impacts associated with the provision of wastewater treatment facilities, such mitigation would not reduce impacts to a less than significant level because project specifics are unknown at this time, and project-level environmental analysis has not occurred.	Potentially Significant Impact.	**Mitigation Measures UTL-1.3.1:** The City shall evaluate the wastewater system at the time discretionary projects are submitted and shall not approve development that contributes wastewater to the wastewater treatment facility that could exceed capacity until additional capacity is provided. By approximately the year 2025, the City shall evaluate the potential environmental impacts and construct the following improvements. • Construct an approximately 70 mgd expansion of the Regional Wastewater Treatment Facility prior to flows reaching 80 percent of rated capacity,	Significant and unavoidable impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		and obtain revised waste discharge permits as the generation of wastewater is increased. • Construct an approximately 0.49 mgd expansion of the North Facility and obtain revised waste discharge permits as the generation of wastewater is increased. **Mitigation Measures UTL-1.3.2:** The City shall evaluate the wastewater system at the time discretionary projects are submitted and shall not approve development that contributes wastewater to the wastewater treatment facility that could exceed capacity until additional capacity is provided. After approximately the year 2025, the City shall evaluate the potential environmental impacts of, and construct the following improvements. • Construct an approximately 24 mgd Wastewater Treatment Facility within the Southeast Development Area and obtain revised waste discharge permits as the generation of wastewater is increased. • Construct an approximately 9.6 mgd expansion of the Regional Wastewater Treatment Facility and obtain revised waste discharge permits as the generation of wastewater is increased.	

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
UTL-1.4: Continued implementation of the approved General Plan would require or result in the relocation or construction of new or expanded wastewater collection system facilities, the construction or relocation of which could cause significant environmental effects. Although mitigation is proposed to reduce impacts associated with the provision of wastewater collection facilities, such mitigation would not reduce impacts to a less than significant level because project specifics are unknown at this time, and project-level environmental analysis has not occurred.	Potentially Significant Impact.	**Mitigation Measure UTL-1.4.1:** Consistent with the Sewer System Management Plan, the City shall evaluate the wastewater collection system at the time discretionary projects are submitted, and shall not approve development that would generate additional wastewater and exceed the capacity of a facility until additional capacity is provided.	Significant and unavoidable impact.
UTL-1.5: Continued implementation of the approved General Plan would require or result in the relocation or construction of new or expanded electric, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Although mitigation is proposed to reduce impacts associated with the provision of electric, gas, and telecommunications facilities, such mitigation would not reduce impacts to a less than significant level because project specifics are unknown at this time, and project-level environmental analysis has not occurred.	Potentially Significant Impact.	**Mitigation Measure UTL-1.5.1:** At the time discretionary projects are submitted, the City shall require project-specific environmental evaluations for the expansion or relocation of electric, natural gas, or telecommunication facilities be completed prior to project approval.	Significant and unavoidable impact.
UTL-2: The proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
UTL-3: Continued implementation of the approved General Plan would exceed wastewater treatment capacity.	Potentially Significant Impact.	Refer to Mitigation Measures UTL-1.3.1 and UTL-1.3.2.	Less than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
UTL-4: Continued implementation of the approved General Plan could generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	Potentially Significant Impact.	**Mitigation Measures UTL-4.1:** The City shall evaluate additional landfill locations at the time discretionary projects are submitted, and shall not approve development that could contribute solid waste to a landfill that is at capacity until additional capacity is provided.	Less than Significant Impact.
UTL-5: The proposed project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
UTL-6: Continued implementation of the approved General Plan could result in cumulative impacts to utilities and service systems. Although mitigation measures are proposed to reduce impacts associated with the provision of utilities and service systems, such mitigation would not reduce impacts to a less than significant level because project specifics are unknown at this time, and project-level environmental analysis has not occurred.	Potentially Significant Impact.	Refer to Mitigation Measures UTL-1.1.1, UTL-1.1.2, UTL-1.2.1, UTL-1.3.1 UTL-1.3.2, UTL-1.4.1, UTL-1.5.1, UTL-3.1, and UTL-4.1.	Significant and unavoidable impact.
4.19: WILDFIRE			
WF-1: The proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
WF-2: Due to slope, prevailing winds, and other factors, the proposed project would not exacerbate wildfire risks, and thereby would not expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
WF-3: The proposed project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
WF-4: The proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.
WF-5: The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to wildfire.	Less than Significant Impact.	No mitigation is required.	Less than Significant Impact.

2.0 INTRODUCTION

The City of Fresno proposes to update the text of the General Plan in order to reflect changes in applicable statutes and regulations related to Vehicle Miles Traveled (VMT), as well as update the EIR to include a current baseline for the continued implementation of the General Plan, and reflect changes in City planning documents since adoption of the General Plan in 2014. The project also includes an update to the City's Greenhouse Gas Reduction Plan. In doing so, the City is converting the previously-certified Master EIR (MEIR) to a Program (PEIR) with the goal of extending the life of the environmental document for the General Plan, pursuant to State CEQA Guidelines Section 15179 (Limitations on the Use of Master EIRs). The MEIR was certified by the City Council in 2014. This update is intended to streamline implementation of the General Plan's programs and policies by supporting them with updated environmental analysis, a current regulatory framework, and mitigation measures, pursuant to CEQA. The Planning Area, as described in Section 3.1 of the Project Description, has not changed since the General Plan MEIR was certified, nor is the City proposing to change it for this General Plan EIR update. Additionally, the City is not proposing any land use changes for this General Plan EIR update.

2.1 PURPOSE OF THIS EIR

The California Environmental Quality Act (CEQA) requires that all State and local government agencies consider the environmental consequences of programs and projects over which they have discretionary authority before taking action on them. This environmental impact report (EIR) has been prepared in accordance with CEQA to evaluate the potential environmental impacts associated with continued implementation of the approved General Plan for the City of Fresno. This EIR has been prepared in conformance with CEQA, California Public Resources Code Section 21000 et seq; the California CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq); and the rules, regulations, and procedures for implementing CEQA as adopted by the City of Fresno.

This EIR is intended to serve as an informational document for the public agency decision-makers and the public regarding the potential environmental impacts associated with VMT text edits made to the approved General Plan, continued implementation of the approved General Plan, and the update to the Greenhouse Gas Reduction Plan. The VMT text edits, as shown in Section 3.2.2 of the Project Description, describe a new requirement in State law which mandates the City to use VMT analysis for all future projects analyzed under CEQA. In addition to identifying potential environmental impacts, this EIR also identifies the goals, objectives, policies, and standards that are part of the approved General Plan that will reduce potential significant environmental impacts, and identifies potential mitigation measures and alternatives to reduce potential environmental impacts.

This EIR is the primary reference document for the formulation and implementation of a mitigation monitoring program for the approved General Plan. Environmental impacts cannot always be mitigated to a level that is considered less than significant. In accordance with Section 15093(b) of the State CEQA Guidelines, if a lead agency such as the City of Fresno approves a project (i.e., text changes to the approved General Plan and continued implementation of the approved General Plan) that has significant impacts that are not substantially mitigated (i.e., significant unavoidable impacts), the lead agency shall state in writing the specific reasons for approving the project, based on the final

CEQA documents and any other information in the public record for the project. This is termed in Section 15093 of the state of CEQA Guidelines, "a statement of overriding considerations." For the approved General Plan, the following impacts were found to be significant and unavoidable: aesthetics, agricultural resources, air quality, noise, transportation, and utility and service systems. These impacts are discussed in more detail throughout Chapter 4 of this EIR.

2.2 TYPE OF EIR

The City is converting the previously-certified Master EIR (MEIR) for the approved General Plan to a Program EIR (PEIR) with the goal of extending the life of the environmental document for the General Plan, pursuant to State CEQA Guidelines Section 15179 (Limitations on the Use of Master EIRs). A PEIR is appropriate for a series of actions that can be characterized as one large project and are related either:

1. Geographically,
2. As logical parts in the chain of contemplated actions,
3. In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or
4. As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The use of a PEIR provides an opportunity for a more exhaustive consideration of effects and alternatives than otherwise would be practical under a Project EIR. However, subsequent activities occurring as a result of program/project approval and certification of a PEIR must be further evaluated in light of the PEIR to determine whether or not an additional environmental document must be prepared. If an agency finds that no new effects could occur and that no new mitigation would be required, then the agency can determine that subsequent activities are covered under the PEIR and no further environmental documentation would be required. Conversely, an agency may determine that future projects could require the preparation of a new Initial Study, Mitigated Negative Declaration, or new EIR. If new environmental documentation is required, a PEIR can be used to focus the scope of the subsequent environmental document (*State CEQA Guidelines,* Section 15168).

2.3 ENVIRONMENTAL REVIEW PROCESS

The California Environmental Quality Act (CEQA) Public Resources Code (PRC) Section 21000, et seq., requires that a public agency prepare an EIR when the public agency finds substantial evidence that the project may have a significant effect on the environment (PRC Section 21080 (d)). The basic purposes of CEQA are to:

1. Inform governmental decision makers and the public about the potential significant environmental effects of proposed activities;

2. Identify the ways that environmental damage can be avoided or significantly reduced;

3. Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and

4. Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

In compliance with the State CEQA Guidelines, the City has taken steps to maximize opportunities for the public and other public agencies to participate in the environmental review process. The City conducted the scoping process, issued a Notice of Preparation for the proposed project, and determined that an EIR was required to evaluate the potentially significant environmental effects of the proposed project and related actions. In addition, a public scoping meeting was held, as discussed further below.

2.3.1 Notice of Preparation

The scope of this EIR includes issues identified by the City of Fresno during the preparation of the Notice of Preparation (NOP) for the proposed project. The NOP was prepared in accordance with Section 15082 of the CEQA Guidelines. The purpose of the NOP is to provide the responsible and trustee agencies and the State Office of Planning and Research with sufficient information describing the project and the potential environmental effects to assist the agencies to provide a meaningful response.

The NOP was circulated for agency review as well as public review on May 16, 2019 (see Appendix A). In addition, a public notice of the NOP and a Notice of Public Scoping Meeting were published in the Fresno Bee on May 16, 2019. Responses to the NOP were requested within 30 days after receiving the NOP, or no later than June 17, 2019. Copies of written comments received in response to the NOP are included in Appendix B.

In accordance with the State CEQA Guidelines, Section 15082, the NOP was circulated to responsible agencies and individuals for a period of 30 days, during which time written comments were solicited pertaining to environmental issues and topics that the EIR should evaluate.

Responses to the NOP were received from the following agencies:

- County of Fresno, Department of Public Works and Planning
- Fresno Irrigation District (FID)
- Fresno Metropolitan Flood Control District (FMFCD)
- State of California, Department of Conservation
- State of California, Department of Transportation (Caltrans), District 6
- State of California, Governor's Office of Planning and Research (OPR)
- State of California, Native American Heritage Commission

The following organizations submitted written comments on the NOP:

- Assemi Group, Inc.
- Leadership Counsel for Justice and Accountability

Key environmental issues and concerns raised in response to the NOP scoping process included:

- **Agriculture:** Concerns were expressed regarding farmland conversion.
- **Air Quality:** Concerns were expressed regarding project-related emissions and impacts to local sensitive communities.
- **Transportation:** Concerns were expressed regarding Vehicle Miles Traveled (VMT), and potential project-related conflicts with Caltrans facilities.
- **Utilities:** Concerns were expressed regarding the ability of the City to provide water to accommodate new development allowed under build out of the approved General.

2.3.2 Scoping Meeting

Since the proposed project includes amending the text of the General Plan, the project is considered to be of regional or area-wide significance in accordance with Section 15206 of the CEQA Guidelines. For projects of regional or area-wide significance, at least one scoping meeting is required as identified in Section 15082(c) (1) of the CEQA guidelines. During the agency and public review period for the NOP, the City of Fresno held a public scoping meeting on May 21, 2019 at the Fresno City Hall, Rm 2065/Meeting Room A. Key environmental issues and concerns raised at the scoping meeting included:

- **Air Quality:** Concerns were expressed regarding the use of Health Risk Assessments (HRAs) and reduction of project-related emissions.
- **Utilities:** Concerns were expressed regarding water supply.

Please note that these are not exhaustive lists of areas of controversy, but rather key issues that were raised during the scoping process. Appendix A includes the NOP and Appendix B includes copies of written comments received in response to the NOP, as well as a summary of verbal comments received at the Public Scoping meeting.

2.3.3 Effects Determined to be Potentially Significant

Based on the previous analysis as well as the comments that were received during the scoping process, the following environmental issues are addressed in the PEIR:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources and Tribal Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation
- Utilities and Service Systems
- Wildfire

2.4 ORGANIZATION OF THIS DRAFT PROGRAM EIR

This PEIR is organized into the following chapters, which contain the contents of an EIR as required by Sections 15120 through 15132 of the CEQA Guidelines.

- **Chapter 1: Executive Summary.** This chapter provides a summary of the project and the project alternatives that will be addressed in this Draft PEIR, including a summary table of project and cumulative impacts, recommended mitigation measures, and the level of significance after mitigation for each environmental issue. This chapter includes the project and cumulative issues addressed in Chapter 4, Evaluation of Environmental Impacts.

- **Chapter 2: Introduction.** This chapter includes an introduction and overview describing the purpose of this Draft PEIR, along with its scope and components.

- **Chapter 3: Project Description.** This chapter provides a detailed description of the project, including the location and project characteristics. A discussion of the intended uses of this Draft PEIR, project background, project objectives, and project approvals needed for the project are also included.

- **Chapter 4: Evaluation of Environmental Impacts.** This chapter provides an overview of the project and cumulative environmental setting. The project setting focuses on the environmental conditions within the Planning Area. The cumulative setting identifies the environmental conditions within the cumulative study area.

  This chapter is also divided into 18 sections that are organized into major topical areas that provide analysis of the potential environmental impacts of the proposed project. Each topical section includes a description of the environmental setting, regulatory setting, significance criteria, project impacts, cumulative impacts, mitigation measures, and level of significance after mitigation.

- **Chapter 5: CEQA-Required Assessment Conclusions.** This chapter provides a summary of significant environmental impacts, including those that are significant prior to mitigation, significant and unavoidable, growth-inducing, and irreversible impacts.

- **Chapter 6: Alternatives to the Proposed Project.** This chapter includes a discussion of potential alternatives that could meet the basic objectives of the project and reduce potential significant environmental impacts of the proposed project.

- **Chapter 7: Report Preparation.** This chapter provides a list of personnel who prepared this PEIR, the organizations and persons consulted during the preparation of this EIR, a listing of the references used to prepare this EIR.

- **Appendices.** The appendices contain the NOP/IS, comments on the NOP/IS, and the technical studies and information that were prepared and used to support the analyses and conclusions in this EIR.

The Final PEIR will be prepared after the public review period for this Draft PEIR has been completed. The Final PEIR will include comments and recommendations received on the Draft PEIR during the public review period; a list of persons, organizations, and public agencies commenting on the Draft PEIR; written responses to significant environmental issues identified in the comments received; and any other information added by the City of Fresno.

2.5 PROJECT APPLICANT AND LEAD, RESPONSIBLE, AND TRUSTEE AGENCIES

The project applicant and lead agency for the proposed project is the City of Fresno. The City is the public agency that has the principal responsibility for certifying the PEIR, approving and carrying out the project, or disapproving the project.

The responsible agencies are State and local public agencies other than the lead agency that have authority to carry out or approve a project or that are required to approve a portion of a project for which the lead agency is preparing or has prepared an EIR or Negative Declaration. There are no agencies other than the City of Fresno that have approval or permitting authority for the adoption of the General Plan. Implementation of the project would involve many responsible agencies depending upon the specifics of the subsequent projects. Following are some of the agencies that could be required to act as responsible agencies for subsequent projects:

- Caltrans, including the Division of Aeronautics
- California Air Resources Board
- California Department of Conservation
- California Department of Fish and Wildlife
- California Department of Forestry and Fire Protection
- California Department of Housing and Community Development
- California Department of Parks and Recreation
- California Department of Toxic Substances Control
- California Public Utilities Commission
- California State Office of Historic Preservation

- California State Lands Commission
- California State University, Fresno
- California State Water Resources Control Board
- Central Valley Regional Water Quality Control Board
- County of Fresno
- County of Fresno Local Agency Formation Commission
- Fire Districts (Various)
- Fresno Airport Land Use Commission
- Fresno Council of Governments
- Fresno Metropolitan Flood Control District
- Fresno Irrigation District
- San Joaquin River Conservancy
- San Joaquin Valley Air Pollution Control District
- School Districts (Various)
- Sewer Districts (Various)
- Water Districts (Various)
- Any Other Responsible or Trustee Agency that may need to provide discretionary approval

The trustee agencies under CEQA are public agencies with legal jurisdiction over natural resources that are held in trust for the people of California and that would be affected by a project, whether or not the agencies have authority to approve or implement a project. It is anticipated that development under the approved General Plan could affect lands under the jurisdiction of a Trustee Agency such as the California Department of Fish and Wildlife, California State Lands Commission, and the California State Department of Parks and Recreation.

2.6 INCORPORATION BY REFERENCE

Section 15150 of the CEQA Guidelines permits documents of lengthy technical detail to be incorporated by reference in an EIR. Section 15150 states that an EIR may "incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public…" Incorporated documents are to be briefly summarized in the EIR and made available to the public for inspection or reference. The City of Fresno General Plan PEIR incorporates by reference the documents identified below which are available for review at the City of Fresno, Planning and Development Department, 2600 Fresno Street, Room 3065, Third Floor, Fresno, CA 93721. Summaries of important parts of these documents will be provided throughout this PEIR in appropriate places.

- City of Fresno General Plan Master EIR (State Clearinghouse [SCH] Number 2012111015)
- City of Fresno 2015 Urban Water Management Plan
- City of Fresno 2006 Wastewater Collection System Master Plan and 2014 update
- 2014 City of Fresno Metropolitan Water Resources Management Plan
- Fresno Metropolitan Flood Control District Storm Drainage and Flood Control Master Plan
- Fresno Metropolitan Flood Control District 2016 District Services Plan Master EIR (SCH Number 1999111131))

- City of Fresno 2010 Recycle Water Master Plan
- City of Fresno 2009 Sewer System Management Plan
- North Kings Groundwater Sustainability Agency Groundwater Management Plan (2019)

2.7 REVIEW OF THIS DRAFT PROGRAM EIR

Upon completion of this Draft PEIR, the City of Fresno prepared and filed a Notice of Completion (NOC) with the California Office of Planning and Research/State Clearinghouse to begin the public review period (Public Resources Code, Section 21161). Concurrent with the NOC, the City of Fresno distributed a Notice of Availability (NOA) in accordance with Section 15087 of the CEQA Guidelines. The NOA was mailed to the organizations and individuals who previously requested such a notice to comply with Public Resources Code Section 21092(b)(3). This Draft PEIR was distributed to the California Office of Planning and Research/State Clearinghouse and the Fresno Council of Governments in accordance with Section 15206 of the CEQA Guidelines. This Draft PEIR was also published in the Fresno Bee newspaper to comply with Section 15087(a) of the State CEQA Guidelines and was distributed to affected agencies, surrounding cities and municipalities, and all interested parties. During the public review period, this Draft PEIR, including the appendices, is available for review at the following locations:

City of Fresno
Planning and Development Department
2600 Fresno Street, Room 3065, Third Floor
Fresno, CA 93721
Monday through Friday: 8:00 a.m. to 5:00 p.m.
Saturday and Sunday: Closed

City of Fresno Central Library
2420 Mariposa Street
Fresno, CA 93721
Monday through Thursday: 10:00 a.m. to 7:00 p.m.
Friday and Saturday: 10:00 a.m. to 5:00 p.m.
Sunday: 12:00 p.m. to 5:00 p.m.

And all other public libraries within the City of Fresno

In addition, the Draft PEIR, including the appendices, is available for review at the following City of Fresno website.

https://www.fresno.gov/darm/planning-development/plans-projects-under-review/#tab-07

Agencies, organizations, individuals, and all other interested parties not previously contacted, or who did not respond to the NOP/IS or attended the scoping meeting, currently have the opportunity to comment on this Draft PEIR during the 45-day public review period. Written comments on this Draft PEIR should be addressed to:

Sophia Pagoulatos, Planning Manager
City of Fresno
Planning and Development Department
2600 Fresno Street, Room 3065, Third Floor
Fresno, CA 93721
Email: Sophia.Pagoulatos@fresno.gov

Upon completion of the public review period, written responses to all substantive environmental issues raised will be prepared and made available for review at least 10 days prior to the public hearing on the project before the Fresno City Council, at which the certification of the Final PEIR will be considered. Comments received and the responses to comments will be included as part of the record for consideration by decision-makers for the project.

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3.0 PROJECT DESCRIPTION

This chapter describes the purpose of this Environmental Impact Report (EIR) update and the text amendments to the Fresno General Plan (referred to as the "project") evaluated in this Draft Program EIR (PEIR). This chapter includes a description of the project location, a list of project objectives, a description of the existing General Plan Land Uses, and a list of required approvals and entitlements. Information presented in this chapter was derived from information provided by City of Fresno (City) staff, and the previously-certified Master EIR (MEIR) for the General Plan.

The following project description serves as the basis for the environmental analysis contained in this PEIR. The City is the California Environmental Quality Act (CEQA) lead agency and has final authority to approve the proposed project and certify the EIR.

3.1 PROJECT LOCATION

The City of Fresno is located in Fresno County in the central San Joaquin Valley. The city is located approximately 200 miles north of Los Angeles, and 170 miles south of Sacramento. The city is located on the State Route (SR) 99 corridor. Figure 3-1, Regional Location and Local Vicinity Map, shows the city of Fresno in its regional context and local vicinity. To the north of Fresno is Madera County, to the northeast and adjacent to Fresno, is the city of Clovis. Unincorporated land is located to the east, south, and west of Fresno.

The Planning Area is the geographic area for which the General Plan establishes policies about future growth. The boundary of the Planning Area was determined in response to State law (California Government Code Section 65300) requiring each city to include in its General Plan all territory within the boundaries of the incorporated area as well as "any land outside its boundaries which in the planning agency's judgment bears relation to its planning". The Planning Area established by the City of Fresno includes all areas within the City's current city limits, including the Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF), the areas within the current Sphere of Influence (SOI), and an area north of the city's most northeasterly portion (referred to as the North Area). The Planning Area has not been changed since it was evaluated in the MEIR.

The SOI is a boundary that encompasses lands that are expected to ultimately be annexed into the City. Until annexed, the lands are unincorporated and fall under the jurisdiction of the County of Fresno. Within the Planning Area, the current SOI covers approximately 103,570 acres, or approximately 162 square miles including the 3,293-acre RWRF and an additional 2,486 acres identified as the North Area. The Planning Area encompasses approximately 106,000 acres, or approximately 166 square miles of both incorporated (approximately 72,200 acres) and unincorporated (approximately 33,800 acres) land bearing relation to the City's future growth. The Planning Area is generally bounded by the San Joaquin River to the north, American Avenue to the south, Garfield Avenue to the west, and McCall Avenue to the east, with the RWRF generally located with Jensen Avenue to the north, American Avenue to the south, South Chateau Fresno Avenue to the west, and Cornelia Avenue to the east. The Planning Area, as shown on Figure 3-2, Planning Area, includes various unincorporated islands surrounded by the city limits.

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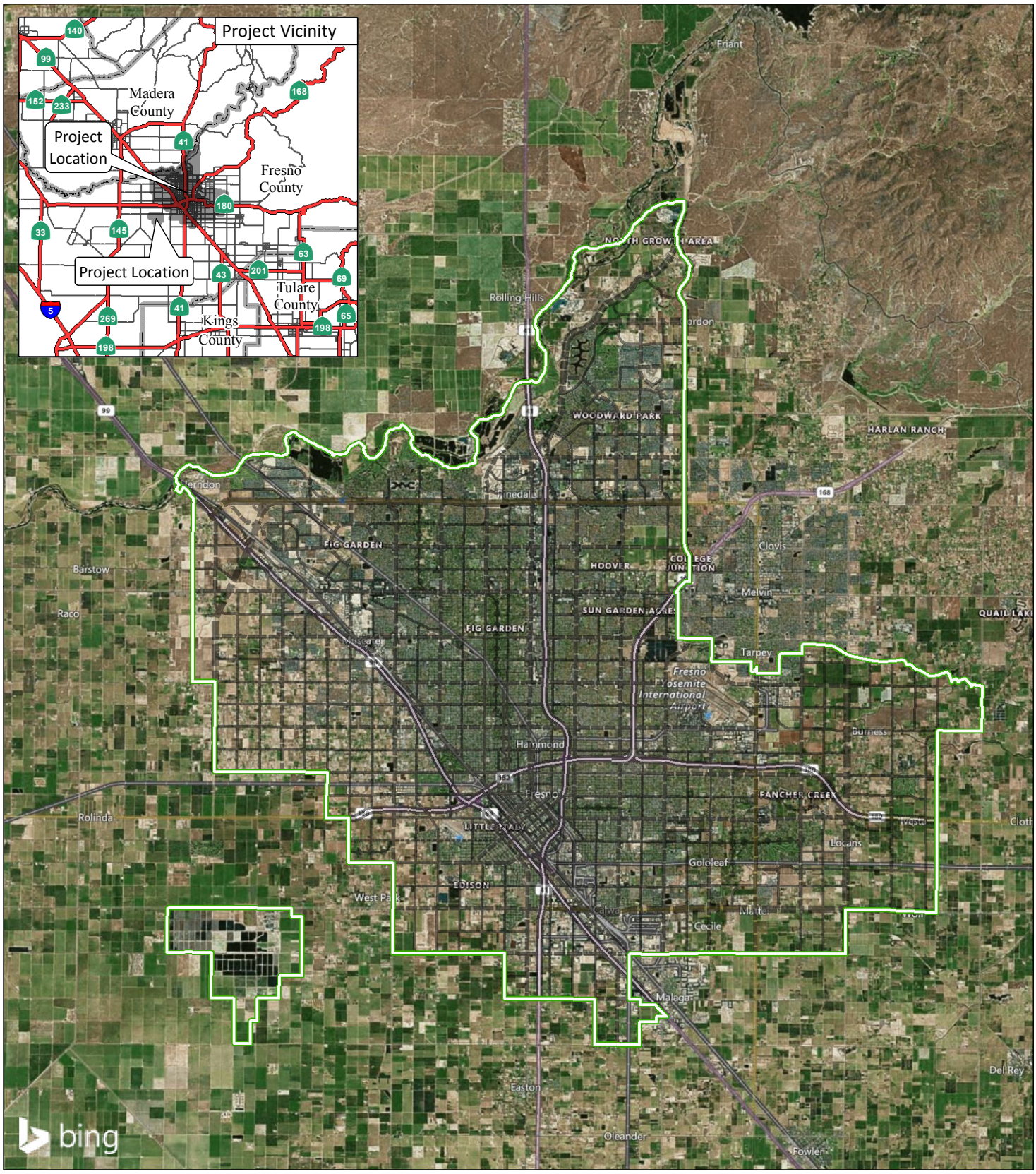


LSA

LEGEND

Planning Area

N

0 1.5 3
Miles

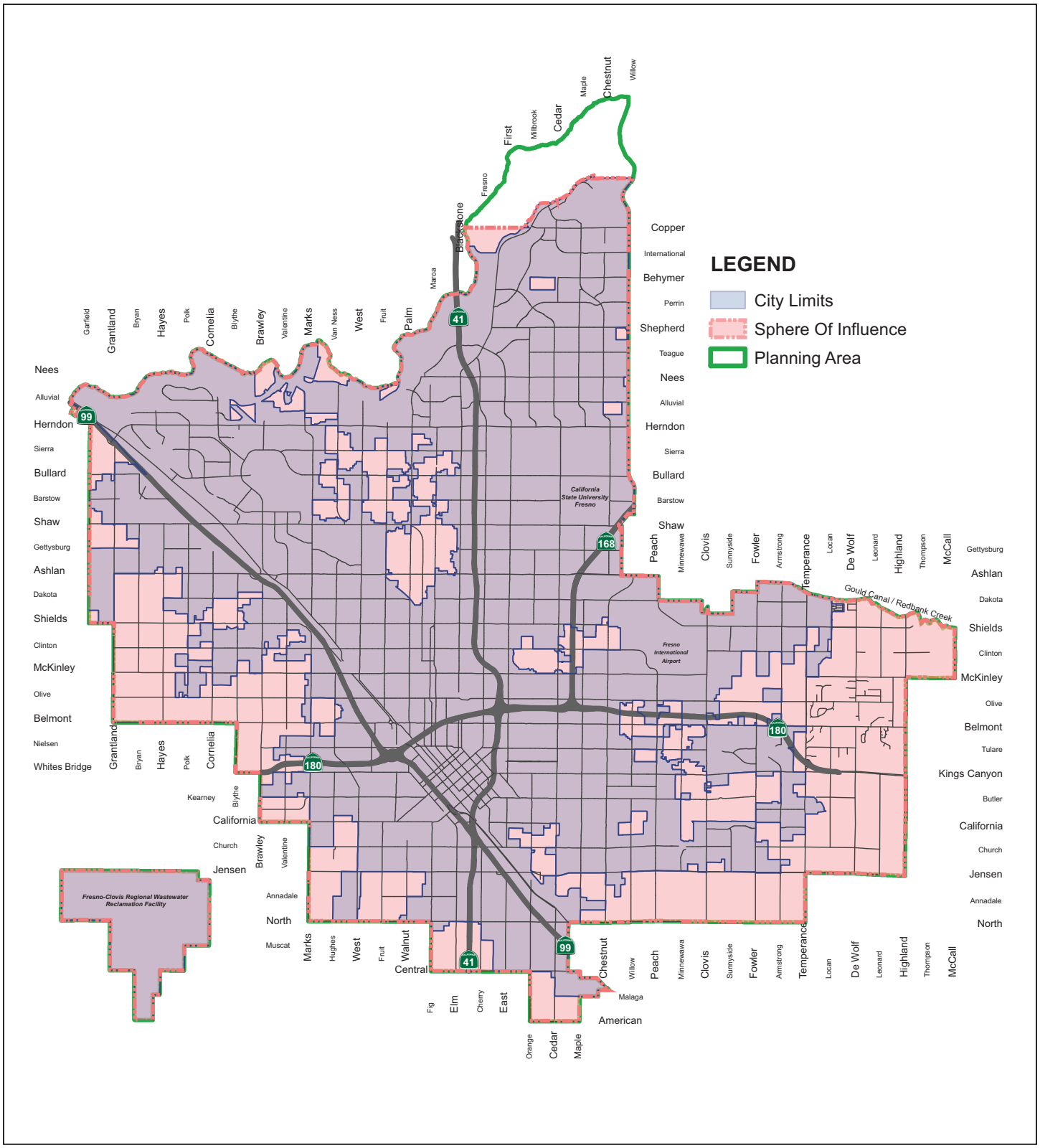
SOURCE: Bing (2003); City of Fresno (9/2019)

I:\CFO1802\GIS\MXD\ProjectLocation_8x11.mxd (2/28/2020)

FIGURE 3-1

City of Fresno General Plan
Program Environmental Impact Report

Regional Location and Local Vicinity Map



LSA

FIGURE 3-2

N

0 1.25 2.5

MILES

SOURCE: City of Fresno, Planning and Development Department

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City of Fresno General Plan
Program Environmental Impact Report

Planning Area

3.2 PROJECT CHARACTERISTICS

The intent of the project is to update the text of the General Plan in order to reflect changes in applicable statutes and regulations related to Vehicle Miles Traveled (VMT), as well as updating the EIR to include a current baseline for the continued implementation of the General Plan, and reflect changes in City planning documents since adoption of the General Plan in 2014. The project also includes an update to the City's Greenhouse Gas Reduction Plan. In doing so, the City is converting the previously-certified MEIR to a PEIR with the goal of extending the life of the environmental document for the General Plan, pursuant to *State CEQA Guidelines* Section 15179 (Limitations on the Use of Master EIRs). The MEIR was certified by the City Council in 2014. This update is intended to streamline implementation of the General Plan's programs and policies by supporting them with updated environmental analysis, a current regulatory framework, and mitigation measures, pursuant to CEQA. The Planning Area, as described above in Section 3.1, has not been changed since the existing General Plan MEIR was certified, nor is the City proposing to change it for this General Plan EIR update. Additionally, the City is not proposing any land use changes for this General Plan EIR update. The specific text changes that are proposed are included below in Section 3.2.1.2.

Since the General Plan was adopted and the MEIR was certified in 2014, several amendments to the General Plan have been adopted, and new local, state, and/or federal regulations have been enacted. Below is a list of the relevant plans and regulations that have already been approved or adopted and environmentally assessed and will be assumed in the PEIR in order to represent current conditions and plans of the city and the new baseline for the analysis in the PEIR.

- **Plan Amendments** include, but are not limited to, the following approved and adopted plans:
    - Downtown Neighborhoods and Community Plan, 2016;
    - Fulton Corridor Specific Plan, 2016;
    - Housing Element, 2017;
    - Southwest Fresno Specific Plan, 2017;
    - Active Transportation Plan, 2017;
    - Parks Master Plan, 2018;
    - Approximately 32 General Plan Amendments (GPAs) involving over 150 sites; and
    - New airport land use plans and noise contours adopted in 2018
- **New local, state, and/or federal regulations** that have taken effect since the MEIR was certified in 2014 include:
    - Cooperative Agreement between the City of Fresno Irrigation District and the City of Fresno for Water Utilization and Conveyance, 2016;
    - Sustainable Groundwater Management Act (SGMA) (2014);
    - 2017 Housing Package as described by the State of California Department of Housing and Community Development (Website: http://www.hcd.ca.gov/policy-research/lhp.shtml);

- Climate Action Plan Legislation taking into account Executive Order S-03-05 (2005), SB 32 (2006), and Executive Order B-30-15 (2015);
- Vehicle Miles Travelled (VMT) Legislation – Senate Bill 743 (2013); and
- Tribal Consultation – Assembly Bill (AB) 52 (2014).

3.2.1 Existing General Plan

The General Plan is a set of policies and programs that form a blueprint for the physical development of the city. The General Plan includes the elements listed below. As discussed above, the current General Plan will remain in-effect, aside from the proposed changes identified in Section 3.2.1.2, below. The General Plan identifies 2035 as the horizon year for which figures for growth in residential units, non-residential square footage, population, and jobs are estimated. After the 2035 horizon year, it is anticipated that the city will continue to develop. The city will continue to grow into the remaining portions of the SOI that were not developed during the horizon of the General Plan. As discussed below in Section 3.2.6, full buildout is anticipated to occur in approximately 2056.

3.2.1.1 General Plan Elements

The General Plan includes the following elements.

- **Economic Development and Fiscal Sustainability Element.** This element relates the long-term economic development and job potential to the fiscal health and sustainability over the long-term. The project evaluated in this PEIR does not include any revisions to this element.
- **Urban Form, Land Use, and Design Element.** This element provides policy direction on urban form and provides a basis for land use decision-making. It also establishes a land use classification system, intensity and height standards, and citywide and area-specific land use policies. The project evaluated in this PEIR does not include any revisions to this element.
- **Mobility and Transportation Element.** This element addresses the multi-modal transportation needs throughout the Planning Area including all users of streets and highways, transit, sidewalks and trails, and bicycle transportation modes. As a part of the PEIR update, and discussed below in Section 3.2.1.2, the project proposes changes to this element.
- **Parks, Open Space, and Schools Element.** This element provides guidance for green spaces and community facilities in the Planning Area such as parks, recreation, open space, biological resources, and schools. The project evaluated in this PEIR does not include any revisions to this element.
- **Public Utilities and Services Element.** This element addresses public facilities and services including police, fire protection, potable water, sewage collection and treatment, solid waste, and storm drainage/flood control. The project evaluated in this PEIR does not include any revisions to this element.

- **Resource Conservation and Resilience Element.** This element establishes policies for the conservation of natural resources, land resources including air quality and greenhouse gas emissions, water resources including groundwater and waterways, energy resources and farmland, urban agriculture, food system resources, and mineral resources. The project evaluated in this PEIR does not include any revisions to this element.

- **Historic and Cultural Resources Element.** This element establishes policies to address historic and cultural resources within the Planning Area. The project evaluated in this PEIR does not include any revisions to this element.

- **Noise and Safety Element.** This element identifies the natural and man-made public health and safety hazards that exist within the Planning Area, and establishes preventative and responsive objectives and policies and programs to mitigate their potential impacts. The project evaluated in this PEIR does not include any revisions to this element.

- **Healthy Communities Element.** This element discusses the relationships between the built, natural, and social environments and community health and wellness outcomes, such as death, chronic disease, and effects of drug abuse and crime. The project evaluated in this PEIR does not include any revisions to this element.

- **Housing Element Consistency.** This element provides an understanding of the city's housing needs and the goals, policies and programs that have been developed to help meet those needs and how they are consistent with other policies of this General Plan. The Housing Element was updated in April 2017. The project evaluated in this PEIR does not include any revisions to the Housing Element.

- **Implementation Element.** This element describes the implementation process in general terms and the major actions to be undertaken by the City; the implementing policies in each element of the General Plan provide details that will guide program development. The project evaluated in this PEIR does not include any revisions to this element.

3.2.2 Proposed Changes to the Mobility and Transportation Element

The PEIR will evaluate the potential environmental impacts that could result from the incorporation of changes made to the Mobility and Transportation Element of the General Plan. The Mobility and Transportation Element identifies Level of Service (LOS) as the measurement tool when evaluating potential impacts related to vehicle traffic. Following recent approval of SB 743, assessing potential environmental impacts relative to Vehicle Miles Traveled (VMT) will be required after July 1, 2020. Specific text changes are shown below; double-underlined text represents language that will be added to the General Plan, and text with ~~strikethrough~~ represents language that will be deleted from the General Plan.

General Plan Policy Changes. Table 3-1 lists policies included in the Mobility and Transportation Element that would be modified or added as a result of establishing VMT as a metric for environmental analysis.

Table 3-1: Text Changes to General Plan Policies related to Level of Service

Policy Number	Policy
MT-1-k	**Multi-Modal Level of Service Standards.** Develop and use a tiered system of flexible, multi-modal 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.
MT-1-m	**Standards for Planned Bus Rapid Transit Corridors and Activity Centers.** Independent of the Traffic Impact Zones identified in MT-2-I and Figure MT-4, strive to maintain the following vehicle LOS standards on major roadway segments and intersections along Bus Rapid Transit Corridors and in Activity Centers: ● LOS E or better at all times, including peak travel times, unless the City Traffic Engineer determines that ~~mitigation to~~ maintaining this LOS would be infeasible and/or conflict with the achievement of other General Plan policies. ● Accept LOS F conditions in Activity Centers and Bus Rapid Transit Corridors only if provisions are made to improve the overall system and/or promote non-vehicular transportation and transit as part of a development project or a City-initiated project. In accepting LOS F conditions, the City Traffic Engineer may request limited analyses of operational issues at locations near Activity Centers and along Bus Rapid Transit Corridors, such as queuing or left-turn movements. ● Give priority to maintaining pedestrian service first, followed by transit service and then by vehicle LOS, where conflicts between objectives for service capacity between different transportation modes occur. ● Identify pedestrian-priority and transit-priority streets where these modes would have priority in order to apply a multi-modal priority system, as part of the General Plan implementation.
MT-1-n	**Peak Hour Vehicle LOS.** For planning purposes and implementation of Capital Improvement Projects, ~~M~~maintain a peak-hour vehicle LOS standard of D or better for all roadway areas outside of identified Activity Center and Bus Rapid Transit Corridor districts, unless the City Traffic Engineer determines that ~~mitigation to~~ maintaining this LOS would be infeasible and/or conflict with the achievement of other General Plan policies.
MT-2-m	**Use VMT analysis for CEQA.** Use Vehicle Miles Traveled (VMT) as the criteria for evaluating transportation impacts under the California Environmental Quality Act (CEQA), pursuant to Senate Bill 743. Level of Service (LOS) may still be used for planning purposes and implementation of Capital Improvement Projects; however, VMT shall be used for determining mitigation under CEQA beginning in July of 2020. *Commentary: In 2013, the State of California passed Senate Bill 743, which eliminated automobile Level of Service (LOS) from transportation analysis under CEQA and replaced it with VMT. This shift from LOS to VMT is intended to better align with other statewide transportation goals, including reduction of GHG emissions, the creation of multimodal networks, and the promotion of integrated land uses.*
MT-8-g	**High Speed Train.** If the State moves forward with HST, ensure it is constructed through Fresno in a manner that minimizes impacts to surrounding property owners and creates the most opportunity for redevelopment around the HST station.
MT-8-h	**Move Forward with High Speed Train Station Area Planning.** Work with local residents, property and business owners, and other stakeholders to develop a station area plan to provide the most opportunity for growth and prosperity in concert with development of the Fresno HST station.

General Plan Text Changes. The following text beginning on page 4-14 of the Mobility and Transportation Element would be modified as shown below.

> ***Multi-Modal LOS.*** As mentioned above, the General Plan proposes a balanced transportation system that serves public transit, bicyclists and pedestrians as well as motor vehicles. This multimodal system will support more compact development patterns, which in turn will support other goals, including farmland preservation and neighborhood walkability. Less reliance on the automobile is critical for Fresno if the City is to improve air quality and reduce greenhouse gas emissions. A multi-modal system will ensure mobility for all community members. Ultimately, a truly multi-modal system is more resilient from a transportation perspective, giving Fresno attributes it needs to manage congestion over the long-term.
>
> Fresno can create a transportation system that performs well for all modes, in part by measuring performance with qualitative indicators for each mode based on inputs covering facility design, facility controls, and volumes. This multi-modal LOS concept is illustrated in Table 4-2. Implementing a multi-modal LOS standard would require the consideration of all travel modes when evaluating traffic congestion~~ and needed mitigation~~ such that widening roads at the expense of walking and bicycling—a result that ironically is much more expensive for private development to build, the public sector to maintain, and adds more traffic to streets since other travel modes are no longer possible - would not explicitly be considered reasonable ~~or acceptable mitigation~~. A multi-modal LOS system will also help support the development of more intense land uses where desired by permitting localized automobile congestion if walking, biking, and transit systems operate at high levels. A multi-modal LOS standard does not define an overall grade for a roadway section, but provides information for each travel mode to properly assess, for that facility, the best approach to improve its travel capacity with the financing available. Based on a project's location, the proposed improvements will be different. A more suburban intersection may add capacity with a double left turn lane where at a Downtown intersection it may be determined infeasible due to the lack of available right-of-way, or pedestrian islands are required to improve pedestrian flow and intersection wait times.

3.2.3 Greenhouse Gas Reduction Plan

As part of the General Plan update process that concluded in 2014, the City prepared a Greenhouse Gas Reduction Plan that was included as an appendix to the MEIR to inventory existing and projected greenhouse gases and establish targets to demonstrate consistency with AB 32 (California Global Warming Solutions Act of 2006). Strategies were proposed for existing development and future development in accordance with the General Plan to meet greenhouse gas reduction targets established by AB 32. As a part of the update to the General Plan EIR and in response to new State legislation (SB 32), an update to the Greenhouse Gas Reduction Plan is included in Appendix G.

3.2.4 Land Use Diagram

The Land Use Diagram included in the General Plan adopted in 2014 was proposed to accommodate future growth, but it has been updated periodically as General Plan Amendments are approved. Figure 3-3, Planned Land Use, shows the currently approved Land Use Diagram (as of May 2019), which maintains the same SOI established in the General Plan. The land use pattern and policies encourage infill development and revitalization of older neighborhoods, and along established major

street corridors as well as development of compact and complete communities in Development Areas located on the outer areas of the Planning Area, and further described in Section 3.2.9, below.

The following provides a discussion of the land use categories throughout the Planning Area. Figure 3-3 illustrates the location of the land use categories. Note that the adoption of the Downtown Neighborhoods Community Plan and the Fulton Corridor Specific Plan and accompanying amendment to the Development Code in 2016 established three new land use designations for the Downtown which have replaced the 12 land use designations that were in place at the time the General Plan was adopted. These new land use designations are Downtown Neighborhood, Downtown General, and Downtown Core, and they are described below, along with all of the other land use designations that are utilized in the Fresno General Plan.

3.2.4.1 Planning Area

Residential. Residential land use provides for a wide range of neighborhoods and housing types, anywhere from larger lot single-family residential (SFR) development to neighborhoods with a mix of houses and townhouse/duplexes, to high density apartment communities.

Single-family residential development is typically arranged as stand-alone detached units, or attached as duplexes or triplexes. They may range in density from 1 to 12 units per acre. Garages may be accessed from the front or from alleys.

Townhomes or row homes are typically clustered in groups of four-to-six units. They range from two-to-three stories in height and from seven to 16 units per acre. Where possible, garage access should be from the rear of the site.

Multi-family residential buildings may be multiple (up to eight) stories while garage spaces should be integrated into the ground level of the development or below grade.

Residential land uses also allow as permitted uses neighborhood-serving community facilities such as parks, churches, schools, family day care, libraries, community gardens, and farmers markets. Residential uses are designated by density as follows:

> ***Low Density.*** This designation is intended to provide for large lot residential development. Low Density residential allows one to 3.5 housing units per acre. The resulting land use pattern is large lot residential in nature, such as rural residential, ranchettes, or estate homes, with densities up to 3.5 units per acre.
>
> ***Medium Low Density.*** The Medium Low Density designation is intended to provide for single-family detached housing with densities of 3.5 to 6 units per acre.
>
> ***Medium Density.*** Medium Density residential covers developments of 5 to 12 units per acre and is intended for areas with predominantly single-family residential development, but can also accommodate a mix of housing types, from small-lot starter homes, zero-lot-line developments, and duplexes, to townhouses. Much of the city's existing neighborhoods fall within this designation.

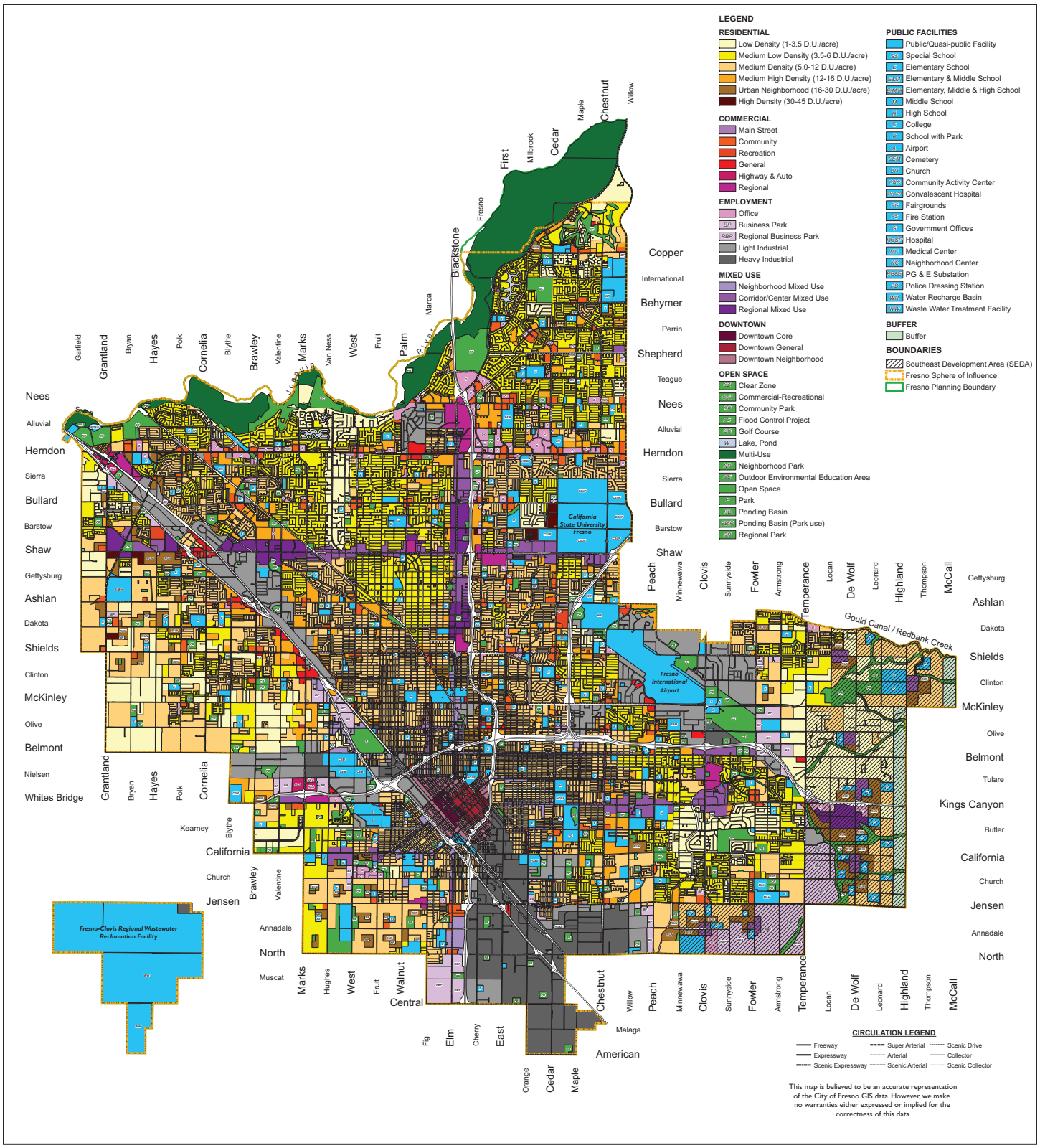

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FIGURE 3-3

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SOURCE: City of Fresno, Planning and Development Department

City of Fresno General Plan
Program Environmental Impact Report

Planned Land Use

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Medium High. Medium High Density residential is intended for neighborhoods with a mix of single-family residences, townhomes, garden apartments, and multi-family units intended to support a fine-grain, pedestrian scale. This land use accommodates densities from 12 to 16 units per acre overall— individual parcels may have densities outside of that range so long as a master planned neighborhood has an average density that conforms.

Urban Neighborhood. Urban Neighborhood residential covers densities from 16 to 30 units per acre, which will require multi-family dwellings but still allows for a mix of housing types including single-family houses. This land use is intended to provide for a compact community that includes community facilities, walkable access to parkland and commercial services, and supports efficient, frequent transit service. Urban Neighborhood is designated for targeted areas with complementary land uses adjacent.

High Density. High Density residential is intended to accommodate attached homes, two- to four-plexes, and apartment buildings, supported by walkable access to frequent transit, retail and services, and community facilities such as parks and schools. High Density allows for 30 to 45 units per acre.

Commercial. Commercial land use designations allow a wide range of retail and service establishments intended to serve local and regional needs. Only mixed-use designations allow residential with a commercial component.

Main Street. Main Street commercial encourages a traditional “Main Street” character with active storefronts, outdoor seating, and pedestrian-oriented design. This designation promotes primarily one to two story retail uses, with moderate office and minimal multi-family as supportive uses. It also preserves small-scale, fine-grain character in neighborhoods where single-family residential and townhomes are predominant. The maximum Floor Area Ratio (FAR) is 1.0. A FAR is the ratio of a building's total floor area to the size of a site. An example is a 3-acre site with a 1.0 FAR could have up to approximately 130,000 square feet of floor area within a building (equivalent to 3 acres or one to one ratio).

Community. Community commercial is intended for pedestrian-oriented commercial development that primarily serves local needs such as convenience shopping and offices. Many of the city’s current commercial districts fall into this designation. Specific uses allowed include medium-scale retail, office, civic and entertainment uses, supermarkets, drug stores and supporting uses. The maximum FAR is 1.0.

Recreation. The recreation designation is intended for areas of private commercial recreation uses such as bowling alleys, family entertainment centers, and golf driving ranges. The maximum FAR is 0.5.

General. This designation is intended for a range of retail and service uses that are not appropriate in other areas because of higher volumes of vehicle traffic and potential adverse impacts on other uses. Development such as strip malls would fall into this designation. Examples of allowable uses include: building materials, storage facilities with active storefronts,

equipment rental, wholesale businesses, and specialized retail not normally found in shopping centers. The maximum FAR is 2.0.

Highway & Auto. The Highway & Auto land use designation is intended for limited areas near a freeway to accommodate uses that depend on or are supported by freeway access but do not generate a large volume of traffic. Hotels, restaurants, and auto malls are typical land uses. The maximum FAR is 0.75.

Regional. This land use designation is intended to meet local and regional retail demand, such as large-scale retail, office, civic and entertainment uses, shopping malls, with large format or "big-box" retail, are allowed, as are supporting uses such as gas stations, and hotels. Buildings are typically larger-footprint and urban-scaled. Development and design standards will create a pedestrian orientation within centers and along major corridors, with parking generally on the side or rear of major buildings, but automobile-oriented uses also will be accommodated on identified streets and frontages. The maximum FAR is 1.0.

Employment

Office. The Office land use designation is intended for administrative, financial, business, professional, medical, and public offices. This designation is mainly intended to apply to existing office uses on smaller lots, generally located on arterial roadways. This designation is also considered compatible with existing residential neighborhoods given the smaller level of noise and traffic generation than commercial uses. Retail uses would be limited to business services and food service and convenience goods for those who work in the area. The maximum FAR is 2.0.

Business Park. The Business Park designation provides for office/business parks in campus-like setting that is well suited for large offices or multi-tenant buildings. This designation is intended to accommodate and allow for the expansion of small businesses with limited outdoor storage proximate to residential uses, thus adequate landscaping is imperative. Typical land uses include research and development, laboratories, administrative and general offices, medical offices and clinics, professional offices, prototype manufacturing, testing, repairing, packaging, and printing. No freestanding retail is permitted, except for small uses serving businesses and employees. The maximum FAR is 1.0.

Regional Business Park. The Regional Business Park land use designation is intended for large or campus-like office and technology development that includes office, research and development, manufacturing, and other large-scale, professional uses, with limited and properly screened outdoor storage. Permitted uses include incubator-research facilities prototype manufacturing, testing, repairing, packaging, and printing as well as offices and research facilities. Small-scale retail and service uses serving local employees and visitors are permitted as secondary uses. The maximum FAR is 1.0.

Light Industrial. The Light Industrial designation accommodates a diverse range of light industrial uses, including limited manufacturing and processing, research and development, fabrication, utility equipment and service yards, wholesaling, warehousing, and distribution activities. Small-scale retail and ancillary office uses are also permitted. Light Industrial areas

may serve as buffers between Heavy Industrial and other land uses and otherwise are generally located in areas with good transportation access, such as along railroads and freeways. The maximum FAR is 1.5.

Heavy Industrial. The Heavy Industrial designation accommodates the broadest range of industrial uses including manufacturing, assembly, wholesaling, distribution, and storage activities that are essential to the development of a balanced economic base. Small-scale commercial services and ancillary office uses are also permitted. The maximum FAR is 1.5.

Mixed Use. Mixed-use land use designations are based on commercial uses and require a residential component.

Corridor/Center Mixed Use. The Corridor/Center Mixed Use designation is higher intensity than Neighborhood Mixed Use, and is intended to allow for either horizontal or vertical mixed-use development in multiple story buildings along key circulation corridors in the city where height and density can be easily accommodated. Ground-floor retail and upper-floor residential or offices are the primary uses, with personal and business services and public and institutional space as supportive uses. Development will facilitate the transformation of existing transportation corridors into vibrant, highly walkable areas with broad, pedestrian-friendly sidewalks, trees, landscaping, and local-serving uses with new buildings that step down in relationship to the scale and character of adjacent neighborhoods. This designation will largely apply along arterial streets, at targeted locations between regional activity centers. Residential densities range between 16 and 30 units per acre with a minimum 40 percent residential uses and the maximum FAR is 1.5.

Regional Mixed Use. This land use designation is intended to accommodate mixed-use development in urban-scale buildings and retail establishments that serve residents and businesses of the region at large. Medium-scale retail, housing, office, civic and entertainment uses, and shopping malls, with large format or "big-box" retail, are allowed, as are supporting uses such as gas stations and hotels and residential in mixed use or single use buildings. Design standards will support a pedestrian orientation within centers and along major corridors, with parking on the side or rear in general, but automobile-oriented uses also will be accommodated on identified streets and frontages. Residential densities range between 30 and 45 units per acre with a minimum 30 percent residential uses and the maximum FAR is 2.0.

Neighborhood Mixed Use. The Neighborhood Mixed Use designation is similar to the Main Street and Community commercial land use designations; however, it allows a minimum of 50 percent residential uses, whereas the commercial districts do not allow residential uses. This designation provides for mixed-use districts of local-serving, pedestrian-oriented commercial development, such as convenience shopping and professional offices in two- to three-story buildings. Development is expected to include ground floor neighborhood retails uses and upper-level housing or offices, with a mix of small lot single family houses, townhomes, and multi-family dwelling units on side streets, in a horizontal or vertical mixed-use orientation. The built form will have a scale and character that is consistent with pedestrian-orientation, to attract and promote a walk-in clientele, with small lots and frequent roadway and pedestrian connections permitting convenient access from residences to commercial space. Automobile-

oriented uses are not permitted. Residential densities range between 12 and 16 units per acre and the maximum FAR is 1.5.

Open Space. These designations apply to open space areas that are not parks or trails, such as riparian corridors, the clear zone around Fresno-Yosemite International Airport, and the San Joaquin River bottom, which is primarily designated as open space even though it includes a limited number of existing homes. Within open space, there is a Multi-Use designation that is located along the San Joaquin River Corridor that allows parks, open space, bathrooms, launch areas for canoes, parking, and sand/gravel facilities.

Public Facilities. These designations apply to lands owned by public entities, including City Hall and other City buildings, county buildings, schools, colleges, the municipal airport and hospitals. They also include public facilities such as fire and police stations, City-operated recycling centers and sewage treatment facilities. In addition, these designations apply to public facilities, including neighborhood, community and regional parks, recreational centers, and golf courses. It also applies to multi-purpose trails that serve both regional and neighborhood level needs, some of which are paved while others, in particular those found along the San Joaquin River Bluff Environs, may be unpaved.

Buffer. This designation is intended to separate urban uses from long-term agricultural uses in order to preserve long-term viable agricultural areas and intensive farming operations adjoining but outside the Planning Area. The Buffer designation will serve to prevent urban residential and related uses from developing near agricultural operations and infringing on full operation of important farmland. A variety of uses are compatible with the purpose of the Buffer, which are defined in detail in the Development Code. General categories include environmental habitats; water conveyance, retention and recharge; preservation and preparation of gravel resources for beneficial uses related to permanent water resource facilities; limited agriculture and necessary supportive uses, such as agricultural processing, excluding animal processing or uses that have the potential to create nuisances; and residential uses with 20 acres of land required per residence.

Downtown. Downtown land use designations are customized for the special conditions of downtown and include three levels of intensity: Neighborhood, General, and Core.

Downtown Neighborhood. This land use designation will create lively, walkable, mixed-use urban neighborhoods surrounding the Downtown Core.

Downtown General. This land use designation supports a high concentration of regional activity generators such as governmental buildings and convention centers within a pedestrian-oriented, mixed-use urban setting.

Downtown Core. This land use designation fosters the enhancement of Fresno's business, shopping and cultural heart by guiding the development of the densest, most active and most interested mixed-use urban center in the region.

3.2.5 Comparison of Land Uses between the MEIR and PEIR

As discussed above, Figure 3-3 shows the land use diagram. No changes to the current land use diagram are proposed as a part of this project. The differences in land use categories within the Planning Area between the existing baseline year of 2019 and what was proposed in the approved General Plan are shown in Table 3-2. The Planning Area encompasses the city's current city limits, including the City's RWRF, the current SOI, and the North Area (described in Section 3.2.10).

Table 3-2: Existing 2019 Baseline and General Plan Update Comparison

Land Use Designation	General Plan Acreage Identified in MEIR	Existing 2019 Baseline Acreage	Change in Acreage
Residential[1]	46,043	46,459	416
Commercial	6,913	6,665	-248
Industrial	9,578	9,303	-275
Mixed use	4,223	3,863	-360
Public Facilities[2]	19,127	17,519	-1,608
Open Space[3]	1,546	2,342	796
Other[4]	18,597	19,876	1,279
Total	**106,027**	**106,027**	**0**
Population	970,000[5]	921,057[6]	-48,943

Source: City of Fresno Planning and Development Department (2019).

[1] The residential designation includes all designations that allow residential units except for Mixed use. The Neighborhoods designation in the Downtown Area primarily allows residences.

[2] Public facilities include parks, schools, and other facilities publicly owned.

[3] Open space includes ponding basins, commercial recreation, clear zones, flood control facilities, and open space.

[4] The "Other" category for the General Plan does not include SEGA because the individual land uses are included in the land use designations. This category includes roads canals, railroads, etc. and the buffer area designated in Southeast Development Area.

[5] The population identified for the General Plan represents full buildout of the Planning Area. Full buildout is projected to occur in approximately year 2056.

[5] Based on updated projections and discussed in Section 4.14, Population and Housing, the General Plan build out year of 2056 would result in a small population than previously projected.

3.2.6 Population Projection for Planning Area under General Plan

As shown in Table 3-3, the projected population estimate under buildout conditions within the Planning Area is 970,000 persons by year 2056. The population growth within the Planning Area is estimated from projections that were identified in the Fresno County 2050 Growth Projections prepared for the Fresno Council of Governments in May 2017.

Table 3-3: Population Estimate for City of Fresno Planning Area

Year	Population Estimate	
	County of Fresno	City of Fresno Planning Area
2015	972,300[a]	583,380[b]
2020	1,047,440[a]	628,464[b]
2025	1,122,840[a]	673,704[b]
2030	1,191,850[a]	715,110[b]
2035	1,258,860[a]	755,316[b]
2040	1,323,070[a]	793,842[b]
2045	1,383,690[a]	830,214[b]
2050	1,447,090[a]	868,254[b]
2055	1,519,445[c]	911,667[b]
2056	1,535,095[d]	921,057[b]

Source: City of Fresno (2019).

[a] Fresno County 2050 Growth Projections, Fresno Council of Governments, Table 1.

[b] Planning Area population estimate is 60 percent of the County's population.

[c] Estimated County Population in 2055 based upon previous 5 year growth increments of approximately 5%.

[d] The one-year growth increment used for 2056 was approximately 1.03%, which was generally a similar increment if the growth. increment was extended over 5-years, and it was based upon the previous 5-year growth of approximately 5%.

3.2.7 Infill Areas

Infill is the development of new housing or other buildings on scattered vacant lots in a predominantly developed area or on new building parcels created by permitted lot splits. The General Plan identifies primary areas of infill, as shown in Figure 3-4, Infill Areas. They include the Downtown Planning Area, which includes the Downtown Neighborhoods Community Plan (DNCP) and the Fulton Corridor Specific Plan (FCSP), encompassing approximately 7,290 acres. Another area of primary infill is the Bus Rapid Transit (BRT) Corridors and Centers. The corridors include the Blackstone Avenue Corridor, Ventura Avenue – Kings Canyon Road Corridor, Clovis Avenue – State Route 180/Belmont Corridor, Shaw Avenue Corridor, and the California Avenue and West Shaw Avenue Corridors. The specific locations of these corridors are depicted on Figure IM-1 of the General Plan. The Non-Corridor Infill Areas are located throughout the city and not within the infill areas identified above.

3.2.8 Growth Areas

The Growth Areas are defined as areas located outside the existing city limits and within the Planning Area, as shown on Figure 3-5, Growth Areas. In addition, the Growth Areas do not include existing county islands within Fresno, or the North Area (described in Section 3.2.10). Two categories of growth areas are identified in the General Plan:

- **Growth Area 1** includes areas where future growth could occur based on planned infrastructure expansion, public service capacity, and fiscal considerations.

- **Growth Area 2** includes areas that require critical infrastructure improvements and the City does not anticipate funding for these areas to be committed in the near-term.

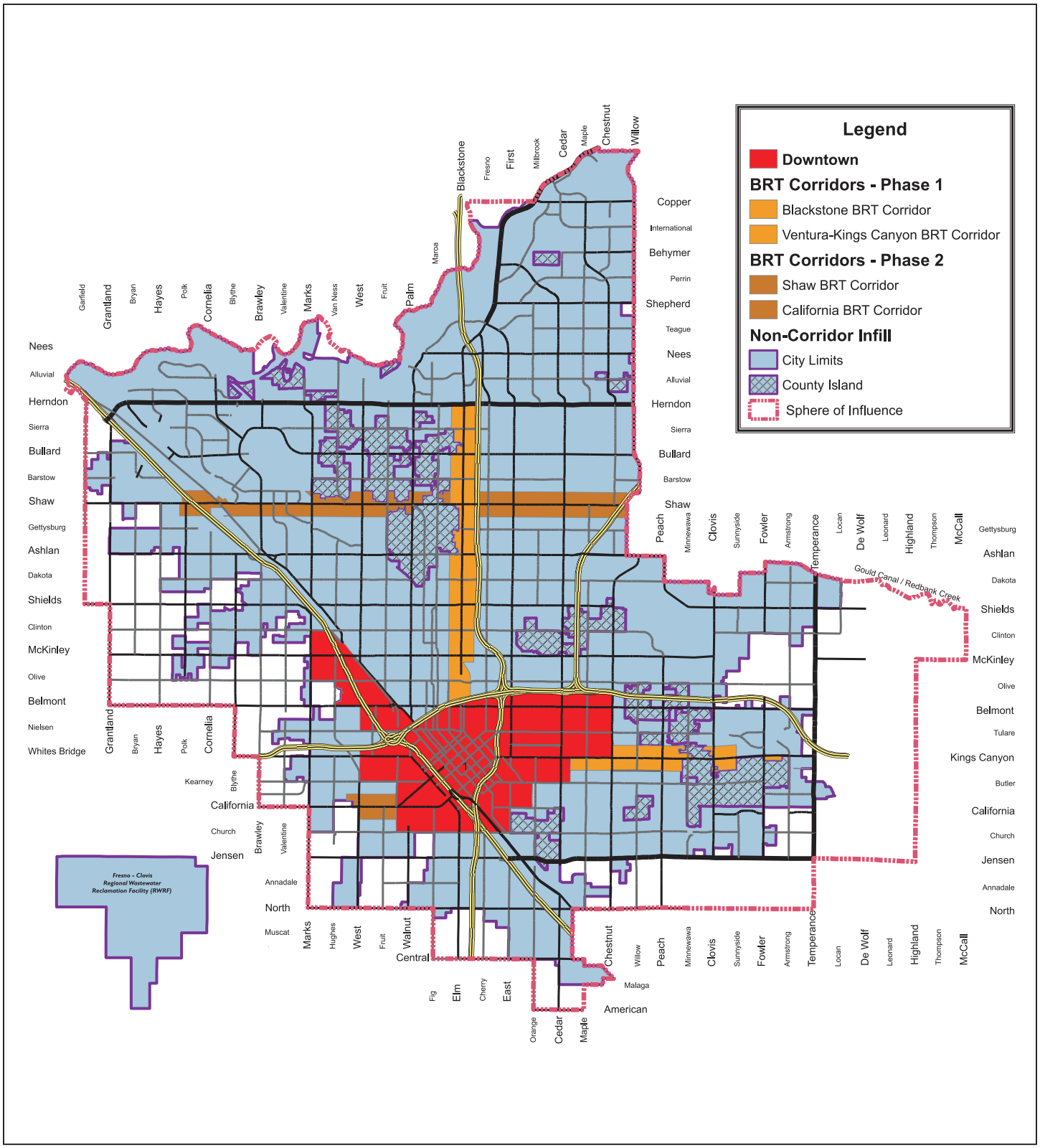

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FIGURE 3-4

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SOURCE: DARM; Infill/InfillAreas-MEIR

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City of Fresno General Plan
Program Environmental Impact Report

Infill Areas

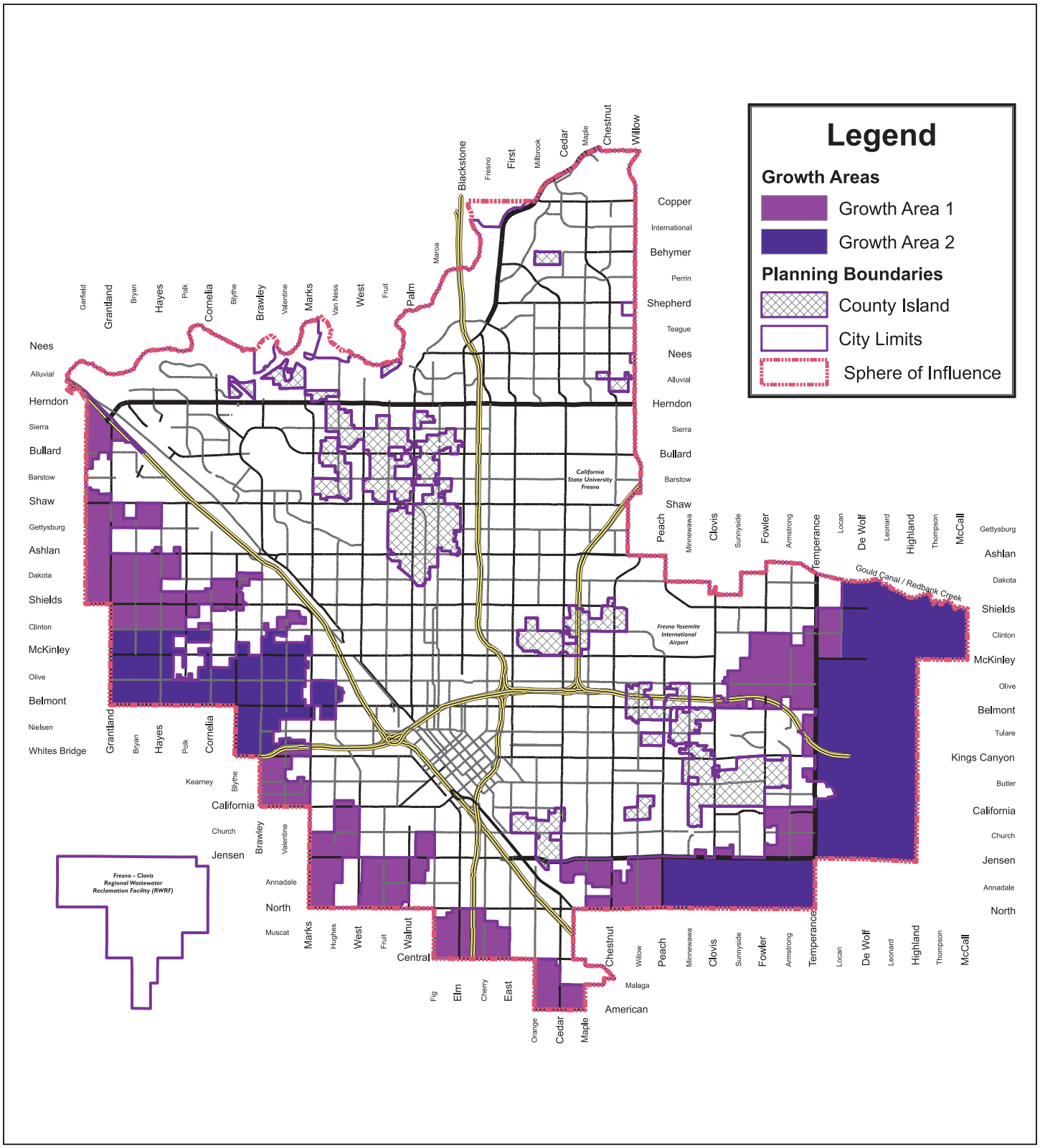

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FIGURE 3-5

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SOURCE: Fresno GIS. DARM; Infill/Growth Areas

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City of Fresno General Plan
Program Environmental Impact Report

Growth Areas

3.2.9 Development Areas

There are three general areas defined as Development Areas in the General Plan. These areas are shown on Figure 3-6, Development Areas. The Development Areas include areas contemplated for Complete Neighborhoods that are connected with a range of housing types, employment, supporting retail and service uses, parks and open space, and public/civic uses. The Development Areas include: the West Development Area, the Southwest Development Area, and the Southeast Development Area.

3.2.10 North Area

The North Area is located outside of the existing city limits and outside of the existing SOI. This area is located along the San Joaquin River Corridor north of the City limits and west of Friant Road. The area is under the jurisdiction of the County of Fresno. The City has included this area as part of the Planning Area because the City believes that this area bears relation to its planning, as allowed under California Government Code Section 65300.

3.3 PROJECT OBJECTIVES

The City established specific objectives for the General Plan when it was adopted in 2014 which would serve to aid decision-makers in their review of the proposed project and its associated environmental impacts. Within the General Plan, these were referred to as Goals, but for the sake of clarity, the CEQA term of "objectives" will be used in this EIR. The following objectives were adopted for the General Plan in 2014, and are applicable to the proposed project:

1. Increase opportunity, economic development, business and job creation.

2. Support a successful and competitive Downtown.

3. Emphasize conservation, successful adaptation to climate and changing resource conditions, and performance effectiveness in the use of energy, water, land, buildings, natural resources, and fiscal resources required for the long-term sustainability of Fresno.

4. Emphasize achieving healthy air quality and reduced greenhouse gas emissions.

5. Support agriculture and food production as an integral industry.

6. Protect, preserve, and enhance natural, historic, and cultural resources.

7. Provide for a diversity of districts, neighborhoods, housing types (including affordable housing), residential densities, job opportunities, recreation, open space, and educational venues that appeal to a broad range of people throughout the city.

8. Develop Complete Neighborhoods and districts with an efficient and diverse mix of residential densities, building types, and affordability which are designed to be healthy, attractive, and centered by schools, parks, and public and commercial services to provide a sense of place and that provide as many services as possible within walking distance.

9. Promote a city of healthy communities and improve quality of life in established neighborhoods.

10. Emphasize increased land use intensity and mixed-use development at densities supportive of greater use of transit in Fresno.

11. Emphasize and plan for all modes of travel on local and Major Streets in Fresno.

12. Resolve existing public infrastructure and service deficiencies, make full use of existing infrastructure, and invest in improvements to increase competitiveness and promote economic growth.

13. Emphasize the City as a role model for good growth management planning, efficient processing and permit streamlining, effective urban development policies, environmental quality, and a strong economy. Work collaboratively with other jurisdictions and institutions to further these values throughout the region.

14. Provide a network of well-maintained parks, open spaces, athletic facilities, and walking and biking trails connecting the city's districts and neighborhoods to attract and retain a broad range of individuals, benefit the health of residents, and provide the level of public amenities required to encourage and support development of higher density urban living and transit use.

15. Improve Fresno's visual image and enhance its form and function through urban design strategies and effective maintenance.

16. Protect and improve public health and safety.

17. Recognize, respect, and plan for Fresno's cultural, social, and ethnic diversity, and foster an informed and engaged citizenry.

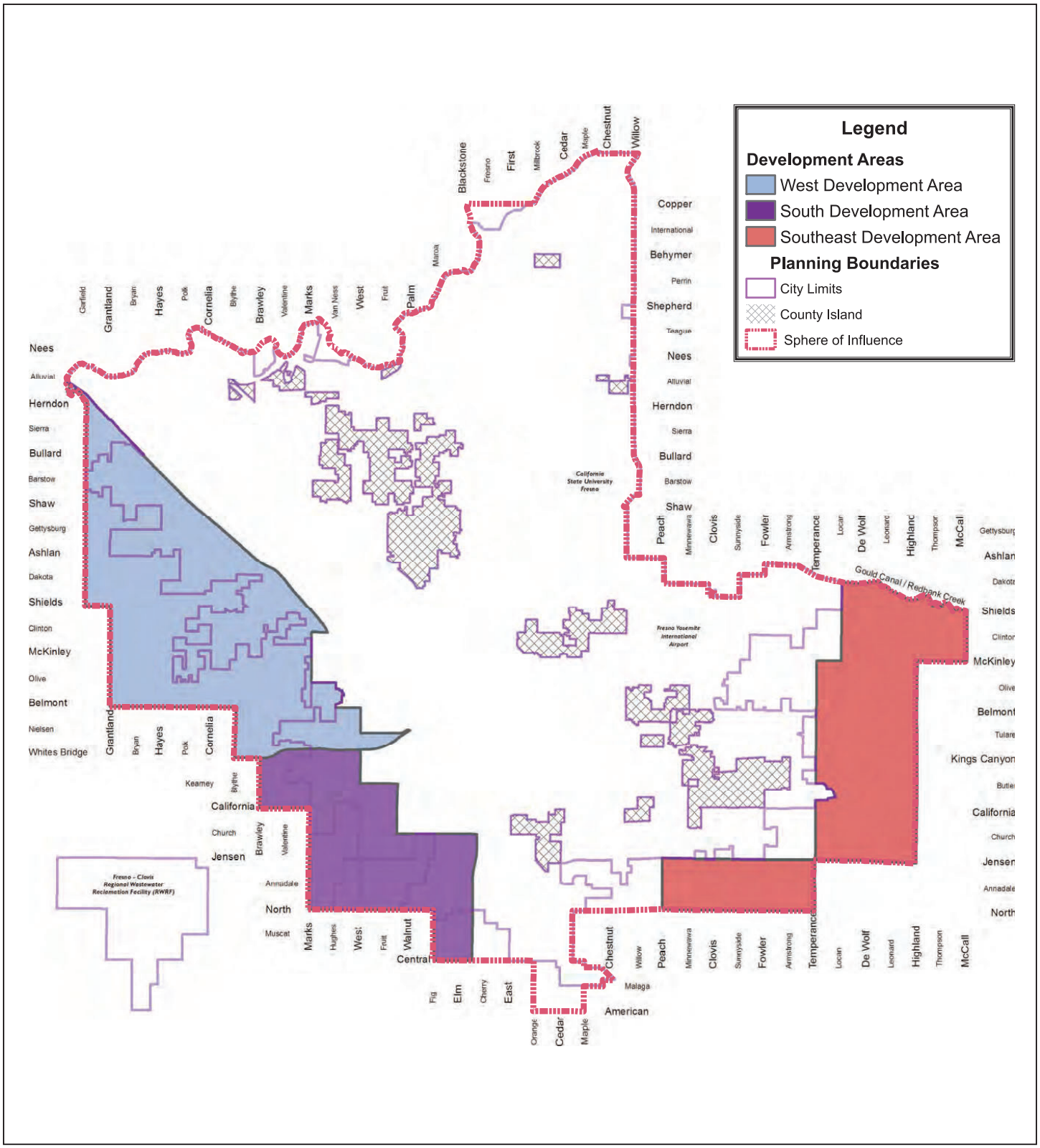

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FIGURE 3-6

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SOURCE: DARM; Infill/DevelopmentAreas

City of Fresno General Plan
Program Environmental Impact Report

Development Areas

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3.4 DISCRETIONARY ACTIONS AND USES OF THIS EIR

The City is the Lead Agency for approval of the proposed changes to the text included in the Mobility and Transportation Element of the General Plan, the update to the Greenhouse Gas Reduction Plan, and certification of the PEIR. No newly proposed projects or land uses are included in the PEIR. Rather, as subsequent projects requiring discretionary approvals are proposed, those individual projects would be subject to plan review and CEQA analysis. It is the City's intent that the PEIR can be reviewed and tiered from, as appropriate, for evaluations of environmental issues associated with subsequent projects when such approvals require discretionary actions by the City and/or Responsible Agencies. If the City or Responsible Agencies tier off the PEIR, the agency approving the subsequent discretionary actions will be responsible to determine if the environmental evaluation in the PEIR adequately addresses the potential effects associated with the subsequent projects.

As future development in accordance with the General Plan is proposed for development, numerous agencies may be defined as Responsible and Trustee Agencies. Development of these future projects may require approval of discretionary actions by other agencies. These Responsible and Trustee Agencies can use the PEIR for their discretionary approval, if they determine that the environmental evaluation adequately addresses the effects associated with the discretionary action requested of them for approval.

Following is a general list of potential Responsible and Trustee Agencies.

- Caltrans, including the Division of Aeronautics
- California Air Resources Board
- California Department of Conservation
- California Department of Fish and Wildlife
- California Department of Forestry and Fire Protection
- California Department of Housing and Community Development
- California Department of Parks and Recreation
- California Department of Toxic Substances Control
- California Public Utilities Commission
- California State Office of Historic Preservation
- California State Lands Commission
- California State University, Fresno
- California State Water Resources Control Board
- Central Valley Regional Water Quality Control Board
- County of Fresno
- County of Fresno Local Agency Formation Commission
- Fire Districts (Various)
- Fresno Airport Land Use Commission
- Fresno Council of Governments
- Fresno Metropolitan Flood Control District

- Fresno Irrigation District
- San Joaquin River Conservancy
- San Joaquin Valley Air Pollution Control District
- School Districts (Various)
- Sewer Districts (Various)
- Water Districts (Various)
- Any Other Responsible or Trustee Agency that may need to provide discretionary approval

4.0 EVALUATION OF ENVIRONMENTAL IMPACTS

This chapter contains an analysis of each potentially significant environmental issue that has been identified for the continued implementation of the approved Fresno General Plan, text changes to the Mobility and Transportation Element related to VMT analysis, and an update to the Greenhouse Gas Reduction Plan (proposed project). The following discussion: (1) identifies how a determination of significance is made; (2) identifies the environmental issues addressed in this chapter; (3) describes the context for the evaluation of cumulative effects; (4) lists the format of the topical issue section; and (5) provides an evaluation of each potentially significant issue in Sections 4.1 through 4.18.

4.1 DETERMINATION OF SIGNIFICANCE

Under CEQA, a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment. The *State CEQA Guidelines* direct that this determination be based on scientific and factual data. The impact evaluation in this chapter is prefaced by criteria of significance, which are the thresholds for determining whether an impact is significant. These criteria of significance are based on the *State CEQA Guidelines* (Appendix G) and applicable City of Fresno (City) policies.

Unlike a Project Environmental Impact Report (EIR), which addresses the environmental impacts of a specific development project, a Program EIR addresses the potential impacts of a series of actions that can be characterized as one large project. Because there is no specific development project being proposed at this time, a Project EIR cannot be prepared; no specific project level details are available. The proposed project, which includes the continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element related to VMT analysis, and an update to the Greenhouse Gas Reduction Plan, is part of a planning document that outlines the type of future development projects that are allowed in the city. Therefore, preparation of a Program EIR for the proposed project is appropriate, and required, as the project elements are one large project that are related, as described in the *State CEQA Guidelines* Section 15168 either:

1. Geographically;

2. As logical parts in the chain of contemplated actions;

3. In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or

4. As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The use of a Program EIR provides an occasion for a more exhaustive consideration of effects and alternatives than otherwise would be practical under a Project EIR. However, future discretionary projects facilitated by certification of a Program EIR must be further evaluated in light of the Program EIR to determine whether or not an additional environmental document must be prepared. Therefore, the City will determine whether future projects require the preparation of a new Initial

Study, Mitigated Negative Declaration, or new EIR. Under CEQA, environmental documentation is required on all discretionary actions, which includes the approval of the proposed project. The purpose of the CEQA process is to disclose environmental impacts of a proposed project to the general public and agencies, who then have the ability to have their comments considered by decision makers.

The proposed project would be implemented through the horizon year of 2035 and beyond, since complete build out of the General Plan would not likely occur until after 2056. This Draft EIR has been prepared as a Program EIR for the following reasons:

- The proposed project would be implemented over a 15-year period.
- The proposed project would be implemented over a large geographic area, which is defined as the total area within the Planning Area.
- Development plans and details have not been developed for new projects that could be facilitated by project approval.

Therefore, the use of a Program EIR is appropriate in evaluating project-related environmental impacts resulting from implementation of the proposed project.

4.2 ISSUES ADDRESSED IN THE DRAFT EIR

Sections 4.1 through 4.18 of this chapter describe the environmental setting of the project as evaluated in the Program EIR and the impacts that are expected to result from implementation of the proposed project. Mitigation measures are proposed to reduce potential impacts, where required.

1. Aesthetics
2. Agriculture and Forestry Resources
3. Air Quality
4. Biological Resources
5. Cultural Resources and Tribal Cultural Resources
6. Energy
7. Geology and Soils
8. Greenhouse Gas Emissions
9. Hazards and Hazardous Materials
10. Hydrology and Water Quality
11. Land Use and Planning
12. Mineral Resources
13. Noise
14. Population and Housing
15. Public Services and Recreation
16. Transportation
17. Utilities and Service Systems
18. Wildfire

4.3 ENVIRONMENTAL SETTING

This chapter has been prepared in accordance with *State CEQA Guidelines* Section 15125, which states: “An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. The environmental setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant. The description of

the environmental setting shall be no longer than is necessary to an understanding of the physical effects of the proposed project and its alternatives."

The NOP for the proposed project was published on May 16, 2019. Thus, each of the environmental topical sections in this chapter includes a discussion of physical conditions in the Planning Area on or around May 16, 2019.

4.4 CUMULATIVE ANALYSIS CONTEXT

CEQA defines cumulative impacts as "two or more individual effects which, when considered together, are considerable, or which can compound to increase other environmental impacts." Section 15130 of the *State CEQA Guidelines* requires that an EIR evaluate potential environmental impacts when the project's incremental effect is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of "reasonably foreseeable probable future" projects, per *State CEQA Guidelines* Section 15355. Cumulative impacts can result from a combination of the proposed project together with other closely related projects that cause an adverse change in the environment. Cumulative impacts can result from individually minor but collectively significant projects taking place over time.

The methodology used for assessing cumulative impacts typically varies depending on the specific topic being analyzed. CEQA requires that cumulative impacts be discussed using either a list of past, present, and probable future projects producing related or cumulative impacts, or a summary of projections contained in an adopted local, regional, or Statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. This EIR uses both approaches to evaluate cumulative impacts, and the particular approach used depends on the topical area under consideration. Refer to the cumulative discussion in the individual topic sections for further discussion.

4.5 FORMAT OF ISSUE SECTIONS

The environmental topical section comprises two primary parts: (1) Setting, and (2) Impacts and Mitigation Measures. An overview of the general organization and the information provided in the two parts is provided below:

- **Setting.** The Setting section for the environmental topic generally provides a description of the applicable physical setting (e.g., existing land uses, existing traffic conditions) for the Planning Area of the City of Fresno. An overview of regulatory considerations that are applicable to each specific environmental topic is also provided.

- **Impacts and Mitigation Measures.** The Impacts and Mitigation Measures section for the environmental topic presents a discussion of the impacts that could result from implementation of the proposed project. The section begins with the criteria of significance, which establish the thresholds to determine whether an impact is significant. The latter part of this section presents the impacts from the proposed project and mitigation measures, as appropriate. Cumulative impacts are also addressed.

Impacts are numbered and shown in bold type, and the corresponding mitigation measures are numbered and indented. Impacts and mitigation measures are numbered consecutively and begin with an acronymic or abbreviated reference to the impact section (e.g., TRA for Transportation). The following symbols are used for individual topics:

AES Aesthetics
AG Agriculture and Forestry Resources
AIR Air Quality
BIO Biological Resources
CUL Cultural Resources
EN Energy
GEO Geology and Soils
GHG Greenhouse Gas Emissions
HAZ Hazards and Hazardous Materials
HYD Hydrology and Water Quality
LU Land Use and Planning
MIN Mineral Resources
NOI Noise
POP Population and Housing
PSR Public Services and Recreation
TRA Transportation
UTL Utilities and Service Systems
WF Wildfire

Impacts are also categorized by type of impact, as follows: Less-Than-Significant (LTS), Significant (S), and Significant and Unavoidable (SU).

4.6 ENVIRONMENTAL ISSUES

Sections 4.1 through 4.18 of this chapter describe the environmental setting of the project as it relates to each specific environmental topic evaluated in the EIR and the impacts that are expected to result from implementation of the proposed project. Mitigation measures are proposed to reduce potential impacts, where required.

4.1 AESTHETICS

4.1.1 Introduction

This section provides a discussion of the existing visual and aesthetic resources in the Planning Area and in the surrounding area, and evaluates the potential for changes in aesthetic character that could result from the continued implementation of the approved Fresno General Plan, text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan (proposed project). This section also evaluates the potential loss of existing visual resources, effects on public views, visual compatibility with existing uses, and light and glare impacts.

4.1.2 CEQA Baseline

The City of Fresno (City) is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Travelled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the General Plan, explains that the PEIR will evaluate the continued implementation of the General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of SB 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. The General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the City's approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.1.3 Existing Environmental Setting

The study area for project impacts regarding aesthetics is the Planning Area because potential development under the City's approved General Plan is limited to areas within the Planning Area. As defined in Chapter 3.0, Project Description, the Planning Area is the geographic area for which the approved General Plan establishes policies about future growth. The Planning Area established by the City includes all areas within the City's current city limits, including the Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF), the areas within the current Sphere of Influence (SOI), and an area north of the city's most northeasterly portion of the city (referred to as the North Area).

The Planning Area contains many unique visual characteristics, generally located in Downtown, within suburbs, along corridors of major thoroughfares, within industrial areas, rural residential areas, and agricultural areas. The majority of the Planning Area within the existing city limits is urbanized, while areas located outside of the city limits but within the Planning Area are primarily rural.

The Downtown Fresno area is the urban core of the city, containing high-rise buildings and a diversity of land uses. The most common building types within Downtown Fresno are mixed-use buildings, theaters, civic/institutional buildings, and industrial warehouses, many of which provide historic design elements. Low-rise neighborhood buildings, primarily dominated by single-family residential uses, characterize the suburbs. Other uses within the suburbs are complementary to residential uses, such as retail, office, church, schools, parks, and other public facilities. Corridors consist of primarily low-rise commercial, residential, and industrial uses that are located along major thoroughfares within the city such as Herndon Avenue, Shaw Avenue, Ventura Avenue/Kings Canyon Road, Blackstone Avenue, and Clovis Avenue. The industrial centers of the city are located in the area south of Downtown, along State Route (SR) 99, and adjacent to the Fresno-Yosemite International Airport. Large low-rise buildings with manufacturing, processing and warehouse uses, as well as utility equipment and service yards, characterize the industrial areas.

Within the existing city limits, the majority of the Planning Area is urbanized. Significant sources of light and glare, including streetlights, lighting within parking lots, interior lights from Downtown buildings, lighting associated with recreational facilities, and light emitted from residential and non-residential buildings throughout the Planning Area characterize the city. Conversely, rural residential and agricultural areas that are located within the southeastern and western portions of the Planning Area are not characterized by significant sources of light and glare.

4.1.4 Methodology

4.1.4.1 Key Concepts and Terminology

The concepts and terminology used in this analysis are described below.

- **Scenic Resources:** Scenic resources are defined as natural or man-made elements that contribute to an area's scenic value and are visually pleasing. Scenic resources include landforms, vegetation, water, or adjacent scenery and may include a cultural modification to the natural environment. The degree to which these resources are present in a community is clearly subject to personal and cultural interpretation. However, it is possible to qualify certain

resources as having aesthetic characteristics and establish general guidelines for assessing the aesthetic impacts of new development.

Scenic resources within the Planning Area include landscaped open space areas including parks and golf courses; areas along the San Joaquin River due to varying topography; and the river bluffs, which provide a unique geological feature in the San Joaquin Valley. Man-made scenic resources include historic buildings in Downtown Fresno, which provide a unique skyline.

- **Scenic Vistas:** A scenic vista is viewpoint that provides expansive views of a highly valued landscape for the public's benefit. It is usually viewed from some distance away. Aesthetic components of a scenic vista include (1) scenic quality; (2) sensitivity level; and (3) view access. A scenic vista can be impacted in two ways: a development project can have visual impacts by either directly diminishing the scenic quality of the vista or by blocking the view corridors or "vista" of the scenic resource. Important factors in determining whether a proposed project would block scenic vistas include the project's proposed height, mass, and location relative to surrounding land uses and travel corridors. Typical scenic vistas are locations where views of rivers, hillsides, and open space areas are accessible from public vantage points.

  The approved General Plan does not identify or designate scenic vistas within the Planning Area. Although no scenic vista has been designated, the City's approved General Plan identifies six locations along the San Joaquin River bluffs as designated vista points from which views should be maintained. Scenic vistas within the Planning Area could provide distant views of features such as the San Joaquin River to the north and the foothills of the Sierra Nevada Mountains to the east. Distant views of the San Joaquin River and areas north of the river can be seen from the river bluffs. However, the majority of these views are from private property. Partially obstructed views of the San Joaquin River can be seen from Weber Avenue, Milburn Avenue, McCampbell Drive, Valentine Avenue, Palm Avenue, State Route 41, Friant Road, and Woodward Park. Additionally, there are several locations throughout the eastern portion of the Planning Area that provide distant views of the Sierra Nevada foothills. It should be noted that these distant views of the Sierra Nevada foothills are impeded many days during the year by the poor air quality in the San Joaquin Valley Air Basin.

- **Scenic Corridors:** Scenic corridors are channels that facilitate movement (primarily by automobile, transit, bicycle, or foot) from one location to another with expansive views of natural landscapes and visually attractive man-made development. Scenic corridors analyzed under the California Environmental Quality Act (CEQA) typically include State-designated scenic highways.

  According to the California Department of Transportation (Caltrans) State Scenic Highway Mapping System, there are no eligible or officially-designated State Scenic Highways within the Planning Area.[1] However, Fresno County has three eligible State Scenic Highways; the nearest eligible highways include a portion of SR 180 (approximately 7 miles east of the Planning Area)

[1] Caltrans. 2017. Scenic Highway Program. Website: dot.ca.gov/-/media/dot-media/programs/ design/ documents/2017-03desigandeligible-a11y.xlsx (accessed September 6, 2019).

and a portion of SR 168 (approximately 5 miles east of the Planning Area). The nearest officially-designated State Scenic Highway is located more than 30 miles northeast of the Planning Area within the county of Madera.

- **Visual Character and Quality:** The visual aesthetic character or quality of a streetscape, building, group of buildings, or other man-made or natural feature creates an overall impression of an area within an urban context. For example, a scenic vista along the boundary of a community, a pleasing streetscape with trees, and well-kept residences and yards are scenic resources that create a pleasing impression of an area. In general, concepts of visual character and quality can be organized around four basic elements: (1) site utilization; (2) buildings and structures; (3) landscaping; and (4) signage. Adverse visual quality effects can include the loss of aesthetic features or the introduction of contrasting features that could contribute to a decline in overall visual character. In addition, the degree of access to a visual resource contributes to the value of that resource so that an adverse visual quality effect can also occur if access to a visual resource is restricted.

  The visual quality and character of the Planning Area is characterized by various aesthetic attributes, generally located within the Downtown area, suburban and rural residential areas, industrial areas, agricultural areas, and along corridors of major thoroughfares. The Downtown area is the urban center of the city, comprised of high-rise buildings and a variety of land uses. Downtown buildings include mixed-use buildings, theaters, civic/institutional buildings, and industrial warehouses, many of which have historic design elements. The suburbs are characterized by low-rise neighborhood buildings that are primarily dominated by single-family residential uses. Corridors are developed with low-rise commercial, residential, and industrial uses that are located along major thoroughfares such as Herndon Avenue, Shaw Avenue, Ventura Avenue/Kings Canyon Road, Blackstone Avenue, and Clovis Avenue. The primary industrial areas within the city include the areas south of Downtown, along State Route 99, and adjacent to the Fresno-Yosemite International Airport, which are characterized by low-rise buildings with manufacturing, processing, and warehouse uses.

- **Light Source:** A light source is a device that produces illumination, including incandescent bulbs, fluorescent and neon tubes, halogen and other vapor lamps, and reflecting surfaces or refractors incorporated into a lighting fixture. Any translucent enclosure of a light source is considered to be part of the light source.

  Glare: Glare is defined as a continuous or periodic intense light that may cause eye discomfort or be temporarily blinding to humans.

  The majority of the Planning Area within the existing city limits is urbanized and is characterized by significant sources of light and glare, including streetlights, lighting within parking lots, interior lights from Downtown buildings, lighting associated with recreational facilities, and light emitted from residential and non-residential buildings throughout the Planning Area. Rural residential and agricultural areas that are located within the southeastern and western portions of the Planning Area are not characterized by significant sources of light and glare.

The analysis of visual impacts focuses on changes in the visual character of the Planning Area that may result subsequent to the approval of the proposed project. This would include the visual compatibility of land uses, changes in scenic vistas and viewsheds where visual changes would be evident, changes to scenic resources along designated scenic corridors, and the introduction of new sources of light and glare. Impacts to the existing environment in and around the Planning Area are identified by the contrast between the visual setting of the Planning Area before and after implementation of the proposed project.

4.1.5 Regulatory Setting

4.1.5.1 Federal Policies and Regulations

No federal policies or regulations pertaining to aesthetics are applicable to the proposed project.

4.1.5.2 State Policies and Regulations

Caltrans Scenic Highway Program. The Caltrans Scenic Highway Program protects the natural scenic beauty of the State's highways and corridors through its designated scenic highways throughout the State. Caltrans defines a scenic highway as any freeway, highway, road, or other public right-of-way that traverses an area of exceptional scenic quality. Other considerations given to a scenic highway designation include how much of the natural landscape a traveler may see and the extent to which visual intrusions degrade the scenic corridor. As stated previously, there are no eligible or officially-designated State Scenic Highways within the Planning Area.

California Code, Public Resources Code Section 21099. PRC Section 21099 requires the Office of Planning and Research (OPR) to develop revisions to the State CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects within transit priority areas, which are areas within 0.5 mile of a major transit stop. Such criteria should promote a reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. Within transit priority areas, aesthetic impacts related to residential, mixed-use residential, or employment center projects on an infill site would not be considered significant impacts on the environment.

4.1.5.3 Local Policies and Regulations

The following is a summary of the applicable policies included in the City's Zoning Ordinance and approved General Plan that are related to aesthetic resources and applicable to the proposed project.

City of Fresno Municipal Code

Zoning Ordinance. The City's Zoning Ordinance (Chapter 15 of the Municipal Code) is intended to provide a guide for the physical development of the city in order to achieve the arrangement of land uses depicted in the approved General Plan, as well as implement goals, objectives, and policies of the approved General Plan. Among the aspects of development regulated by the Municipal Code are types of allowable land uses, setback and height requirements, landscaping, walls, fencing, signage, access, parking requirements, storage areas, and trash enclosures.

Article 25, Performance Standards, of the Zoning Ordinance includes standards related to lighting and glare.

City of Fresno General Plan. The approved General Plan is a set of policies and programs that form a blueprint for the physical development of the city. For a description of each of the elements within the approved General Plan, refer to Chapter 3.0, Project Description. The following objectives and policies related to aesthetic resources are presented in various elements of the approved General Plan:

Urban Form, Land Use, and Design Element

Policy UF-1-c: Identifiable City Structure. Focus integrated and ongoing planning efforts to achieve an identifiable city structure, comprised of a concentration of buildings, people, and pedestrian-oriented activity in Downtown; along a small number of transit-oriented, mixed-use corridors and strategically located Activity Centers; and in existing and new neighborhoods augmented with parks and connected by multi-purpose trails and tree lined bike lanes and streets.

Policy UF-1-e: Unique Neighborhoods. Promote and protect unique neighborhoods and mixed use areas throughout Fresno that respect and support various ethnic, cultural and historic enclaves; provide a range of housing options, including furthering affordable housing opportunities; and convey a unique character and lifestyle attractive to Fresnans. Support unique areas through more specific planning processes that directly engage community members in creative and innovative design efforts.

Policy UF-1-f: Complete Neighborhoods, Densities, and Development Standards. Use Complete Neighborhood design concepts and development standards to achieve the development of Complete Neighborhoods and the residential density targets of the General Plan.

***Objective UF-2*.** Enhance the unique sense of character and identity of the different subareas of the Downtown neighborhoods.

***Objective UF-8*.** Develop each of Downtown's neighborhoods and districts, according to its unique character.

Policy UF-12-g: Impacts on Surrounding Uses. Establish design standards and buffering requirements for high-intensity Activity Centers to protect surrounding residential uses from increased impacts from traffic noise and vehicle emissions, visual intrusion, interruption of view and air movement, and encroachment upon solar access.

Policy UF-13-a: Future Planning to Require Design Principles. Require future planning, such as Specific Plans, neighborhood plans or Concept Plans, for Development Areas and BRT Corridors designated by the General Plan to include urban design principles and standards consistent with the Urban Form, Land Use, and Design Element.

Commentary: The General Plan requirements and regulations will be further defined through Specific Plans, neighborhood plans and Concept Plans to coordinate more discreet land use and transportation design integration and intensity with necessary public facilities, maintenance, and services financing for Development Areas following General Plan adoption and the subsequent adoption of a new Development Code.

Policy UF-14-a: Design Guidelines for Walkability. Develop and use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.

Commentary: These guidelines will highlight how to achieve these design ideas and avoid barriers to access, such as:

- *Walls and fences that separate related uses or isolate neighborhoods;*
- *Over reliance on cul-de-sacs and dead end streets that cut off access within neighborhoods;*
- *Disconnected bike and pedestrian paths;*
- *Wide streets that lack pedestrian support, such as sidewalks, median strips, and a landscaped strip that separates pedestrians from the street;*
- *Street front parking lots that separate pedestrian from commercial operations;*
- *Retail centers that are exclusively auto-oriented;*
- *Transit stops that are not easily accessible from an individual's starting point and destination; and*
- *Long blocks that discourage walking.*

Objective LU-1. Establish a comprehensive citywide land use planning strategy to meet economic development objectives, achieve efficient and equitable use of resources and infrastructure, and create an attractive living environment.

Policy LU-1-a: Promote Development within the Existing City Limits as of December 31, 2012. Promote new development, infill, and rehabilitation of existing building stock in the Downtown Planning Area, along BRT corridors, in established neighborhoods generally south of Herndon Avenue, and on other infill sites and vacant land within the City.

Policy LU-1-b: Land Use Definition and Compatibility. Include zoning districts and standards in the Development Code that provide for the General Plan land use designations and create appropriate transitions or buffers between new development with existing uses, taking into consideration the health and safety of the community.

Objective LU-2. Plan for infill development that includes a range of housing types, building forms, and land uses to meet the needs of both current and future residents.

Policy LU-2-c: Infill Design Toolkit. Develop and distribute an infill design toolkit, consistent with the City's Infill Development Act to support and encourage infill development.

Commentary: The toolkit will use photos and diagrams to:

- *Explain design and permit requirements and priority infill development incentives;*
- *Illustrate context-responsive best practices for prototype development; and*
- *Address detailed issues such as parking, scale, privacy, outdoor spaces, housing types, transitions, building design, siting and street orientation, setbacks, windows, and general material guidelines and buffering for adjacent uses.*

Policy LU-2-e: Neighborhood Preservation. Incorporate standards in the Development Code to preserve the existing residential quality of established neighborhoods.

Policy LU-3-b: Mixed-Use Urban Corridors that Connect the Downtown Planning Area. Support the development of mixed-use urban corridors that connect the Downtown Planning Area with the greater Fresno-Clovis Metropolitan Area with functional, enduring, and desirable urban qualities along the Blackstone Avenue, Shaw Avenue, California Avenue, and Ventura Avenue/Kings Canyon Road corridors, as shown on Figure LU-1: General Plan Land Use Diagram.

Policy LU-4-a: Neighborhood Nuisance Abatement. Continue proactive and responsive code enforcement and nuisance abatement programs to improve the attractiveness of residential neighborhoods.

Policy LU-5-g: Scale and Character of New Development. Allow new development in or adjacent to established neighborhoods that is compatible in scale and character with the surrounding area by promoting a transition in scale and architectural character between new buildings and established neighborhoods, as well as integrating pedestrian circulation and vehicular routes.

Policy LU-6-a: Design of Commercial Development. Foster high quality design, diversity, and a mix of amenities in new development with uses through the consideration of guidelines, regulations and design review procedures.

Policy LU-6-b: Commercial Development Guidelines. Consider adopting commercial development guidelines to assure high quality design and site planning for large commercial developments, consistent with the Urban Form policies of this Plan.

Commentary: The guidelines should address:

- *Architectural finishes, coordinated color palette, massing, and hierarchy in scale;*
- *Pedestrian-scaled amenities, signage, and lighting;*
- *Site improvements, including parking lot landscaping, perimeter landscaping, foundation landscaping, walkways, and passageways;*
- *Ground floor transparency requirements along shopping streets and limitations on blank walls in these areas;*
- *Anti-theft glass on windows, rather than bars or roll-down metal screens, that are architecturally compatible with building design;*

- *Screening of truck loading, parking, mechanical equipment, transformers, ventilation systems, storage containers, and refuse collection areas from the street;*
- *Shading and its relationship and effects on surrounding buildings;*
- *Building entries; and*
- *Design standards for perimeter walls and fencing.*

Policy LU-6-d: Neighborhood and Community Commercial Center Design. Plan for neighborhood mixed use and community commercial uses to implement the Urban Form concepts of this Plan, promote the stability and identity of neighborhoods and community shopping areas, and allow efficient access without compromising the operational effectiveness of the street system.

- Neighborhoods will be anchored by community commercial centers with a mix of uses that meet the area's needs and create a sense of place; and

- Community commercial centers will be located within Activity Centers.

Policy LU-6-e: Regional Center Planning and Design. Promote economic growth with regional commercial centers.

- New regional commercial centers will be located with access to State Routes and/or other major transportation facilities to ensure access from throughout the region; and

- Regional shopping centers will have internally-unified building design, landscaping, and signage standards.

Policy LU-6-f: Auto-Oriented Commercial Uses. Direct highway-oriented and auto-serving commercial uses to locations that are compatible with the Urban Form policies of the General Plan. Ensure adequate buffering measures for adjacent residential uses, noise, glare, odors, and dust.

Policy LU-9-e: Downtown Sightline. Require new development to preserve existing sightlines to Downtown to the extent feasible.

Policy LU-9-f: View Corridors. Promote new view corridors that highlight the Downtown skyline.

Objective D-1. Provide and maintain an urban image that creates a "sense of place" throughout Fresno.

Policy D-1-d: Public Art. Continue to promote a citywide public art program that contributes to an awareness of the City's history and culture.

Policy D-1-e: Graphic Identity. Continue the preservation, promotion, procurement and strategic location of landmarks, monuments and artwork that provide orientation and represent Fresno's cultural heritage and artistic values.

Policy D-1-h: Screening of Parking. Consider requiring all new development with parking in Activity Centers and along corridors to be screened or concealed. Locate principal pedestrian entrances to new non-residential buildings on the sidewalk; any entrances from parking areas should be incidental or emergency use only.

***Objective D-2*.** Enhance the visual image of all "gateway" routes entering the Fresno Planning Area.

Policy D-2-a: Design Requirements for Gateways. Create unified design requirements for gateways to welcome travelers to the City's Activity Centers.

Commentary: Gateway route designation will be considered for application to key access routes such as State Routes 99, 41, 168, and 180; passenger rail rights-of-way; Peach Avenue, McKinley Avenue, and Clinton Way where air travelers enter Fresno; Van Ness Avenue; Fulton, Divisadero, Tulare, and Fresno Streets; Belmont and Olive; and Blackstone, Abby, Shaw and Herndon Avenues.

Policy D-2-c: Highway Beautification. Work with Caltrans, the Fresno Council of Governments, Tree Fresno, neighboring jurisdictions, and other organizations to obtain funding for highway beautification programs.

***Objective D-3*.** Create unified plans for Green Streets, using distinctive features reflecting Fresno's landscape heritage.

Policy D-3-a: Green Street Tree Planting. Create a Green Street Tree Planting Program, with a well-balanced variety and spacing of trees to establish continuous shading and visual continuity for each streetscape. Strive to achieve coherent linkages between public and private spaces, prioritizing tree planting along tree-deficient Arterial Roadways in neighborhoods characterized by lower per capita rates of vehicle ownership.

Policy D-3-b: Funding for Green Street Tree Planting Program. Pursue funding for the Green Street Tree Planting Program, including landscaping of median islands.

Policy D-3-c: Local Streets as Urban Parkways. Develop local streets as "urban parkways," where appropriate, with landscaping and pedestrian spaces.

Policy D-3-d: Undergrounding Utilities. Partner with utility companies to continue to pursue the undergrounding of overhead utilities as feasible.

Objective D-4. Preserve and strengthen Fresno's overall image through design review and create a safe, walkable and attractive urban environment for the current and future generations of residents.

Policy D-4-f: Design Compatibility with Residential Uses. Strive to ensure that all new non-residential land uses are developed and maintained in a manner complementary to and

compatible with adjacent residential land uses, to minimize interface problems with the surrounding environment and to be compatible with public facilities and services.

Objective D-5. Maintain and improve community appearance through programs that prevent and abate blighting influences.

Policy D-5-a: Code Enforcement. Continue enforcement of the Fresno Municipal Code to remove or abate public nuisances in a timely manner.

Policy D-5-b: Clean Streets. Promote community partnerships and continued City efforts toward litter clean-up and abatement of trash stockpiles on public and private streets.

Policy D-5-c: Facade Improvements. Pursue funding for, and support of, building facade improvement programs.

Policy D-5-d: Graffiti Prevention and Abatement. Seek ways to end graffiti, continue and expand the City's effective Graffiti Abatement Program.

Policy D-6-b: Consider adopting and implementing incentives for, and support efforts by, private development to incorporate culturally-specific architectural elements in areas with a predominant ethnic population.

Mobility and Transportation Element

Objective MT-3. Identify, promote and preserve scenic or aesthetically unique corridors by application of appropriate policies and regulations.

Policy MT-3-a: Scenic Corridors. Implement measures to preserve and enhance scenic qualities along scenic corridors or boulevards, including:

- Van Ness Boulevard - Weldon to Shaw Avenues
- Van Ness Extension - Shaw Avenue to the San Joaquin River Bluff
- Kearney Boulevard - Fresno Street to Polk Avenue
- Van Ness/Fulton couplet - Weldon Avenue to Divisadero
- Butler Avenue - Peach to Fowler Avenues
- Minnewawa Avenue - Belmont Avenue to Central Canal
- Huntington Boulevard - First Street to Cedar Avenue
- Shepherd Avenue - Friant Road to Willow Avenue
- Audubon Drive - Blackstone to Herndon Avenues
- Friant Road - Audubon to Millerton Roads
- Tulare Avenue - Sunnyside to Armstrong Avenues
- Ashlan Avenue- Palm to Maroa Avenues

Policy MT-3-b. Preserve street trees lining designated scenic corridors or boulevards. Replace trees of the predominant type and in a comparable pattern to existing plantings if there is no detriment to public safety.

Parks, Open Space, and Schools Element

Policy POSS-7-f: River Bluffs. Preserve the river bluffs as a unique geological feature in the San Joaquin Valley by maintaining and enforcing the requirements of the "BP" Bluff Preservation Overlay Zone District, maintaining the bluff area setback for buildings, structures, decks, pools and spas (which may be above or below grade), fencing, and steps, and maintaining designated vista points.

- Strive to assure that development of the parkway and other uses within the San Joaquin riverbottom environs are consistent with the mineral resources conservation zones; honor flood, environmental, recreational and aesthetic issues; protect natural habitats and historic resources; and consider adjacent property owners.
- Take an active role in establishing park entrances. Provide all gates, trails and roads adequate access by emergency vehicles such as fire trucks, police cars, and ambulances.
- For safety reasons, access may be limited to points that have controlled access gates. Cooperation of private parties having legal control of riverbottom access shall be sought in this effort.
- Continue to work toward the adoption of official plan lines for new segments of the San Joaquin River Trails and actively pursue completion of these segments to ensure that adequate and appropriate public access to the San Joaquin River and the Parkway is provided.
- Refer to Policy NS-2-d (Chapter 9, Noise and Safety) for additional information for sites within the BP Overlay District.

4.1.6 Significance Criteria

The thresholds for aesthetics impacts used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. The proposed project may be deemed to have a significant impact with respect to aesthetics if it would:

AES-1 Have a substantial adverse effect on a scenic vista.

AES-2 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

AES-3 In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

AES-4 Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.7 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to aesthetic resources that could result from continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and the updates to the Greenhouse Gas Reduction Plan. Future discretionary projects facilitated by the proposed project will be evaluated for project-specific impacts to aesthetics at the time they are proposed. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with continued implementation of the approved General Plan and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less than significant level. Cumulative impacts are also addressed.

4.1.7.1 Project Impacts

The following discussion describes the potential impacts related to aesthetic resources that could result from continued implementation of the approved General Plan, implementation of the text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan. This programmatic EIR contemplates continued implementation of the General Plan; future discretionary projects facilitated by the proposed project will be evaluated for project-specific aesthetic impacts at the time they are proposed.

AES-1 The proposed project would not have a substantial adverse effect on a scenic vista.

The Planning Area is almost entirely developed and is characterized by an urban and suburban landscape consisting of low, medium, and high density residential, commercial, office, mixed use, industrial, institutional, and open space uses. The visual setting of the Planning Area is primarily characterized by areas of low- to moderate-scale buildings and structures; however, the Downtown Fresno area is characterized by high-rise buildings that are greater in height, density, and scale than other surrounding areas.

The Planning Area contains views of highly valued features such as the San Joaquin River, Sierra Nevada Mountain foothills, and buildings in Downtown Fresno. Public views of the San Joaquin River from the Planning Area are limited due to the prevalence of privately-owned property located adjacent to the river. From the eastern portion of the Planning Area, public views of the Sierra Nevada Mountain foothills are prevalent from existing public roadways. It should be noted that views of the foothills are typically impeded due to the poor air quality within the Planning Area.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element indicate that potential environmental impacts relative to VMT will be required after July 1, 2020, and would not result in any physical improvements that would result in impacts to scenic vistas. Similarly, updates to the Greenhouse Gas Reduction Plan includes an update to the greenhouse gas emissions inventory for the City, and a series of recommended reduction measures, such as consideration project design features, to demonstrate consistency with the Greenhouse Gas Reduction Plan Update Consistency Checklist. Updates to the Greenhouse Gas Reduction Plan do not change the distribution or intensity of land

uses and, therefore, would not result in any physical impacts that would affect visual resources. However, impacts associated with the continued implementation of the approved General Plan are identified below.

The City's approved General Plan identifies six locations along the San Joaquin River bluffs as designated vista points from which views should be maintained. The scenic views from the San Joaquin River bluffs are not expected to be substantially affected since the land uses included in the approved General Plan are similar to current land uses. As such, implementation of future development associated with the continued implementation of the approved General Plan would result in a less than significant impact on existing designated vista points.

Public views of buildings in Downtown Fresno provide a skyline within the Planning Area. Due to relatively flat topography, intervening land uses, and landscaping, views of the skyline are primarily limited to areas within the Downtown Fresno area. Limited views of existing high-rise buildings in Downtown Fresno are visible from portions of elevated freeways, including SR 41, SR 99, and SR 180. The continued implementation of the approved General Plan would allow future development in the Downtown area, which could include additional high rises. While views of scenic resources in the Downtown Fresno area may be partially obstructed following future development as allowed by the approved General Plan, existing development in these areas currently inhibits views of scenic vistas. Therefore, potential impacts of the proposed project on scenic vistas would be less than significant, and no mitigation would be required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.1.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

AES-2 The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element related to VMT analysis and the updates to the Greenhouse Gas Reduction Plan would not change the distribution or intensity of land uses and, therefore, would not result in any physical improvements that would result in impacts to scenic resources. However, impacts associated with the continued implementation of the approved General Plan are identified below.

According to the Caltrans State Scenic Highway Mapping System, there are no eligible or officially-designated State Scenic Highways within the Planning Area. However, Fresno County has three eligible State Scenic Highways; the nearest eligible highways include a portion of SR 180 (approximately 7 miles east of the Planning Area) and a portion of SR 168 (approximately 5 miles east of the Planning Area). The nearest officially-designated State Scenic Highway is located more

than 30 miles northeast of the Planning Area within the county of Madera. Due to intervening land uses and distance, the continued implementation of the approved General Plan would not impact scenic resources from these eligible and officially-designated State Scenic Highways nearest to the Planning Area. Therefore, since there are no eligible or officially-designated State Scenic Highways within or in close proximity to the Planning Area, future development in accordance with continued implementation of the approved General Plan would not impact scenic resources within a designated state scenic highway.

Although there are no eligible or officially-designated State Scenic Highways exist in the Planning Area, the approved General Plan designates the following local scenic corridors:

- Van Ness Boulevard – Weldon to Shaw Avenues
- Van Ness Extension – Shaw Avenue to the San Joaquin River Bluff
- Kearney Boulevard – Fresno Street to Polk Avenue
- Van Ness-Fulton couplet – Weldon Avenue to Divisadero
- Butler Avenue – Peach to Fowler Avenues
- Minnewawa Avenue – Belmont Avenue to Central Canal
- Huntington Boulevard – First Street to Cedar Avenue
- Shepherd Avenue – Friant Road to Willow Avenue
- Audubon Drive – Blackstone to Herndon Avenues
- Friant Road – Audubon to Millerton Roads
- Tulare Avenue – Sunnyside to Armstrong Avenues
- Ashlan Avenue – Palm to Maroa Avenues.

Continued implementation of the approved General Plan would facilitate future development that could result in the obstruction of scenic resources within the scenic corridors identified above. Although the continued implementation of the approved General Plan would facilitate new development throughout the Planning Area, it would also focus preserving and enhancing scenic qualities along these scenic corridors. Therefore, the proposed project would not result in impacts related to the substantial damage of scenic resources within a State-designated highway or local scenic corridors as identified in the approved General Plan.

Applicable Laws, Regulations, Relevant Land Use Policies

- State Scenic Highway Program.

- Refer to the approved General Plan policies and objectives identified in Section 4.1.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

AES-3 ***The proposed project would substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly accessible vantage point), and due to the location of the***

project in an urbanized area, the project would conflict with applicable zoning and other regulations governing scenic quality.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element related to VMT analysis would not result in any physical improvements that would result in the substantial degradation of the existing visual character or quality of public views of the Planning Area. Similarly, updates to the Greenhouse Gas Reduction Plan do not change the distribution or intensity of land uses and, therefore, would not result in any physical impacts that would affect visual resources. However, impacts associated with the continued implementation of the approved General Plan are identified below.

Continued implementation of the approved General Plan would facilitate future development and result in a substantial alteration to the existing urban form and character of the Planning Area. Specifically, continued implementation of the approved General Plan would result in increases of densities and intensification of land uses within the Planning Area. Compared to existing conditions, the approved General Plan provides for an increase in residential units, as well as an increase in non-residential building area. Non-residential uses include commercial, office, public facilities, mixed uses, and industrial. Approximately half of future residential units are planned within the existing city limits, primarily within Downtown Fresno, mixed-use centers, and along major transit corridors such as Blackstone Avenue and Ventura Avenue-Kings Canyon Road.

In addition to future development within the city limits, the continued implementation of the approved General Plan would result in a substantial amount of development in areas within the Planning Area and currently outside of the city limits. Development areas, including the West Development Area, Southwest Development Area, and Southeast Development Area, are planned to include a variety of land uses that would replace existing rural, agricultural, and open space uses. The land use replacement that would result from continued implementation of the approved General Plan would substantially alter the visual character within the Planning Area and outside of the existing city limits through the increase of densities and intensification of land uses. Additionally, significant impacts to the existing visual character are expected to occur from views that are surrounding the Planning Area, such as properties within the county of Fresno, the city of Clovis, and the county of Madera.

To reduce potential visual character impacts within the Planning Area, the approved General Plan includes objectives and policies identified in Section 4.1.5.3, Local Policies and Regulations, that would reduce impacts to visual resources. Although the continued implementation of approved General Plan objectives and policies would reduce the potential impacts to visual character from locations within and outside the Planning Area, the replacement of rural, agricultural, and open space uses with urban land uses would continue to result in a substantial alteration of the visual character of the Planning Area. Therefore, the proposed project would result in significant impacts with regard to the visual character of the Planning Area, as identified at the time the General Plan was adopted. No feasible mitigation measures are available to mitigate the impact to a less than significant level. Therefore, impacts are considered significant and unavoidable.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.1.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact AES-3: Continued implementation of the approved General Plan would substantially degrade the existing visual character or quality of public views of the site and its surroundings.

Mitigation Measures: No feasible mitigation measures are available.

Level of Significance Without Mitigation: Significant and Unavoidable Impact.

AES-4 The proposed project would create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element related to VMT analysis would not result in any physical improvements that would create a new source of substantial light or glare in the Planning Area. Similarly, updates to the Greenhouse Gas Reduction Plan do not change the distribution or intensity of land uses and, therefore, would not result in any physical impacts that would affect visual resources. However, impacts associated with the continued implementation of the approved General Plan are identified below.

As discussed in Impact Discussion AES-3, continued implementation of the approved General Plan would facilitate future development and result in a substantial alteration to the existing urban form and character of the Planning Area. The development of new residential and non-residential uses would result in increases of densities and intensification of land uses within the Planning Area.

New development, which would be facilitated by the continued implementation of the approved General Plan, within the city limits could increase the amount of light from street lights, exterior lighting systems on private and public property, exterior lighting from buildings, and vehicular headlights. The increase in lighting within the city limits could also result in light spillover onto adjacent properties located outside of the Planning Area. Further, the increase in light would substantially illuminate the sky at night. Future development facilitated by continued implementation of the approved General Plan would be required to comply with the lighting standards established in the City Municipal Code (Article 25, Performance Standards). Additionally, implementation of Mitigation Measures AES-4.1 through AES-4.4, identified at the time the General Plan was adopted and still applicable, would reduce potential lighting impacts resulting from the proposed project. However, due to the anticipated increase in new development, the increase in light illumination within the city limits is still considered a significant and unavoidable impact.

In areas outside of the existing city limits and within the Planning Area, as well as areas directly adjacent to the Planning Area, there is the potential for exposure to a nominal amount of light due

to the existing rural and agricultural setting. New urban development that would result from continued implementation of the approved General Plan would substantially alter the light exposure within existing rural and agricultural areas. Examples of potential causes of increased light exposure include the following: lighting systems associated with new development and roads; lighting on properties to provide safety and security; lighting associated with public facilities, including active use parks; increases in nighttime traffic that would increase lighting from car headlights. As such, new development facilitated by the continued implementation of the approved General Plan outside the existing city limits and within the Planning Area would increase the amount of light that could cause light spillover onto adjacent properties within and adjacent to the Planning Area, as well as and increase the illumination of the sky at night. Future development facilitated by continued implementation of the approved General Plan would be required to comply with the lighting standards established in the City Municipal Code (Article 25, Performance Standards). Additionally, implementation of Mitigation Measures AES-4.1 through AES-4.4, identified at the time the General Plan was adopted and still applicable, would reduce potential lighting impacts resulting from the proposed project. However, due to the anticipated increase in new development, the increase in light illumination within the Planning Area and outside of the city limits is still considered a significant and unavoidable impact.

New development in accordance with the continued implementation of the General Plan would increase the amount of structures that could create new sources of glare within the Planning Area and directly adjacent to the Planning Area. These new potential sources of glare include materials used on building facades, parking lots, signs, roadway surfaces, and motor vehicles. Sources of glare within the city limits are typical of urban and future development facilitated by the continued implementation of the approved General Plan would add to the existing sources. Within the rural and agricultural areas, there are limited sources of glare. Within the Planning Area, the primary sources of glare would occur from vertical structures such as building facades and signs. Parking lots, roadway surfaces, and motor vehicles do not create substantial amount of glare. Therefore, due to the substantial amount of new development planned within the Planning Area that would be facilitated by the continued implementation of the approved General Plan, new development would result in a substantial increase in glare. Future development facilitated by continued implementation of the approved General Plan would be required to comply with the glare standards established in the City Municipal Code (Article 25, Performance Standards). Additionally, implementation of Mitigation Measure AES-4.5, identified at the time the General Plan was adopted and still applicable, would reduce potential glare impacts resulting from the proposed project. However, due to the anticipated increase in new development, the increase in glare within the Planning Area is still considered a significant and unavoidable impact.

Applicable Laws, Regulations, Relevant Land Use Policies

- Article 25, Performance Standards, of the City Municipal Code.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact AES-4: Continued implementation of the approved General Plan would increase the amount of light and glare within the Planning Area.

Mitigation Measure AES-4.1 **Lighting for Street and Parking Areas.** Lighting systems for street and parking areas shall include shields to direct light to the roadway surfaces and parking areas. Vertical shields on the light fixtures shall also be used to direct light away from adjacent light sensitive land uses such as residences.

Mitigation Measure AES-4.2 **Lighting for Public Facilities.** Lighting systems for public facilities such as active play areas shall provide adequate illumination for the activity; however, low intensity light fixtures and shields shall be used to minimize spillover light onto adjacent properties.

Mitigation Measure AES-4.3 **Lighting for Non-Residential Uses.** Lighting systems for non-residential uses, not including public facilities, shall provide shields on the light fixtures and orient the lighting system away from adjacent properties. Low intensity light fixtures shall also be used if excessive spillover light onto adjacent properties will occur.

Mitigation Measure AES-4.4 **Signage Lighting.** Lighting systems for freestanding signs shall not exceed 100 foot Lamberts (FT-L) when adjacent to streets which have an average light intensity of less than 2.0 horizontal footcandles and shall not exceed 500 FT-L when adjacent to streets which have an average light intensity of 2.0 horizontal footcandles or greater.

Mitigation Measure AES-4.5 **Use of Non-Reflective Materials.** Materials used on building facades shall be non-reflective.

Level of Significance With Mitigation: Significant and Unavoidable Impact.

4.1.7.2 Cumulative Impacts

AES-5 ***The proposed project, in combination with past, present, and reasonably foreseeable projects, would contribute to a significant cumulative impact with respect to aesthetics.***

The study area for the analysis of cumulative aesthetics impacts is the Planning Area and the portions of Fresno county located outside the Planning Area as well as portions of the city of Clovis and the county of Madera that can be viewed from, and have views of, the Planning Area. This analysis is based on a summary of projections approach as provided in Section 15130(b)(1)(B) of the *State CEQA Guidelines*. The applicable projections include growth projections from the Fresno County 2000 General Plan, Madera County General Plan (1995), and buildout projections within the City of Clovis General Plan (2014).

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element related to VMT analysis would not result in

any physical improvements that would result in cumulative impacts to aesthetic resources. However, impacts associated with the continued implementation of the approved General Plan are identified below.

Cumulative development, development located outside of the Planning Area and in portions of city of Clovis, the county of Fresno, and the county of Madera, would not result in the potential to impact scenic vistas within the Planning Area. Cumulative development has the potential to reduce distant views of the Sierra Nevada Mountains foothills, located east of the Planning Area, along existing roads; however, due to the relatively flat topography, intervening land uses, and poor air quality that currently reduce views of the foothills, future cumulative development would result in less than significant cumulative impacts on scenic vistas. Additionally, since there are no designated State Scenic Highways within Fresno county, cumulative development within the city of Clovis and county of Fresno would not impact eligible or officially designated State Scenic Highways. The nearest State Scenic Highway in the county of Madera is located more than 30 miles northeast of the Planning Area. Further, due to distance, cumulative development located outside of the Planning Area would not impact local scenic corridors as designated in the approved General Plan. Therefore, future development in accordance with the continued implementation of the approved General Plan would result in no cumulative impact on scenic vistas, State Scenic Highways, local scenic corridors.

Cumulative development is anticipated to contribute to the conversion of rural and agricultural uses to urban uses. This cumulative change is expected to result in a substantial alteration of the existing visual character of the area. Additionally, the project's contribution of the illumination of the night sky would remain cumulatively significant. Therefore, the project would result in a significant cumulative impact related to the existing visual character and illumination of the night sky.

Applicable Laws, Regulations, Relevant Land Use Policies

- State Scenic Highway Program.
- Article 25, Performance Standards, of the City Municipal Code.
- Refer to the approved General Plan policies and objectives identified in Section 4.1.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact AES-5: Continued implementation of the approved General Plan, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to existing visual character and illumination of the night sky.

Mitigation Measures: Refer to Mitigation Measures AES-4.1 through AES-4.5, above.

Level of Significance With Mitigation: Significant and Unavoidable Impact.

4.2 AGRICULTURE AND FORESTRY RESOURCES

4.2.1 Introduction

This section provides a discussion of the existing agricultural and forestry resources in the Planning Area and in the surrounding area, and evaluates the potential for conversion of agriculture and forestry land uses that could result from continued implementation of the approved Fresno General Plan, text changes to the Mobility and Transportation Element related to Vehicle Miles Traveled (VMT) analysis, and updates to the Greenhouse Gas Reduction Plan (proposed project).

4.2.2 CEQA Baseline

The City of Fresno (City) is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding VMT, and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the approved General Plan, explains that the PEIR will evaluate the continued implementation of the approved General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of SB 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. The General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.2.3 Existing Environmental Setting

The study area for project impacts regarding agricultural resources is the Planning Area because potential development under the City's General Plan is limited to areas within the Planning Area. As defined in Chapter 3.0, Project Description, the Planning Area is the geographic area for which the approved General Plan establishes policies about future growth. The Planning Area established by the City includes all areas within the City's current city limits, including the Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF), the areas within the current Sphere of Influence (SOI), and an area north of the city's most northeasterly portion of the city (referred to as the North Area). Central California is one of the leading agricultural regions in the world. The Planning Area is characterized as a mature agricultural area due to the prevalence and diversity of farming activities. Agricultural operations are comprised of relatively stable crops such as orchards and vineyards. Fruits and nuts, livestock and poultry, vegetable crops, and field crops are prevalent in Fresno and Madera counties.

According to the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP), there are approximately 9,134 acres of Prime Farmland, approximately 3,224 acres of Unique Farmland, and approximately 2,269 acres of Farmland of Statewide Importance (totaling approximately 14,627 acres) within the Planning Area. Refer to Figure 4.2-1, Farmland Classifications, which illustrates the location of each farmland category in the Planning Area. Based on existing farmland data received from the Fresno County Assessor's Office Land Use Codes that were provided by City staff, there is a total of approximately 11,495 acres having agricultural operations within the Planning Area. The primary agricultural uses within the Planning Area are located outside the City's city limits. Specifically, the Southeast Development Area (SEDA), which is located in the southeast portion of the Planning Area, contains approximately 50 percent of the existing farming in the Planning Area.

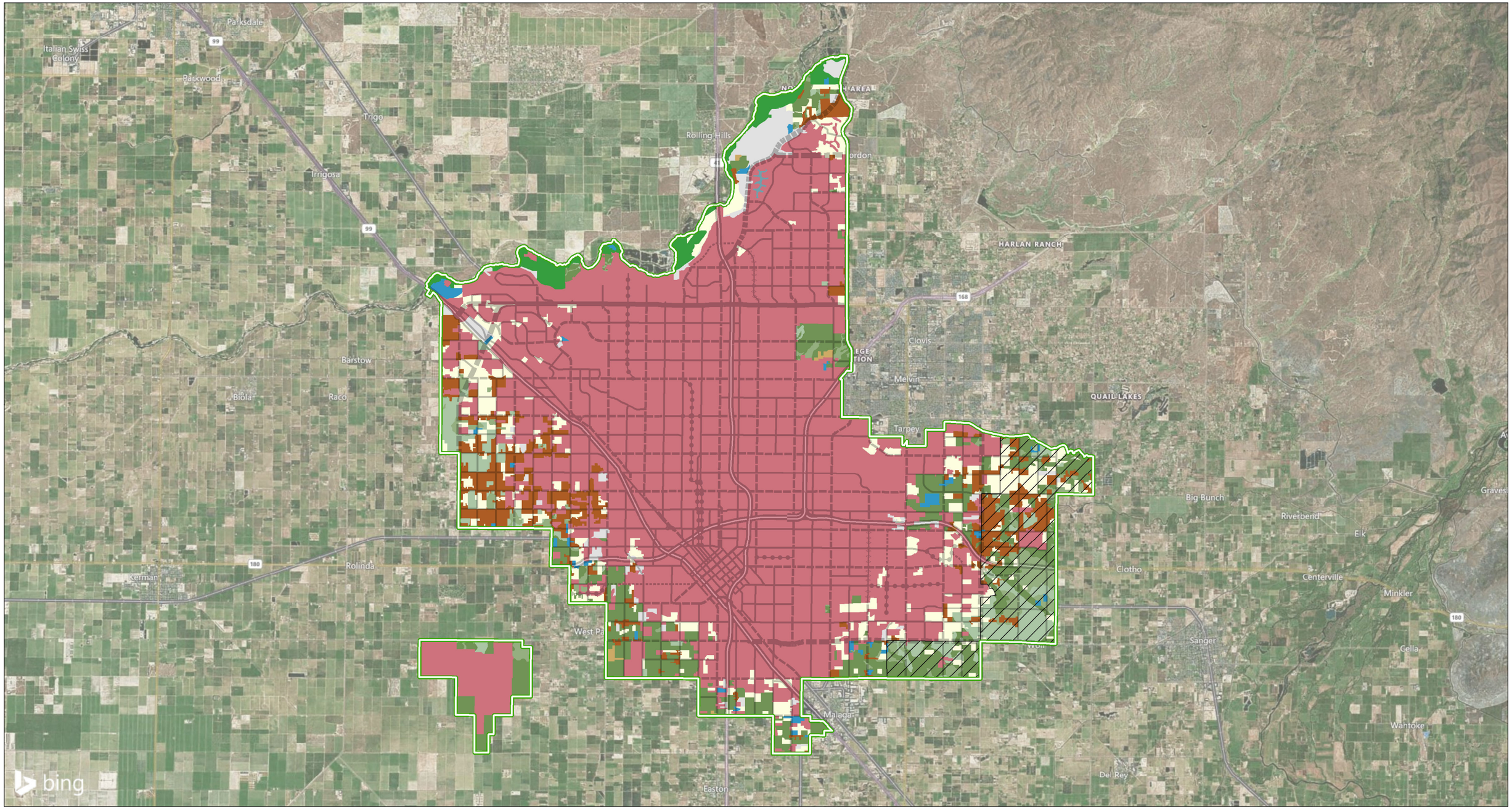
4.2.4 Methodology

The potential project-related impacts to agricultural and forestry resources were evaluated on a qualitative and quantitative basis. Quantitative impacts were assessed based on existing farmland data from the California DOC FMMP, as well as farmland data received from the Fresno County Assessor's Office Land Use Codes provided by City staff. Qualitative impacts were assessed by evaluating the project's potential for impacting agricultural activities within the Planning Area, consistent with the objectives of a programmatic EIR.

4.2.5 Regulatory Setting

4.2.5.1 Federal Policies and Regulations

Farmland Protection Policy Act. The Farmland Protection Policy Act (FPPA) was enacted to minimize the impact of federal programs on the conversion of farmland to non-agricultural uses. To the extent possible, the FPPA ensures that federal programs are administered to be compatible with state and local regulations to protect farmland. This act does not authorize the federal government to regulate the use of private or non-federal land. For the purposes of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance.



LSA

LEGEND

Planning Area

Southeast Development Area (SEDA)

Farmland Monitoring and Mapping Program (2016)

Important Farmland Categories

Prime Farmland

Farmland of Statewide Importance

Farmland of Local Importance

Unique Farmland

Grazing Land

Water

Urban and Built-Up Land

Rural Land Mapping Project

Rural Residential Land

Semi-Agricultural and Rural Commercial Land

Vacant or Disturbed Land

Confined Animal Agriculture

Nonagricultural or Natural Vegetation

0 1.25 2.5 Miles

SOURCE: Bing (2003); City of Fresno (9/2019); USDA FMMP (2016)

I:\CFO1802\GIS\MXD\FMMP.mxd (9/12/2019)

FIGURE 4.2-1

City of Fresno General Plan
Program Environmental Impact Report

Farmland Classifications

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4.2.5.2 State Policies and Regulations

Farmland Mapping and Monitoring Program. In 1982, the California DOC began coordinating with the United Stated Department of Agriculture (USDA) Soil Conservation Service in the preparation and completion of mapping of important farmland throughout the State. The FMMP created a greater level of mapping compared to the USDA Soil Conservation Service by modifying the federal criteria for use in the State and incorporating irrigation criteria for farmland significance. The primary purpose of the FMMP is to monitor the conversion of the State's agricultural lands. The DOC Division of Land Resource Protection works with landowners, local governments, and researchers to conserve California's farmland and open space resources based on information provided in the FMMP.

The DOC FMMP produces maps and statistical data used for analyzing impacts on agricultural resources. Agricultural land is categorized according to soil quality and irrigation status. The maps are updated every 2 years through review of aerial photographs, a computer mapping system, public review, and field reconnaissance. The latest statewide data available are for the period from 2014 to 2016. Data for the 2016–2018 period is not currently available for Fresno County. The FMMP categories are defined as follows:

- **Prime Farmland (P):** This land category has the best combination of physical and chemical features for sustaining long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce crops with sustained high yields. The land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

- **Farmland of Statewide Importance (S):** This category is similar to Prime Farmland but with minor shortcomings (e.g., greater slopes or less ability to store soil moisture). The land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.

- **Unique Farmland (U):** This category consists of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards. The land must have been cropped at some time during the 4 years prior to the mapping date.

- **Farmland of Local Importance (L):** This land category is important to the local agricultural economy as determined by each county's Board of Supervisors and a local advisory committee.

- **Grazing Land (G):** This type of land is occupied with vegetation suited to grazing livestock. This category was developed in cooperation with the California Cattleman's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit is 40 acres.

- **Urban and Built-Up Land (D):** This type of land is occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.

- **Other Land (X):** This type of land is not included in any other mapping category. Common examples include low-density rural developments, brush, timber wetland, riparian area not suitable for livestock grazing, and water bodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development that is greater than 40 acres is mapped as Other Land.

- **Water (W):** This classification includes perennial water bodies with an extent of at least 40 acres.

- **Optional Designation – Land Committed to Non-Agricultural Use:** This type of land is defined as existing farmland, grazing land, and vacant areas, which have a permanent commitment for development.

The DOC FMMP considers Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance collectively as Important Farmland.

Based on the farmland mapping categories identified above, Table 4.2-1 depicts the acreages of each category within the Planning Area, and Figure 4.2-1 illustrates the location of each farmland category.

Table 4.2-1: Existing Farmland Acreages Within the Planning Area

Designation	Acreage
Prime Farmland	9,134
Farmland of Statewide Importance	2,269
Unique Farmland	3,224
Farmland of Local Importance	7,896
Urban and Built Up	71,963
Rural Residential	6,434
Nonagricultural or Natural Vegetation	1,869
Confined Animal Agriculture	136
Grazing	1
Vacant or Disturbed	2,327
Water	57
Semi-Agricultural and Rural Commercial	729

Source: USDA FMMP (2016).

As shown in Table 4.2-1, the Planning Area includes approximately 9,134 acres of Prime Farmland, approximately 2,269 acres of Farmland of Statewide Importance, and approximately 3,224 acres of Unique Farmland. In total, the Planning Area includes approximately 14,627 acres of Prime

Farmland, Farmland of Statewide Importance, and Unique Farmland. This represents approximately 13.8 percent of the Planning Area.[1]

Land Conservation Act of 1965 (Williamson Act). The California Land Conservation Act, better known as the Williamson Act, has acted as the State's agricultural land protection program since its enactment in 1965. Fundamentally, the Williamson Act is a State policy administered by local governments, who enter into agreements with local landowners. In return, the landowners receive property tax assessments based on farming and open space uses, as opposed to full market value, thus resulting in a lower tax burden. Local governments are not mandated to administer the Act, but those that do have some latitude to tailor the program to suit local goals and objectives. The purpose of the Williamson Act is to preserve agricultural and open space lands by discouraging premature and unnecessary conversion to urban uses. In general, the minimum preserve size is 100 acres, and the minimum standard contract size for the county of Fresno is 20 acres on Prime Farmland and 40 acres on non-prime farmland within a preserve. The Williamson Act has a minimum contract size of 10 acres.

Williamson Act contracts have a minimum term of 10 years, with renewal occurring automatically each year (local governments can establish initial contract terms for longer periods of time). The Williamson Act contracts run with the land and are binding on all successors in interest of the landowner. Only land located within an agricultural preserve is eligible for Williamson Act contracts. An agricultural preserve defines the boundary of an area within which a city or county would enter into contracts with landowners. The boundary is designated by resolution of the board of supervisors or city council having jurisdiction. The rules of each agricultural preserve specify the uses allowed. Generally, any commercial agricultural uses would be permitted within any agricultural preserve. In addition, local governments may identify compatible uses allowed with a use permit. The landowner can petition to cancel a contract, although the presiding jurisdiction must make a finding based on substantial evidence that supports the cancellation of the contract. Upon approval, the landowner must pay a fee of 12.5 percent of the current fair market valuation of the property. Table 4.2-2 shows the acreages of land under a Williamson Act contract within the Planning Area.

Table 4.2-2: Existing Farmland under Williamson Act Contracts Within the Planning Area

Designation	Acreage
Prime Farmland	1,012
Farmland of Statewide Importance	343
Unique Farmland	431
Farmland of Local Importance	157
Other Lands	603
Total	**2,546**

Source: USDA FMMP (2016).

[1] Calculation: 14,627 acres of farmland / 106,000 acres in Planning Area = 13.8 percent

As shown in Table 4.2-2, the Planning Area contains approximately 1,012 acres of prime agricultural land that are under a Williamson Act contract as well as approximately 931 acres of non-prime agricultural land (i.e., Statewide Importance, Unique, or Local Importance). Figure 4.2-2, Williamson Act Contracts, illustrates the locations of land under a Williamson Act contract within the Planning Area.

4.2.5.3 Local Policies and Regulations

City of Fresno General Plan. The General Plan is a set of goals, objectives, and policies that form a blueprint for the physical development of the city. For a description of each of the elements within the General Plan, refer to Chapter 3.0, Project Description. The following objective and policies related to agricultural resources are presented in the General Plan:

Resource Conservation and Resilience Element.

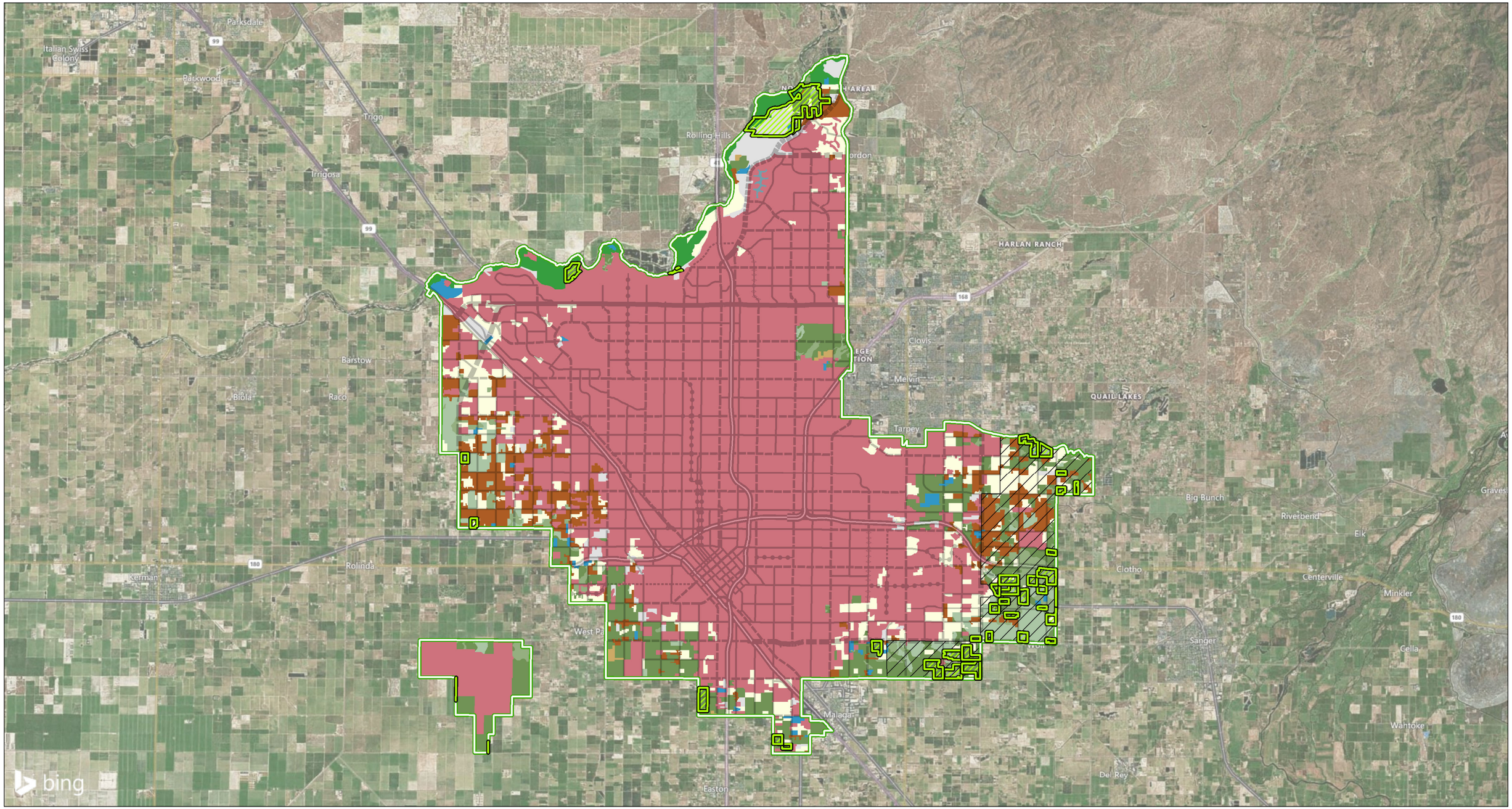
Objective RC-9. Preserve agricultural land outside of the area planned for urbanization under this General Plan.

Policy RC-9-a: Regional Cooperation. Work to establish a cooperative research and planning program with the Counties of Fresno and Madera, City of Clovis, and other public agencies to conserve agricultural land resources.

Policy RC-9-b: Unincorporated Land in the Planning Area. Express opposition to residential and commercial development proposals in unincorporated areas within or adjacent to the Planning Area when these proposals would do any of the following:

- Make it difficult or infeasible to implement the General Plan;
- Contribute to the premature conversion of agricultural, open space, or grazing lands; or
- Constitute a detriment to the management of resources and/or facilities important to the region (such as air quality, water quantity and quality, traffic circulation, and riparian habitat).

Policy RC-9-c: Farmland Preservation Program. In coordination with regional partners or independently, establish a Farmland Preservation Program. When Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is converted to urban uses outside City limits, this program would require that the developer of such a project permanently protect an equal amount of similar farmland elsewhere through easement to mitigate the loss of such farmland consistent with the requirements of CEQA. The Farmland Preservation Program shall provide several mitigation options that may include, but are not limited to the following: Restrictive Covenants or Deeds, In Lieu Fees, Mitigation Banks, Fee Title Acquisition, Conservation Easements, Land Use Regulation, or any other mitigation method that is in compliance with the requirements of CEQA. The Farmland Preservation Program may be modeled after some or all of the programs described by the California Council of Land Trusts.



LSA

FIGURE 4.2-2

LEGEND

- Planning Area
- Southeast Development Area (SEDA)
- Williamson Act Parcels (2019)

Farmland Monitoring and Mapping Program (2016)

Important Farmland Categories

- Prime Farmland
- Farmland of Statewide Importance
- Farmland of Local Importance
- Unique Farmland
- Grazing Land
- Water
- Urban and Built-Up Land

Rural Land Mapping Project

- Rural Residential Land
- Semi-Agricultural and Rural Commercial Land
- Vacant or Disturbed Land
- Confined Animal Agriculture
- Nonagricultural or Natural Vegetation

0 1.25 2.5 Miles

SOURCE: Bing (2003); City of Fresno (9/2019); USDA FMMP (2016)

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City of Fresno General Plan
Program Environmental Impact Report

Williamson Act Contracts

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City of Fresno Zoning Ordinance. The City's Zoning Ordinance (Chapter 15 of the Municipal Code) is intended to provide a guide for the physical development of the city in order to achieve the arrangement of land uses depicted in the approved General Plan, as well as implement goals, objectives, and policies of the approved General Plan. There are zoning designations related to agricultural or forestry use in the City's Zoning Ordinance, including Residential Single Family District, (RE and RS-1 through RS-5) Residential Multi-Family (RM-1 through RM-3 and RM-MH), Light Industrial (IL), Heavy Industrial (IH), and Open Space (OS).

4.2.6 Significance Criteria

The thresholds for impacts to agricultural and forestry resources used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. The proposed project may be deemed to have a significant impact with respect to agriculture and forestry resources if it would:

AG-1 Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

AG-2 Conflict with existing zoning for agricultural use or a Williamson Act contract.

AG-3 Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).

AG-4 Result in the loss of forest land or conversion of forest land to non-forest use.

AG-5 Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

4.2.7 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to agriculture and forestry resources that could result from continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with the proposed project and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less than significant level. Cumulative impacts are also addressed.

4.2.7.1 Project Impacts

This programmatic EIR contemplates continued implementation of the General Plan; future discretionary projects facilitated by the proposed project will be evaluated for project specific agriculture and forestry impacts at the time they are proposed.

AG-1 The proposed project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and the continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or change the distribution or intensity of land uses and, therefore, would not result in impacts to agricultural resources within the Planning Area. However, impacts associated with the continued implementation of the approved General Plan are identified below.

The Planning Area includes areas that have been designated as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance through the Farmland Mapping and Monitoring Program (FMMP) of the California DOC. The approved General Plan includes a variety of land use designations, but there are no land use designations that only allow agricultural uses. The Buffer designation within the approved General Plan allows agricultural uses and other complementary uses, including environmental, habitat, water conveyance, retention and recharge, and preservation and preparation of gravel resources for beneficial uses related to permanent water resource facilities. The Buffer designation is intended to separate urban uses from long-term agricultural uses in order to preserve long-term viable agricultural areas and intensive farming operations adjacent to the Planning Area. The Buffer designation is approximately one-quarter mile wide and located along the eastern Planning Area boundary in the SEDA, encompassing approximately 715 acres. Due to the multitude of non-agricultural uses allowed in the Buffer designation, the continued implementation of the approved General Plan would allow future development within this area and, therefore, would not conserve agricultural resources within the Planning Area.

According to the FMMP, there are approximately 9,134 acres of Prime Farmland, approximately 2,269 acres of Farmland of Statewide Importance, and approximately 3,224 acres of Unique Farmland (totaling approximately 14,627 acres) within the Planning Area. However, it should be noted that existing agricultural operations are not necessarily occurring on all of the land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the FMMP. In addition, there may be agricultural operations that occur within the Planning Area that are not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Based on existing farmland data received from the Fresno County Assessor's Office Land Use Codes that were provided by City staff, there is a total of approximately 11,495 acres having agricultural operations.

The continued implementation of the approved General Plan would result in the conversion of approximately 14,627 acres of FMMP-designated farmland and approximately 11,495 acres of existing farmland to non-agricultural uses. This conversion of agricultural uses to non-agricultural uses was identified at the time the approved General Plan was adopted (2014) and is considered to remain a significant impact on agricultural resources.

In order to reduce potential project-specific impacts to agricultural resources, the approved General Plan includes the following objective and policies:

***Objective RC-9*.** Preserve agricultural land outside of the area planned for urbanization under this General Plan.

Policy RC-9-a: Regional Cooperation. Work to establish a cooperative research and planning program with the Counties of Fresno and Madera, City of Clovis, and other public agencies to conserve agricultural land resources.

Policy RC-9-b: Unincorporated Land in the Planning Area. Express opposition to residential and commercial development proposals in unincorporated areas within or adjacent to the Planning Area when these proposals would do any of the following:

- Make it difficult or infeasible to implement the General Plan;
- Contribute to the premature conversion of agricultural, open space, or grazing lands; or
- Constitute a detriment to the management of resources and/or facilities important to the region (such as air quality, water quantity and quality, traffic circulation, and riparian habitat).

Policy RC-9-c: Farmland Preservation Program. In coordination with regional partners or independently, establish a Farmland Preservation Program. When Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is converted to urban uses outside City limits, this program would require that the developer of such a project mitigate the loss of such farmland consistent with the requirements of CEQA. The Farmland Preservation Program shall provide several mitigation options that may include, but are not limited to the following: Restrictive Covenants or Deeds, In Lieu Fees, Mitigation Banks, Fee Title Acquisition, Conservation Easements, Land Use Regulations, or any other mitigation method that is in compliance with the requirements of CEQA. The Farmland Preservation Program may be modeled after some of all of the programs described by the California Council of Land Trusts.

Although the implementation of the above objective and policies would reduce impacts to agricultural resources, project impacts on agricultural resources would remain significant and unavoidable. No feasible mitigation measures are available.

Applicable Laws, Regulations, Relevant Land Use Policies

- Objective RC-9; Policies RC-9-a through RC-9-c.
- Farmland Mapping and Monitoring Program

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact AG-1: Continued implementation of the approved General Plan would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use.

Mitigation Measure AG-1.1 Consistent with Policy RC-9-c of the approved General Plan, the City, in coordination with regional partners or independently, shall establish a Farmland Preservation Program by 2025. The intent of the Farmland Preservation Program would be that, when Prime Farmland, Unique Farmland, or Farmland of Statewide Importance are proposed for development and converted to urban uses within the Sphere of Influence outside City limits, this program would require that the developer of such a project mitigate the loss of farmland consistent with the requirements of CEQA. The Farmland Preservation Program shall establish thresholds of significance and provide several mitigation options that may include, but are not limited to, the following:

- Restrictive Covenants or Deeds
- In Lieu Fees
- Mitigation Banks
- Fee Title Acquisition
- Conservation Easements
- Land Use Regulations

The Farmland Preservation Program may be modeled after some or all of the programs described by the California Council of Land Trusts.

Prior to the adoption of the Farmland Preservation Program, projects shall be required to comply with CEQA to address potential environmental impacts on an individual basis.

Level of Significance With Mitigation: Significant and Unavoidable Impact. Implementation of Mitigation Measure AG-1.1 would require a program to be established to offset potential impacts from the loss of farmland, however, the loss would not be fully mitigated because the conversion of farmland to non-farmland uses is a permanent loss of such resources cannot likely be reversed.

AG-2 The proposed project would conflict with existing zoning for agricultural use or a Williamson Act contract.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and Greenhouse Gas Reduction Plan would not result in any physical improvements or change the distribution or intensity of land uses and, therefore, would not result in impacts to agricultural resources within the Planning Area. However, impacts associated with the continued implementation of the approved General Plan are identified below.

The Planning Area includes lands that are under a Williamson Act contract for prime and non-prime agricultural land. Currently, the majority of the land under a Williamson Act contract is designated for non-agricultural land uses, but some areas located along the San Joaquin River are currently designated for Multi-Use under the approved General Plan. With the continued implementation of the approved General Plan, the land that is under a Williamson Act contract, designated for non-agricultural uses, and within the Planning Area will continue to be designated for non-agricultural uses. Therefore, the continued implementation of the approved General Plan could conflict with existing Williamson Act contracts because non-agricultural uses are allowed on the land under a Williamson Act contract. As a result, the continued implementation of the approved General Plan could result in a significant impact on existing Williamson Act contract land.

In order to reduce potential project-specific impacts to agricultural resources on land under a Williamson Act contract, the approved General Plan includes Objective RC-9 and Policies RC-9-a through RC-9-c., which would aim at limiting the premature conversion of agricultural land within or adjacent to the Planning Area.

Although the implementation of the above policy would reduce impacts to agricultural resources on land under a Williamson Act contract, project impacts associated with continued implementation of the approved General Plan would remain significant and unavoidable. No feasible mitigation measures are available.

Applicable Laws, Regulations, Relevant Land Use Policies

- Williamson Act.
- Refer to the approved General Plan objectives and policies identified in Section 4.2.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact AG-2: Continued implementation of the approved General Plan would conflict with existing zoning for agricultural use or a Williamson Act contract.

Mitigation Measures: No feasible mitigation measures are available.

Level of Significance With Mitigation: Significant and Unavoidable Impact as no feasible mitigation is available.

AG-3 ***The proposed project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).***

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and the Greenhouse Gas Reduction Plan

update would not result in any physical improvements or change the distribution or intensity of land uses and, therefore, would not result in impacts to forestry resources within the Planning Area. However, impacts associated with the continued implementation of the approved General Plan are identified below.

The Planning Area is not used for forestry purposes, and no properties within the Planning Area are designated or zoned for forestry uses. Therefore, continued implementation of the approved General Plan would not conflict with existing zoning for, or cause rezoning of, forest land timberland, or timberland zoned Timberland Production. Therefore, no project-related impacts with respect to forestry resources would occur, and no mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Not applicable.

Level of Significance Without Mitigation: No Impact.

AG-4 The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use.

The proposed project includes text changes to the Mobility and Transportation Element, an update to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or change the distribution or intensity of land uses and, therefore, would not result in impacts to forestry resources within the Planning Area.

Refer to Impact Discussion AG-3. The Planning Area is not used for forestry purposes. Therefore, continued implementation of the approved General Plan would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, no project-related impacts with respect to forestry resources would occur, and no mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Not applicable.

Level of Significance Without Mitigation: No Impact.

AG-5 The proposed project would not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

The proposed project includes text changes to the Mobility and Transportation Element, an update to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or change the distribution or

intensity of land uses and, therefore, would not result in impacts to agricultural resources within the Planning Area. However, impacts associated with the continued implementation of the approved General Plan are identified below.

As discussed in Impact Discussion AG-1, the continued implementation of the approved General Plan would result in the conversion of farmland to non-agricultural uses. Except for direct conversion of farmland to non-agricultural uses, the continued implementation of the approved General Plan would not result in other changes in the existing environment that would impact agricultural uses within the Planning Area. For example, continued implementation of the approved General Plan would not result in any physical improvements or changes in land restrictions (such as Williamson Act contracts) that would result in impacts to agricultural resources. Additionally, as discussed in Impact Discussions AG-3 and AG-4, the continued implementation of the approved General Plan would not result in the conversion of forest land to non-forest uses because no portion of the Planning Area is used for forestry purposes. Therefore, the project would result in no impact on farmland or forest land involving other changes in the existing environment.

Applicable Laws, Regulations, Relevant Land Use Policies

- Not applicable.

Level of Significance Without Mitigation: No Impact.

4.2.7.2 Cumulative Impacts

AG-6 The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in a significant cumulative impact with respect to agriculture and forestry resources.

The study area for the analysis of cumulative impacts to agricultural resources is the area within the Planning Area and within agricultural lands within immediately adjacent areas including land under the jurisdiction of the County of Fresno, the City of Clovis, and the County of Madera. This analysis will be based on a summary of projections approach as provided in Section 15130(b)(1)(B) of the *State CEQA Guidelines*.

The proposed project includes text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or change the distribution or intensity of land uses and, therefore, would not result in cumulative impacts to agricultural resources. However, impacts associated with the continued implementation of the approved General Plan are identified below.

Cumulative development located within the Planning Area and immediately adjacent jurisdictions, such as development that would occur within the city of Clovis, the county of Fresno, and the county of Madera, is anticipated to convert agricultural uses to non-agricultural uses, as well as conflict with existing agricultural zoning and Williamson Act contracts. The continued implementation of the

approved General Plan would also contribute to the conversion of agricultural uses to non-agricultural uses and conflict with existing agricultural zoning and Williamson Act contracts. Therefore, future development in accordance with the continued implementation of the approved General Plan would result in a significant cumulative impact on agricultural resources.

To reduce potential cumulative impacts on agricultural uses, the approved General Plan includes Objective RC-9 and Policies RC-9-a through RC-9-c., which would reduce cumulative impacts to agricultural resources. In addition, this PEIR includes Mitigation Measure AG-1.1 to address the conversion of farmland to non-farmland uses.

Although the implementation of the above objective and policies would reduce cumulative impacts to agricultural resources, project impacts would remain significant and unavoidable. No feasible mitigation measures are available.

Applicable Laws, Regulations, Relevant Land Use Policies

- Farmland Mapping and Monitoring Program.
- Williamson Act.
- Refer to the approved General Plan objectives and policies identified in Section 4.2.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact AG-6: Continued implementation of the approved General Plan, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to agricultural resources.

Mitigation Measure: Refer to Mitigation Measure AG-1.1.

Level of Significance With Mitigation: Significant and Unavoidable Impact as no feasible mitigation is available.

4.3 AIR QUALITY

4.3.1 Introduction

This section describes the existing air quality setting in the Planning Area and has been prepared using the methodologies and assumptions contained in the San Joaquin Valley Air Pollution Control District's (SJVAPCD) *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI).[1] In keeping with these guidelines, this section describes existing air quality and the regulatory framework for air quality. The section also describes the potential effects of the proposed project on air quality, including the effects of construction and operational traffic associated with the proposed project on regional pollutant levels and health risks. Mitigation measures to reduce potentially significant air quality impacts are identified, as necessary.

4.3.2 CEQA Baseline

The City of Fresno is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Travelled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the approved General Plan, explains that the PEIR will evaluate the continued implementation of the approved General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of Senate Bill (SB) 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the approved General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the approved General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. The approved General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the City's approved

[1] San Joaquin Valley Air Pollution Control District. 2015. CEQA, Guidance/Policies/Rules, Guidance for Assessing and Mitigating Air Quality Impacts. March 19. Website: www.valleyair.org/transportation/ceqa_idx.htm (accessed February 17, 2020).

General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.3.3 Existing Environmental Setting

The city of Fresno is located in the county of Fresno in the San Joaquin Valley Air Basin (SJVAB). The Air Basin consists of Kings, Madera, San Joaquin, Merced, Stanislaus, and Fresno counties, as well as a portion of Kern county. The local agency with jurisdiction over air quality in the Basin is the San Joaquin Valley Air Pollution Control District (SJVAPCD). Regional and local air quality is impacted by topography, dominant airflows, atmospheric inversions, location, and season.

4.3.3.1 Study Area for Project Impacts

The study area for project impacts regarding air quality is the City of Fresno Planning Area and proximate sensitive receptors potentially impacted by a project within the Planning Area because continued implementation of the City of Fresno General Plan is limited to areas within the Planning Area. However, the continued implementation of the approved General Plan is the cumulative result of hundreds of separate projects requiring separate approvals that add to emissions generated from existing development. Air quality impacts are inherently cumulative in nature. For example, the largest source of emissions, motor vehicles, occur as individuals travel throughout the Planning Area and beyond to a multitude of destinations each day.

4.3.3.2 Study Area for Cumulative Impacts

The study area for the analysis of cumulative regional air quality impacts is the SJVAB which includes the Counties of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and a portion of Kern. Under the federal Clean Air Act, any monitoring location that exceeds ambient air quality ozone and particulate standards within the air basin results in the entire air basin to be designated nonattainment. Therefore, an exceedance in Fresno or another city would affect the attainment status of the rest of the San Joaquin Valley even if no other location exceeded one of the standards. This means that air quality plans must provide reductions that demonstrate attainment at the location with the highest concentration in the basin and that cleaner locations would attain the standards earlier.

Air pollutants can remain in the atmosphere for long periods and can build to unhealthful levels when stagnant conditions that are common in the San Joaquin Valley occur. Pollutants are transported downwind from urban areas with many emission sources, but also are recirculated to the urban areas by wind eddies and upslope/downslope mountain and valley winds. Therefore, emissions from large urban areas like Fresno have the potential to create regional air quality impacts for ozone and PM in addition to localized impacts for CO, NO_2, and PM.

The analysis of regional emissions is based on a summary of projections approach as provided in Section 15130(b)(1)(B) of the CEQA Guidelines. The applicable projections include those provided within the air quality attainment plans for the San Joaquin Valley Air Basin prepared by the District.

The study area for the analysis of cumulative localized impacts is limited to areas with sensitive receptors that are in the immediate vicinity of specific sources.

4.3.3.3 San Joaquin Valley

The information in this section is primarily from the SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts[2] and the accompanying Technical Document[3].

The Air Basin has an "inland Mediterranean" climate and is characterized by long, hot, dry summers and short, foggy winters. Sunlight can be a catalyst in the formation of some air pollutants (such as ozone); the Air Basin averages over 260 sunny days per year.

Topography. The Air Basin is generally shaped like a bowl. It is open in the north and is surrounded by mountain ranges on all other sides. The Sierra Nevada mountains are along the eastern boundary (8,000 to 14,000 feet in elevation), the Coast Ranges are along the western boundary (3,000 feet in elevation), and the Tehachapi Mountains are along the southern boundary (6,000 to 8,000 feet in elevation). Comparing the San Joaquin Valley to Los Angeles' air basin, the Los Angeles basin can handle 10 times more pollution due to its different location, topography and air flow patterns (proximity to the ocean and ocean winds).

Dominant Airflow. Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the Air Basin form natural horizontal barriers to the dispersion of air contaminants. The wind generally flows south-southeast through the valley, through the Tehachapi Pass and into the Southeast Desert Air Basin portion of Kern county. As the wind moves through the Air Basin, it mixes with the air pollution generated locally, generally transporting air pollutants from the north to the south in the summer and in a reverse flow in the winter.

Inversions. Generally, the temperature of air decreases with height, creating a gradient from warmer air near the ground to cooler air at elevation. This gradient of cooler air over warm air is known as the environmental lapse rate. Inversions occur when warm air sits over cooler air, trapping the cooler air near the ground. These inversions trap pollutants from dispersing vertically, and the mountains surrounding the San Joaquin Valley trap the pollutants from dispersing horizontally. Strong temperature inversions occur throughout the Air Basin in the summer, fall, and winter. Daytime temperature inversions occur at elevations of 2,000 to 2,500 feet above the San Joaquin Valley floor during the summer and at 500 to 1,000 feet during the winter.

During the summer months, high temperatures, atmospheric stagnation, and temperature inversions create an environment conducive for the formation of elevated ozone levels. The Valley averages over 260 sunny days per year. Nearly 90 percent of the annual precipitation in the Valley

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2 Ibid.

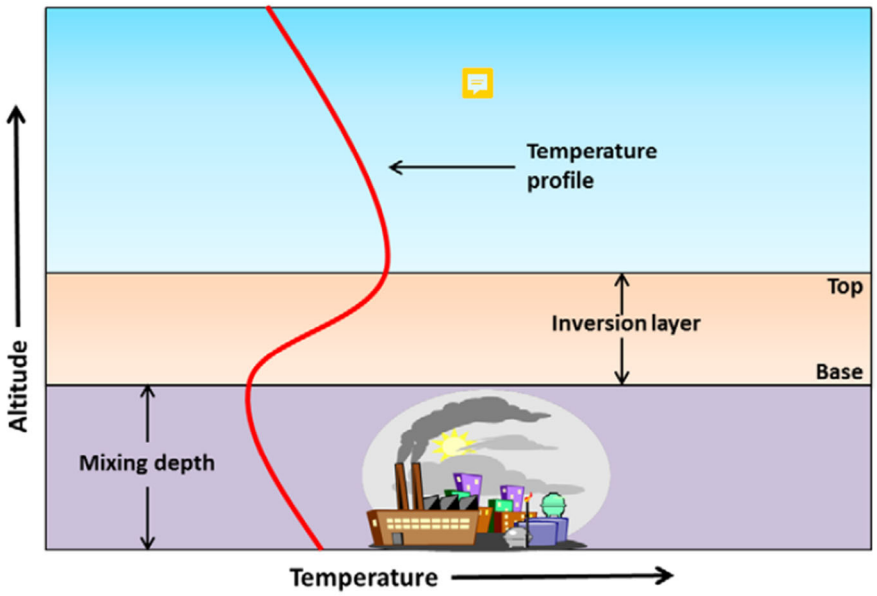
3 San Joaquin Valley Air Pollution Control District. 2002. *Guide for Assessing and Mitigating Air Quality Impacts Technical Document Information for Preparing Air Quality Sections in EIRs.* January 10. Available online at: valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Tech%20Doc%20Jan%202002%20Rev.pdf (accessed February 17, 2020).

falls between the months of November through April, with little to none occurring during the summer months.

Ozone concentrations tend to be the highest from June to September, because high pressure systems that influence Valley meteorological and dispersion conditions occur most frequently during the summer months. Ozone concentrations rise from the beginning of the year toward the summer where levels reach their peak by August when temperatures are usually the warmest and when high pressure and stagnation over the Valley are most common.

Temperature inversions, or increasing temperature with increasing height (shown in Figure 4.3-1), can prohibit vertical mixing of an air mass, thus trapping pollutants near the earth's surface. Put simply, the base of the inversion acts as a lid on the atmosphere, trapping pollution. During the ozone season, inversion events caused by high pressure systems cause air pollutant emissions to build up. Ozone precursors then react to form ozone, which can in turn build up concentrations from day to day under a prolonged period of atmospheric stagnation.[4]

Figure 4.3-1: San Joaquin Valley Inversion



Source: SJVAPCD (2016). *2016 Plan for the 2008 8-Hour Ozone Standard. Figure 2-3.*

These inversions cause haziness, which in addition to moisture may include suspended dust, a variety of chemical aerosols emitted from vehicles, particulates from wood stoves, and other pollutants. In the winter, these conditions can lead to carbon monoxide (CO) "hotspots" along heavily traveled roads and at busy intersections. During summer's longer daylight hours, stagnant air, high temperatures, and plentiful sunshine provide the conditions and energy for the

[4] San Joaquin Valley Air Pollution Control District. 2016. *2016 Plan for the 2008 8-Hour Ozone Standard.* June 16. Website: valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm (accessed February 17, 2020).

photochemical reaction between reactive organic gases (ROG) and oxides of nitrogen (NO_x), which results in the formation of ozone.

Location and Season. Because of the prevailing daytime winds and time-delayed nature of ozone, concentrations are highest in the southern portion of the Air Basin, such as around Bakersfield. Summers are often periods of hazy visibility and occasionally unhealthful air, while winter air quality impacts tend to be localized and can consist of (but are not exclusive to) odors from agricultural operations; soot or smoke around residential, agricultural, and hazard-reduction wood burning; or dust near mineral resource recovery operations.

In the context of air quality, "carrying capacity" refers to the density of emissions that an air basin can "absorb" or "carry" and still meet ambient air quality standards for a given pollutant. The key factors that shape variations in a regional carrying capacity include meteorology, climate, and topography. The Valley's carrying capacity for particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$) is greatly affected by prevailing weather during the winter months and the region's topography (surrounding mountains). As discussed above, temperature inversions are common during the winter months in the Valley. During these sometimes lengthy stagnant air episodes, $PM_{2.5}$ emissions from daily activities rapidly build up to levels above the standard. During these events (or in anticipation of these events) that the SJVAPCD's Check-Before-You-Burn program and Real-time Air Advisory Network (RAAN) system intervene to inform (or require) the public to limit activity that generates $PM_{2.5}$ emissions.[5]

4.3.3.4 Local Air Quality

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the approved General Plan area. Table 4.3-1 summarizes 2015 through 2018 published monitoring data, which is the most recent 4-year period available. The data is from three monitoring stations in Fresno and one in Clovis. The data shows that during the past few years, the region in and around the city of Fresno has exceeded the standards for some key components of air pollution: ozone, particulate matter (PM) less than 10 micrometers in diameter (PM_{10}), and PM less than 2.5 micrometers in diameter ($PM_{2.5}$). See the pollutant descriptions in Table 4.3-4 for more information regarding the characteristics and health effects of these pollutants.

The data in Table 4.3-1 reflects the concentration of the pollutants in the air, measured using air monitoring equipment. This differs from emissions, which are calculations of a pollutant being emitted over a period of time. Emissions for Fresno county using the most recent data available are shown in Table 4.3-2. Emissions within the city of Fresno are included in these emissions, though it also includes other emissions in the county. As shown in Table 4.3-2, the main source of NO_x and CO is from on-road mobile vehicles (cars and trucks on the road). The main source of TOG, ROG, PM, PM_{10}, and $PM_{2.5}$ is from miscellaneous processes. The main source of SO_x is from industrial processes. See the pollutant descriptions in Table 4.3-4 for more information regarding the characteristics and health effects of these pollutants.

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5 San Joaquin Valley Air Pollution Control District. 2018. *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards.* Available online at: valleyair.org/pmplans/documents/2018/pm-plan-adopted/2018-Plan-for-the-1997-2006-and-2012-PM2.5-Standards.pdf (accessed February 17, 2020). November 15.

Table 4.3-1: Ambient Air Quality Monitoring Summary

Air Pollutant	Units	Item	Station	2015	2016	2017	2018
Ozone	ppm	Maximum 1 Hour	Clovis	0.116	0.113	0.138	0.121
			Drummond	0.135	0.117	0.125	0.119
			First Street	0.114	0.117	0.143	0.121
			Skypark	0.115	0.108	0.128	0.100
	days	Days > 1 Hour State Standard (0.09 ppm)	Clovis	18	26	13	13
			Drummond	12	13	8	6
			First Street	12	15	16	8
			Skypark	5	6	6	4
	ppm	Maximum 8 Hour	Clovis	0.099	0.095	0.101	0.095
			Drummond	0.110	0.094	0.104	0.097
			First Street	0.098	0.095	0.113	0.099
			Skypark	0.096	0.089	0.107	0.087
	days	Days > 8 Hour State Standard (0.07 ppm)	Clovis	51	63	50	49
			Drummond	41	60	31	34
			First Street	41	56	68	38
			Skypark	40	45	46	30
	days	Days > 8 Hour National Standard (0.07 ppm)	Clovis	50	60	47	43
			Drummond	39	57	29	32
			First Street	38	55	64	36
			Skypark	37	43	44	27
Carbon Monoxide (CO)	ppm	Maximum 8 Hour	Clovis	1.0	1.3	1.2	1.4
			Drummond	1.7	ND	ND	ND
			First Street	1.8	1.7	1.9	1.8
			Skypark	0.8	ND	ND	ND
	days	Days > 8 Hour Standard (9.0 ppm)	Clovis	0	0	0	0
			Drummond	0	ND	ND	ND
			First Street	0	0	0	0
			Skypark	0	ND	ND	ND
	ppm	Maximum 1 Hour	Clovis	1.5	1.6	1.6	1.6
			Drummond	2.4	ID	ID	ID
			First Street	2.2	2.3	2.3	2.1
			Skypark	1.6	ND	ND	ND
	days	Days > 1 Hour State Standard (20.0 ppm)	Clovis	0	0	0	0
			Drummond	0	ND	ND	ND
			First Street	0	0	0	0
			Skypark	0	ND	ND	ND
	days	Days > 1 Hour National Standard (35.0 ppm)	Clovis	0	0	0	0
			Drummond	0	ND	ND	ND
			First Street	0	0	0	0
			Skypark	0	ND	ND	ND

Table 4.3-1: Ambient Air Quality Monitoring Summary

Air Pollutant	Units	Item	Station	2015	2016	2017	2018
Nitrogen Dioxide (NO_2)	ppm	Annual Average	Clovis	0.010	0.010	0.010	0.010
			Drummond	0.011	0.012	0.012	0.014
			First Street	0.010	0.010	0.011	0.011
			Skypark	0.007	0.006	0.007	0.008
	ppm	Maximum 1 Hour	Clovis	0.059	0.050	0.059	0.065
			Drummond	0.056	0.059	0.065	0.075
			First Street	0.050	0.056	0.057	0.068
			Skypark	0.036	0.035	0.051	0.043
	days	Days > 1 Hour State Standard (0.18 ppm)	Clovis	0	0	0	0
			Drummond	0	0	0	0
			First Street	0	0	0	0
			Skypark	0	0	0	0
Sulfur Dioxide	ppm	Annual Average	First Street	0.001	0.001	0.001	0.001
	ppm	Maximum 24 Hour	First Street	0.011	0.008	0.008	0.007
Inhalable Course Particles (PM_{10})	µg/m^3	Annual Average	Clovis	33.9	32.7	36.2	39.6
			Drummond	39.6	38.0	44.2	45.8
			First Street	34.5	35.4	39.6	41.0
	µg/m^3	24 Hour	Clovis	105.3	76.2	103.2	114.6
			Drummond	120.7	88.3	120.5	154.8
			First Street	105.3	91.9	160.1	136.2
	days	Days > 24 Hour State Standard (50 µg/m^3)	Clovis	8	10	13	14
			Drummond	13	17	17	19
			First Street	51	65	97	101
	days	Days > 24 Hour National Standard (150 µg/m^3)	Clovis	0	0	0	0
			Drummond	0	0	0	0
			First Street	0	0	1	0
Fine Particulate Matter ($PM_{2.5}$)	µg/m^3	Annual Average	Clovis	14.9	12.5	136	15.6
			First Street	14.5	13.6	14.8	16.6
	µg/m^3	24 Hour	Clovis	80.7	50.4	69.5	82.3
			First Street	75.2	53.8	86.0	96.9
	days	Days > 24 Hour National Standard (35 µg/m^3)	Clovis	14	8	19	26
			First Street	20	16	31	36

Source: CARB and USEPA (2019).
> = exceed
ppm = parts per million
µg/m^3 = micrograms per cubic meter
BD = no data
State Standard = California Ambient Air Quality Standard
National Standard = National Ambient Air Quality Standard
Stations: Clovis = 908 N. Villa Avenue, Clovis
Drummond = 4706 E. Drummond Street, Fresno
First Street = 3727 N. First Street, Fresno
Skypark = 4508 Chennault Avenue, Fresno

Table 4.3-2: Fresno County Emissions

Emissions Source	Emissions (tons per day)							
	TOG	ROG	CO	NO_x	SO_x	PM	PM_{10}	$PM_{2.5}$
Stationary Sources								
Fuel Combustion	1.7	0.5	3.1	5.9	0.2	0.8	0.8	0.8
Waste Disposal	32.8	0.6	0.1	0.1	0.0	0.2	0.1	0.0
Cleaning and Surface Coatings	9.9	9.3	-	-	-	0.0	0.0	0.0
Petroleum Production and Marketing	16.8	1.8	0.0	0.0	0.0	0.0	0.0	0.0
Industrial Processes	4.0	3.9	0.1	2.1	0.8	3.6	2.7	1.5
Total Stationary Sources	65.1	16.1	4.1	8.1	1.2	4.7	2.7	1.5
Areawide Sources								
Solvent Evaporation	12.6	11.3	-	-	-	-	-	-
Miscellaneous Processes	94.9	12.4	18.4	2.2	0.1	114.9	57.6	10.9
Total Areawide Sources	192.9	33.7	61.2	4.0	0.4	132.4	68.1	15.5
Mobile Sources								
On-Road Motor Vehicles	14.7	13.3	90.6	52.6	0.16	3.0	2.9	1.9
Other Mobile Sources	7.9	7.0	43.2	19.1	0.1	1.2	1.2	1.1
Total Mobile Sources	22.7	20.3	133.8	71.7	0.2	4.2	4.1	3.0
Grand Total for Fresno County	**195.2**	**60.2**	**156.3**	**82.0**	**1.5**	**123.8**	**64.4**	**15.4**

Source: CARB (2017). Website: www.arb.ca.gov/app/emsinv/2017/emssumcat_query.php?F_DIV=-4&F_DD=Y&F_YR=2012&F_SEASON=A&SP=SIP105ADJ&F_AREA=CO&F_CO=10

4.3.3.5 Sensitive Receptors

Those individuals who are sensitive to air pollution include children, the elderly, and persons with pre-existing respiratory or cardiovascular illness. The SJVAPCD considers a sensitive receptor to be a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. There are many sensitive receptors throughout the city of Fresno.

4.3.3.6 Attainment Status

The United States Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) designate air basins where ambient air quality standards are exceeded as “nonattainment” areas. If standards are met, the area is designated as an “attainment” area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered “unclassified.”

National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or “form” of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring value exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the 3-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard. The current attainment designations for the basin are shown in Table 4.3-3.

Table 4.3-3: SJVAB Air Quality Attainment Status

Pollutant	State	Federal
Ozone (1-hour)	Severe/Nonattainment	Not Applicable
Ozone (8-hour)	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Attainment (Maintenance)
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Attainment (Maintenance)
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Lead	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified
Sulfates	Attainment	No Federal Regulation
Hydrogen Sulfide	Unclassified	No Federal Regulation

Source: California Air Resources Board and USEPA, 2016.

4.3.4 Methodology

Air pollutants are regulated at the national, State, and air basin level; each agency has a different level of regulatory responsibility. The USEPA regulates at the national level. The CARB regulates at the State level. The SJVAPCD regulates at the air basin or local level.

4.3.4.1 National and State Air Quality Standards

The USEPA is responsible for national and interstate air pollution issues and policies. The USEPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Ambient Air Quality Standards, also known as federal standards. There are federal standards for six common air pollutants, called criteria air pollutants, which were identified from provisions of the Clean Air Act of 1970. The criteria pollutants are:

- Ozone (O_3)
- Particulate matter (PM_{10} and $PM_{2.5}$)
- Nitrogen dioxide (NO_2)
- Carbon monoxide (CO)
- Lead (Pb)
- Sulfur dioxide (SO_2)

The federal standards were set to protect public health, including that of sensitive individuals; thus, the standards continue to change as more medical research is available regarding the health effects

of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health.[6]

A State Implementation Plan is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The State Implementation Plan for the State of California is administered by the CARB, which has overall responsibility for Statewide air quality maintenance and air pollution prevention. California's State Implementation Plan incorporates individual federal attainment plans for regional air districts—air district prepares their federal attainment plan, which sent to CARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms.

The CARB also administers California Ambient Air Quality Standards (CAAQS) for the 10 air pollutants designated in the California Clean Air Act. The 10 State air pollutants are the six federal standards listed above as well as visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride.

The federal and State ambient air quality standards, relevant effects, properties, and sources of the pollutants are summarized in Table 4.3-4 and Table 4.3-5.

[6] California Air Resources Board. 2016. *Ambient Air Quality Standards*. Available online at: www.arb.ca.gov/research/aaqs/aaqs2.pdf (accessed February 17, 2020).

Table 4.3-4: Sources and Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter.	• Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions.	• Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	• Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	• Contaminated soil.	• Impairment of blood functions and nerve construction. • Behavioral and hearing problems in children.
Suspended Particulate Matter ($PM_{2.5}$ and PM_{10})	• Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. • Soil/Dust	• Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardiorespiratory diseases. • Increased cough and chest discomfort. • Reduced visibility.
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board (CARB), 2015.

Table 4.3-5: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]		Federal Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary[c,f]	Method[g]
Ozone (O3)[h]	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[i]	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter (PM2.5)[i]	24-Hour	-		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	–	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	
Nitrogen Dioxide (NO2)[j]	Annual Arithmetic Mean	0.03 ppm (57 µg/m^3)	Gas Phase Chemi-luminescence	53 ppb (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemi-luminescence
	1-Hour	0.18 ppm (339 µg/m^3)		100 ppb (188 µg/m^3)	-	
Lead (Pb)[l,m]	30-Day Average	1.5 µg/m^3	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m^3 (for certain areas)[l]	Same as Primary Standard	
	Rolling 3-Month Average[i]	–		0.15 µg/m^3		
Sulfur Dioxide (SO2)[k]	24-Hour	0.04 ppm (105 µg/m3)	Ultraviolet Fluorescence	0.14 ppm (for certain areas)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3-Hour	–		–	0.5 ppm (1300 µg/m^3)	
	1-Hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3)[k]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[k]	–	
Visibility-Reducing Particles[l]	8-Hour	See footnote n	Beta Attenuation and Transmittance through Filter Tape.	No Federal Standards		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[j]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Table notes are provided on the following page.

Source: California Air Resources Board, 2016. https://www.arb.ca.gov/research/aaqs/aaqs2.pdf

[a] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact USEPA for further clarification and current national policies.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

[e] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[f] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[g] Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.

[h] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[i] On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24- hour PM2.5 standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[j] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[k] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[l] The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[m] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[n] In 1989, the CARB converted both the general Statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the Statewide and Lake Tahoe Air Basin standards, respectively.

°C = degrees Celsius
CARB = California Air Resources Board
USEPA = United States Environmental Protection Agency
ppb = parts per billion
ppm = parts per million
mg/m^3 = milligrams per cubic meter
µg/m^3 = micrograms per cubic meter

Ozone. Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_x. The main sources of ROG and NO_x, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. Automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide. CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. CO transport is limited - it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service (LOS) or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Extremely high levels of CO, such as those generated when a vehicle is running in an unventilated garage, can be fatal.

Particulate Matter. Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are 10 microns or less in diameter, or PM_{10}. Fine, suspended particulate matter with an aerodynamic diameter of 2.5 microns or less, or $PM_{2.5}$, is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM_{10} and $PM_{2.5}$. These small particles can be directly emitted into the atmosphere as byproducts of fuel combustion; through abrasion, such as tire or brake lining wear; or through fugitive dust (wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces and can enter the human body through the lungs.

Nitrogen Dioxide. NO_2 is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO_2 decreases lung function and may reduce resistance to infection.

Sulfur Dioxide. SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels in the region. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Lead. Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery factories. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the USEPA established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The USEPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the USEPAs regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Odors. Odors are also an important element of local air quality conditions. Specific activities can raise concerns related to odors on the part of nearby neighbors. Major sources of odors include restaurants and manufacturing plants. Other odor producers include the industrial facilities within the region. While sources that generate objectionable odors must comply with air quality regulations, the public's sensitivity to locally-produced odors often exceeds regulatory thresholds.

Toxic Air Contaminants. In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated by the USEPA and CARB. Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants.

TACs do not have ambient air quality standards, but are regulated by the USEPA, CARB, and the SJVAPCD. In 1998, the CARB identified particulate matter from diesel-fueled engines as a TAC. The CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines.[7] High-volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (e.g., distribution centers and truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high-volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

Unlike TACs emitted from industrial and other stationary sources noted above, most diesel particulate matter is emitted from mobile sources—primarily "off-road" sources such as construction and mining equipment, agricultural equipment, and truck-mounted refrigeration units, as well as trucks and buses traveling on freeways and local roadways.

[7] California Air Resources Board. 2000. Stationary Source Division and Mobile Source Control Division. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.* October.

Although not specifically monitored, recent studies indicate that exposure to diesel particulate matter may contribute significantly to a cancer risk (a risk of approximately 500 to 700 in 1,000,000) that is greater than all other measured TACs combined.[8] The technology for reducing diesel particulate matter emissions from heavy-duty trucks is well established, and both State and Federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions. The CARB anticipates that by 2020, average statewide diesel particulate matter concentrations will decrease by 85 percent from levels in 2000 with full implementation of the CARB's Diesel Risk Reduction Plan,[9] meaning that the statewide health risk from diesel particulate matter is expected to decrease from 540 cancer cases in 1,000,000 to 21.5 cancer cases in 1,000,000. It is likely that cancer risk in the SJVAB from diesel particulate matter will decrease by a similar factor by 2020.

High Volume Roadways. Air pollutant exposures and their associated health burdens vary considerably within places in relation to sources of air pollution. Motor vehicle traffic is perhaps the most important source of intra-urban spatial variation in air pollution concentrations. Air quality research consistently demonstrates that pollutant levels are substantially higher near freeways and busy roadways, and human health studies have consistently demonstrated that children living within 100 to 200 meters (328 to 656 feet) of freeways or busy roadways have reduced lung function and higher rates of respiratory disease. At present, it is not possible to attribute the effects of roadway proximity on non-cancer health effects to one or more specific vehicle types or vehicle pollutants. Engine exhaust, from diesel, gasoline, and other combustion engines, is a complex mixture of particles and gases, with collective and individual toxicological characteristics.

Valley Fever. Valley fever is a fungal infection caused by coccidioides organisms. It can cause fever, chest pain and coughing, among other signs and symptoms. The coccidioides species of fungi that cause valley fever are commonly found in the soil in certain areas, including Kern county. These fungi can be stirred into the air by anything that disrupts the soil, such as farming, construction and wind. The fungi can then be breathed into the lungs and cause valley fever, also known as acute coccidioidomycosis. A mild case of valley fever usually goes away on its own. In more severe cases of valley fever, doctors prescribe antifungal medications that can treat the underlying infection. Valley Fever is not contagious and therefore does not spread from person to person. Most cases (approximately 60 percent) have no symptoms or only very mild flu-like symptoms and do not see a doctor. When symptoms are present, the most common are fatigue, cough, fever, profuse sweating at night, loss of appetite, chest pain, generalized muscle and joint aches particularly of the ankles and knees. There may also be a rash that resembles measles or hives but develops more often as tender red bumps on the shins or forearms.

Asbestos. Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States.

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8 Ibid.

9 Ibid.

Construction sometimes requires the demolition of existing buildings that may include materials containing asbestos. Although the project does not call for demolition specifically, some demolition does occur as a result of the ongoing implementation of the General Plan. In addition, asbestos is also found in a natural state known as naturally occurring asbestos. Exposure and disturbance of rock and soil that naturally contain asbestos can result in the release of fibers into the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs).

The CARB has an Air Toxics Control Measure for construction, grading, quarrying, and surface mining operations requiring the implementation of mitigation measures to minimize emissions of asbestos-laden dust. The measure applies to road construction and maintenance, construction and grading operations, and quarries and surface mines when the activity occurs in an area where naturally occurring asbestos is likely to be found. Areas are subject to the regulation if they are identified on maps published by the Department of Conservation as ultramafic rock units or if the Air Pollution Control Officer or owner/operator has knowledge of the presence of ultramafic rock, serpentine, or naturally occurring asbestos on the site. The measure also applies if ultramafic rock, serpentine, or asbestos is discovered during any operation or activity.

4.3.5 Regulatory Setting

4.3.5.1 Federal Policies and Regulations

The 1970 Federal Clean Air Act authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The Federal Clean Air Act Amendments of 1990 changed deadlines for attaining national standards as well as the remedial actions required of areas of the nation that exceed the standards. Under the Clean Air Act, State and local agencies in areas that exceed the national standards are required to develop State Implementation Plans to demonstrate how they will achieve the national standards by specified dates.

4.3.5.2 State Policies and Regulations

In 1988, the California Clean Air Act (CCAA) required that all air districts in the State endeavor to achieve and maintain California ambient air quality standards (CAAQS) for carbon monoxide, ozone, sulfur dioxide and nitrogen dioxide by the earliest practical date. The California Clean Air Act provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce

emissions to achieve air quality standards. Generally, the State standards for these pollutants are more stringent than the national standards.

Legal authority for California to regulate sources of air pollution is found in federal and State law. The CARB is charged with coordinating regional and local efforts to attain and maintain State and nation air quality standards. The CARB has been given authority to regulate many sources that would normally be pre-empted by federal regulations through the issuance of waivers.

Pursuant to these authorities, CARB has adopted the world's most stringent standards for passenger cars, light-duty trucks, and medium-duty vehicles. CARB has also adopted regulations establishing standards for heavy-duty vehicles, offroad vehicles and engines, offroad recreational vehicles, off road diesel engines and equipment, offroad gasoline and liquefied petroleum gas (LPG) engines and equipment, and marine pleasure craft. Descriptions of these regulations are provided below.

Low-Emission Vehicle Program. The CARB first adopted Low-Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 State Implementation Plan (SIP). In 2012, CARB adopted the LEV III amendments to California's Low- Emission Vehicle (LEV) regulations. These amendments include more stringent emission standards for both criteria pollutants and greenhouse gases for new passenger vehicles.

On-Road Heavy-Duty Vehicle Program. The CARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles, and test procedures.[10] CARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others.

In addition, the CARB's Truck and Bus regulation was established to meet federal attainment standards. This regulation requires heavy-duty diesel vehicles that operate in California to reduce TAC emissions from their exhaust. Diesel exhaust is responsible for 70 percent of the cancer risk from airborne toxics. Therefore, by January 1, 2023, nearly all trucks and buses will be required to have 2010 or newer model year engines to reduce PM and NO_x emissions. To help ensure that the benefits of this regulation are achieved, starting in 2020, only vehicles compliant with this regulation will be registered by the California Department of Motor Vehicles (DMV).[11]

[10] California Air Resources Board. 2019. *On-Road Heavy-Duty Vehicle Program*. Last reviewed July 2. Website: ww3.arb.ca.gov/msprog/onroadhd/onroadhd.htm (accessed February 17, 2020).

[11] California Air Resources Board. 2019. *Truck and Bus Regulation.* Website: ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation (accessed February 17, 2020).

Airborne Toxic Control Measure for Asbestos. In July 2001, the CARB approved an Air Toxic Control Measure for construction, grading, quarrying and surface mining operations to minimize emissions of naturally occurring asbestos. The regulation requires application of best management practices to control fugitive dust in areas known to have naturally occurring asbestos and requires notification to the local air district prior to commencement of ground-disturbing activities. The measure establishes specific testing, notification and engineering controls prior to grading, quarrying or surface mining in construction zones where naturally occurring asbestos is located on projects of any size. There are additional notification and engineering controls at work sites larger than one acre in size. These projects require the submittal of a "Dust Mitigation Plan" and approval by the air district prior to the start of a project.

Construction sometimes requires the demolition of existing buildings where construction occurs. Buildings often include materials containing asbestos, but no demolition is associated with this project. However, asbestos is also found in a natural state, known as naturally occurring asbestos. Exposure and disturbance of rock and soil that naturally contain asbestos can result in the release of fibers into the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

The CARB has an Air Toxics Control Measure for construction, grading, quarrying, and surface mining operations requiring the implementation of mitigation measures to minimize emissions of asbestos-laden dust. The measure applies to road construction and maintenance, construction and grading operations, and quarries and surface mines when the activity occurs in an area where naturally occurring asbestos is likely to be found. Areas are subject to the regulation if they are identified on maps published by the Department of Conservation as ultramafic rock units or if the Air Pollution Control Officer or owner/operator has knowledge of the presence of ultramafic rock, serpentine, or naturally occurring asbestos on the site. The measure also applies if ultramafic rock, serpentine, or asbestos is discovered during any operation or activity. The Department of Conservation Maps show the presence of asbestos mines in San Bernardino county.

Diesel Risk Reduction Plan. The CARB's Diesel Risk Reduction Plan has led to the adoption of new State regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles to reduce DPM emissions by about 90 percent overall from year 2000 levels as stated on page 1 of the plan. The projected emission benefits associated with the full implementation of this plan, including federal measures, are reductions in DPM emissions and associated cancer risks of 75 percent by 2010 and 85 percent by 2020.[12]

[12] Ibid.

Air Quality Land Use Handbook. The CARB has developed an Air Quality and Land Use Handbook[13] which is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. According to the CARB Handbook, recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. The CARB Handbook recommends that county and city planning agencies strongly consider proximity to these sources when finding new locations for "sensitive" land uses such as homes, medical facilities, daycare centers, schools and playgrounds.

Land use designations with air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners and large gasoline service stations. Key recommendations in the CARB Handbook include taking steps to avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day;
- Within 1,000 feet of a major service and maintenance rail yard;
- Immediately downwind of ports (in the most heavily impacted zones) and petroleum refineries;
- Within 300 feet of any dry cleaning operation (for operations with two or more machines, provide 500 feet); and
- Within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater).

The CARB Handbook specifically states that its recommendations are advisory and acknowledges land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

The recommendations are generalized and do not consider site specific meteorology, freeway truck percentages or other factors that influence risk for a particular project site. The purpose of the land use compatibility analysis is to further examine the project site for actual health risk associated with the location of new housing on the project site.

Recommendations on siting new sensitive land uses such as residences, schools, daycare centers, playgrounds, or medical facilities are provided in Table 4.3-6.

[13] California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April.

Table 4.3-6: Recommendations on Siting New Sensitive Land Uses Near Toxic Air Contaminant Sources

Source Category	Advisory Recommendation
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week).
	Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district.
	Do not site new sensitive land uses in the same building with Perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.

Source: CARB (2006).
Note: These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

4.3.5.3 Regional Policies and Regulations

San Joaquin Valley Air Pollution Control District. The SJVAPCD is responsible for controlling emissions primarily from stationary sources. The SJVAPCD maintains air quality monitoring stations throughout the basin. The SJVAPCD, in coordination with the eight county transportation agencies, is also responsible for developing, updating, and implementing air quality attainment plans for the Air Basin. The SJVAPCD also has roles under CEQA.

California Environmental Quality Act. The SJVAPCD provides guidance and thresholds for CEQA air quality and greenhouse gas analyses. The result of this guidance as well as State regulations to control air pollution is an overall improvement in the Basin. In particular, the SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) states the following:

The SJVAPCD's Air Quality Attainment Plans include measures to promote air quality elements in county and city general plans as one of the primary means of reducing indirect emissions such as those from land use development projects. The approved General Plan is the primary long range planning document used by cities and counties to direct development. Since air districts have no authority over land use decisions, it is up to cities and counties to ensure that their general plans

help achieve air quality goals. Section 65302.1 of the California Government Code requires cities and counties in the San Joaquin Valley to amend appropriate elements of their general plans to include data, analysis, comprehensive goals, policies, and feasible implementation strategies to improve air quality in their next housing element revisions. This was completed for the City of Fresno with the adoption of the Air Quality Update of the 2025 Fresno General Plan Resources Conservation Element last revised May 7, 2009.

The Air Quality Guidelines for General Plans (AQGGP), adopted by the SJVAPCD in 1994 and amended in 2005, is a guidance document containing goals and policy examples that cities and counties may want to incorporate into their General Plans to satisfy Section 65302.1. When adopted in a general plan and implemented, the suggestions in the AQGGP can reduce vehicle trips and miles traveled and improve air quality. The specific suggestions in the AQGGP are voluntary. The SJVAPCD strongly encourages cities and counties to use their land use and transportation planning authority to help achieve air quality goals by adopting the suggested policies and programs. The approved General Plan integrates many of the recommended goals and policies of the AQGGP.

The SJVAB is classified nonattainment for ozone, PM_{10}, and $PM_{2.5}$. The SJVAPCD had adopted project level thresholds based on a cumulative contribution of ozone precursors ROG and NO_x of 10 tons per year and thresholds for PM_{10} and $PM_{2.5}$ of 15 tons per year. Although these thresholds are project specific, a conservative interpretation of this threshold would apply the annual emission thresholds to annual emission generated during continued implementation of the approved General Plan. The combined annual emissions of projects during construction and operation are compared to the annual threshold.

Current Air Quality Plans. The SJVAPCD is responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. The SJVAPCD does not have one single AQMP for criteria pollutants, rather the SJVAPCD address each criteria pollutant with its own Plan. The SJVAPCD has the following AQMPs:

- 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards
- 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ standard
- 2016 Plan for the 2008 8-Hour Ozone Standard
- 2013 Plan for the Revoked 1-Hour Ozone Standard
- 2007 PM_{10} Maintenance Plan
- 2004 Revision to the California State Implementation Plan for Carbon Monoxide

The SJVAPCD's AQMPs incorporate the latest scientific and technological information and planning assumptions, including updated emission inventory methodologies for various source categories. The SJVAPCD's AQMPs included the integrated strategies and measures needed to

meet the national ambient air quality standards (NAAQS), implementation of new technology measures, and demonstrations of attainment of the 1-hour and 8-hour ozone NAAQS as well as the latest 24-hour and annual $PM_{2.5}$ standards.

The SJVAPCD's current air quality plans are discussed blow.

Ozone Plans. The SJVAPCD's Governing Board approved the 2016 Plan for the 2008 8-Hour Ozone Standard on June 16, 2016. The comprehensive strategy in this plan will reduce NO_x emissions by over 60 percent between 2012 and 2031, and will bring the San Joaquin Valley into attainment of USEPA's 2008 8-hour ozone standard as expeditiously as practicable, no later than December 31, 2031.

Particulate Matter Plans. The SJVAPCD adopted the 2007 PM_{10} Maintenance Plan in September 2007 to assure the SJVAB's continued attainment of the USEPA's PM_{10} standard. The USEPA designated the valley as an attainment/maintenance area for PM_{10}.

The 2008 $PM_{2.5}$ Plan builds upon the comprehensive strategy adopted in the 2007 Ozone Plan to bring the Basin into attainment of the 1997 national standards for $PM_{2.5}$. The USEPA has identified NO_x and SO_2 as precursors that must be addressed in air quality plans for the 1997 $PM_{2.5}$ standards. The 2008 $PM_{2.5}$ Plan is a continuation of the SJVACPD's strategy to improve the air quality in the SJVAB.

The SJVAPCD prepared the 2012 $PM_{2.5}$ Plan to bring the San Joaquin Valley into attainment of the USEPA's most recent 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$. The CARB approved the SJVAPCD's 2012 $PM_{2.5}$ Plan at a public hearing on January 24, 2013. The plan, approved by the SJVAPCD Governing Board on December 20, 2012, will bring the Valley into attainment of USEPA's 1997 $PM_{2.5}$ standard as expeditiously as practicable, but no later than, December 31, 2020.

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018. This plan addresses the USEPA federal 1997 annual $PM_{2.5}$ standard of 15 $\mu g/m^3$ and 24-hour $PM_{2.5}$ standard of 65 $\mu g/m^3$; the 2006 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$; and the 2012 annual $PM_{2.5}$ standard of 12 $\mu g/m^3$. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable.

Rules and Regulations. The SJVAPCD rules and regulations that may apply to projects that will occur during buildout of the Plan Area include but are not limited to the following:

- Rule 2201 – New and Modified Stationary Source Review (applies to any stationary/ industrial equipment that emits regulated pollutants in amounts specified by the rule). Rule 2201 requires stationary source projects that exceed certain thresholds to install best available control technology (BACT) and to obtain emission offsets to ensure that growth in stationary sources on a cumulative basis will not result in an increase in emissions.

- Rule 2280—Portable Equipment Registration. Portable equipment used at project sites for less than six consecutive months must be registered with the SJVAPCD. The SJVAPCD will issue the registrations 30 days after receipt of the application.

- Rule 2303-Mobile Source Emission Reduction Credits. A project may qualify for SJVAPCD vehicle emission reduction credits if it meets the specific requirements of Rule 2303 for any of the following categories:

    - Low-Emission Transit Buses

    - Zero-Emission Vehicles

    - Retrofit Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles

    - Retrofit Heavy-Duty Vehicles

- Rule 4002 – National Emissions Standards for Hazardous Air Pollutants. The purpose of the rule is to incorporate the National Emission Standards for Hazardous Air Pollutants from Part 61, Chapter I, Subchapter C, Title 40, Code of Federal Regulations and the National Emission Standards for Hazardous Air Pollutants for Source Categories from Part 63, Chapter I, Subchapter C, Title 40, Code of Federal Regulations to protect the health and safety of the public from hazardous air pollutants, such as asbestos.

- Rule 4102 – Nuisance. The purpose of this rule is to protect the health and safety of the public, and applies to any source operation that emits or may emit air contaminants or other materials.

- Rule 4601 – Architectural Coatings. The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling.

- Rule 4641 – Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. The paving operations for new development and existing paved surfaces will be subject to Rule 4641.

- Rule 4692 – Commercial Charbroiling. The purpose of this rule is to limit VOC and PM_{10} emissions from commercial charbroiling. New and existing businesses with charbroiling equipment are subject to this rule.

- Rule 4901 – Wood Burning Fireplaces and Wood Burning Heaters. The purposes of this rule are to limit emissions of carbon monoxide and particulate matter from wood burning fireplaces, wood burning heaters, and outdoor wood burning devices, and to establish a public education program to reduce wood burning emissions. All development that includes wood burning devices is subject to this rule.

- Rule 8011—General Requirements: Fugitive Dust Emission Sources. Fugitive dust regulations are applicable to outdoor fugitive dust sources. Operations, including construction operations, must control fugitive dust emissions in accordance with SJVAPCD Regulation VIII. According to Rule 8011, the SJVAPCD requires the implementation of control measures for fugitive dust emission sources. For projects in which construction-related activities would disturb equal to or greater than 1 acre of surface area, the SJVAPCD recommends that demonstration of receipt of an SJVAPCD-approved Dust Control Plan or Construction Notification Form, before issuance of the first grading permit, be made a condition of approval.

- Regulation VIII – Fugitive PM_{10} Prohibitions. Rules 8011-8081 are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and track out, etc. All development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules.

- Rule 9410 – Employer Based Trip Reduction. The purpose of this rule is to reduce vehicle miles traveled (VMT) from private vehicles used by employees to commute to and from their worksites in order to reduce emissions of NO_x, VOC and PM. The rule requires larger employers (those with 100 or more eligible employees) to establish employee trip reduction programs to reduce VMT, reducing emissions associated with work commutes. The rule uses a menu-based Employer Trip Reduction Implementation Plan and periodic reporting requirements to evaluate performance on a phased-in compliance schedule.

- Rule 9510 – Indirect Source Review. This rule reduces the impact of NO_x and PM_{10} emissions from new development projects. The rule places application and emission reduction requirements on development projects meeting applicability criteria in order to reduce emissions through onsite mitigation, offsite SJVAPCD-administered projects, or a combination of the two. Compliance with SJVAPCD Rule 9510 reduces emissions impacts through incorporation of onsite measures as well as payment of an offsite fee that funds emission reduction projects in the Air Basin. The emissions analysis for Rule 9510 is detailed and is dependent on the exact project design that is expected to be constructed or installed. Compliance with Rule 9510 is separate from the CEQA process, though the control measures used to comply with Rule 9510 may be used to mitigate significant air quality impacts.

- Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc., warrant the closest scrutiny, but consideration could also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas. While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SJVAPCD.

Two situations create a potential for odor impact. The first occurs when a new odor source is located near an existing sensitive receptor. The second occurs when a new sensitive receptor locates near an existing source of odor. The SJVAPCD has determined the common land use types that are known to produce odors in the Basin. These types are shown in Table 4.3-7.

Table 4.3-7: Screening Levels for Potential Odor Sources

Odor Generator	Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile

Source: San Joaquin Valley Air Pollution Control District, 2015.

Community Emissions Reductions Program: Assembly Bill 617. AB 617 requires the CARB and air districts to develop and implement a Community Emission Reduction Plan (CERP) with additional emissions reporting, monitoring, and reduction plans and measures in an effort to reduce air pollution exposure in disadvantaged communities. Given that 20 of the 30 most disadvantaged communities in California are in the San Joaquin Valley, this process is expected to bring additional clean air resources and strategies to many Valley communities.

South Central Fresno and the City of Shafter are the first Valley communities selected by the California Air Resources Board for investment of additional resources under AB 617. The Valley Air District has established a steering committee for each of these communities comprising community residents, businesses, community advocates, and government representatives to assist in the development and implementation of community air monitoring and emission reduction programs. Fresno's CERP was adopted by CARB and is now in the implementation phase.

Fresno Council of Governments. Fresno Council of Governments (FCOG) is responsible for regional transportation planning in Fresno county and participates in developing mobile source emission inventories used in air quality attainment plans.

Regional Transportation Plan/Sustainable Communities Strategy. Regional Transportation Plans (RTPs) are State-mandated plans that identify long-term transportation needs for a region's transportation network. Fresno Council of Governments' (FCOG) 2018 RTP charts the long-range vision of regional transportation in Fresno county through the year 2042. The RTP

identifies existing and future transportation related needs, while considering all modes of travel, analyzing alternative solutions, and identifying priorities for the anticipated available funding for the 1,100 projects and multiple programs included within it. Senate Bill 375 (SB 375), which went into effect in 2009, added statutes to the California Government Code to encourage planning practices that create sustainable communities. It calls for each metropolitan planning organization to prepare a Sustainable Communities Strategy (SCS) as an integrated element of the RTP that is to be updated every four years. The SCS is intended to show how integrated land use and transportation planning can lead to lower greenhouse gas (GHG) emissions from autos and light trucks. Fresno COG has included the SCS in its 2018 RTP.

Transportation Conformity. FCOG must ensure that transportation plans and projects comply with Federal Transportation Conformity. Transportation conformity is a way to ensure that Federal funding and approval are given to those transportation activities that are consistent with air quality goals. It ensures that these transportation activities do not worsen air quality or interfere with the "purpose" of the State Implementation Plan, which is to meet the NAAQS. Meeting the NAAQS often requires emissions reductions from mobile sources. According to the Clean Air Act, transportation plans, programs, and projects cannot:

- Create new NAAQS violations;
- Increase the frequency or severity of existing NAAQS violations; or
- Delay attainment of the NAAQS.

In practice, air quality plans include criteria pollutant emission budgets required for attainment of air quality standards by mandated deadlines. The budgets must not be exceeded considering projected growth in mobile source activity. The FCOG 2019 Conformity Analysis determined that the conformity tests for ozone, PM_{10} and $PM_{2.5}$ revealed that all years are projected to be less than the approved emissions budgets and, as such, the conformity tests are satisfied.

4.3.5.4 Local Policies and Regulations

The following is a summary of the applicable policies included in the City's approved General Plan that are related to air quality and applicable to the proposed project.

City of Fresno General Plan. The approved General Plan is a set of policies and programs that form a blueprint for the physical development of the city. For a description of each of the elements within the approved General Plan, refer to Chapter 3.0, Project Description. The following objectives and policies related to air quality are presented in various elements of the approved General Plan:

Urban Form, Land Use, and Design Element

Policy UF-1-c: Identifiable City Structure. Focus integrated and ongoing planning efforts to achieve an identifiable city structure, comprised of a concentration of buildings, people, and pedestrian-oriented activity in Downtown; along a small number of transit-oriented, mixed-use corridors and strategically located Activity Centers; and in existing and new

neighborhoods augmented with parks and connected by multi-purpose trails and tree lined bike lanes and streets.

Objective UF-12: Locate roughly one-half of future residential development in infill areas—defined as being within the City on December 31, 2012—including the Downtown core area and surrounding neighborhoods, mixed-use centers and transit-oriented development along major BRT corridors, and other non-corridor infill areas, and vacant land.

Commentary: The Planning Director will provide an annual report describing the City's compliance with the Plan and progress toward meeting the goals and objectives to City Council, and prepare, every five years, an updated plan for achieving this goal, with recommended appropriate policy amendments and also new implementation strategies necessary to meet this goal by 2035. The rate of progress toward meeting this goal is not expected to occur in a linear or "one-to-one" pattern. Development in infill areas versus growth areas may progress in an uneven pattern, depending upon the schedule of relevant key incentive programs (such as those related to BRT) and the impact of market forces. However, the City expects to make steady progress toward all the goals and objectives and anticipates meeting them at or near the close of General Plan Horizon in 2035. See the Implementation Element for additional implementation strategies for this objective.

Policy UF-12-a: BRT Corridors. Design land uses and integrate development site plans along BRT corridors, with transit-oriented development that supports transit ridership and convenient pedestrian access to bus stops and BRT station stops.

Commentary: Developments close to major streets encourages walking and can be connected with the adjacent neighborhoods through a network of pedestrian ways. Parking will be concealed from the street, and predominant residential uses will be considered an acceptable use in all mixed-use areas.

Policy UF-12-b: Activity Centers. Mixed-use designated areas along BRT and/or transit corridors are appropriate for more intensive concentrations of urban uses. Typical uses could include commercial areas; employment centers; schools; compact residential development; religious institutions; parks; and other gathering points where residents may interact, work, and obtain goods and services in the same place.

Commentary: Activity Centers are typified by a full range of uses, including residential, retail, employment, education, recreation, public amenities, and/or open space features. Near the mixed-use central area of the Activity Center, there are typically higher residential densities, typically 15 to 45 dwelling units per acre, but away from the center of the Activity Center, uses become predominantly residential at lower densities.

Policy UF-12-d: Appropriate Mixed-Use. Facilitate the development of vertical and horizontal mixed-uses to blend residential, commercial, and public land uses on one or adjacent sites. Ensure land use compatibility between mixed-use districts in Activity Centers and the surrounding residential neighborhoods.

Commentary: Vertical mixed-use may be achieved within the same building with multiple compatible uses in multiple stories, and horizontal mixed use may be achieved across an integrated development site with a mix of compatible and complementary uses housed in different buildings.

Policy UF-12-e: Access to Activity Centers. Promote adoption and implementation of standards supporting pedestrian activities and bicycle linkages from surrounding land uses and neighborhoods into Activity Centers and to transit stops. Provide for priority transit routes and facilities to serve the Activity Centers.

Policy UF-12-f: Mixed-Use in Activity Centers. Adopt a new Development Code which includes use regulations and standards to allow for mixed-uses and shared parking facilities.

Policy UF-12-g: Impacts on Surrounding Uses. Establish design standards and buffering requirements for high-intensity Activity Centers to protect surrounding residential uses from increased impacts from traffic noise and vehicle emissions, visual intrusion, interruption of view and air movement, and encroachment upon solar access.

Objective UF-14: Create an urban form that facilitates multi-modal connectivity.

Commentary: Multi-modal connectivity creates the opportunity for people to travel through a variety of modes of transportation, including biking, walking, driving, and using public transit.

Policy UF-14-a: Design Guidelines for Walkability. Develop and use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.

Commentary: These guidelines will highlight how to achieve these design ideas and avoid barriers to access, such as:

- Walls and fences that separate related uses or isolate neighborhoods;
- Over reliance on cul-de-sacs and dead end streets that cut off access within neighborhoods;
- Disconnected bike and pedestrian paths;
- Wide streets that lack pedestrian support, such as sidewalks, median strips, and a landscaped strip that separates pedestrians from the street;
- Street front parking lots that separate pedestrian from commercial operations;
- Retail centers that are exclusively auto-oriented;

- Transit stops that are not easily accessible from an individual's starting point and destination; and
- Long blocks that discourage walking.

Policy UF-14-b: Local Street Connectivity. Design local roadways to connect throughout neighborhoods and large private developments with adjacent major roadways and pathways of existing adjacent development. Create access for pedestrians and bicycles where a local street must dead end or be designed as a cul-de-sac to adjoining uses that provide services, shopping, and connecting pathways for access to the greater community area.

Policy UF-14-c: Block Length. Create development standards that provide desired and maximum block lengths in residential, retail, and mixed-use districts in order to enhance walkability.

Commentary: When preparing such standards the City should assess the desirability of varying maximum block length requirements between single family residential, multi-family residential, mixed use, and commercial districts.

Objective LU-2: Plan for infill development that includes a range of housing types, building forms, and land uses to meet the needs of both current and future residents.

Policy LU-2-a: Infill Development and Redevelopment. Promote development of vacant, underdeveloped, and re-developable land within the City Limits where urban services are available by considering the establishment and implementation of supportive regulations and programs.

Policy LU-2-b: Infill Development for Affordable Housing. Establish a priority infill incentive program for residential infill development of existing vacant lots and underutilized sites within the City as a strategy to help to meet the affordable housing needs of the community.

Policy LU-3-b: Mixed-Use Urban Corridors that Connect the Downtown Planning Area. Support the development of mixed-use urban corridors that connect the Downtown Planning Area with the greater Fresno-Clovis Metropolitan Area with functional, enduring, and desirable urban qualities along the Blackstone Avenue, Shaw Avenue, California Avenue, and Ventura Avenue/Kings Canyon Road corridors, as shown on Figure LU-1: General Plan Land Use Diagram.

Policy LU-3-c: Zoning for High Density on Major BRT Corridors. Encourage adoption of supportive zoning regulations for compact development along BRT corridors leading to the Downtown Core that will not diminish the long-term growth and development potential for Downtown.

Policy LU-5-f: High Density Residential Uses. Promote high-density residential uses to support Activity Centers and BRT Corridors, and walkable access to transit stops.

Policy LU-6-b: Commercial Development Guidelines. Consider adopting commercial development guidelines to assure high quality design and site planning for large commercial developments, consistent with the Urban Form policies of this Plan.

Commentary: The guidelines should address:

- Architectural finishes, coordinated color palette, massing, and hierarchy in scale;
- Pedestrian-scaled amenities, signage, and lighting;
- Site improvements, including parking lot landscaping, perimeter landscaping, foundation landscaping, walkways, and passageways;
- Ground floor transparency requirements along shopping streets and limitations on blank walls in these areas;
- Anti-theft glass on windows, rather than bars or roll-down metal screens, that are architecturally compatible with building design;
- Screening of truck loading, parking, mechanical equipment, transformers, ventilation systems, storage containers, and refuse collection areas from the street;
- Shading and its relationship and effects on surrounding buildings;
- Building entries; and
- Design standards for perimeter walls and fencing.

Policy LU-6-f: Auto-Oriented Commercial Uses. Direct highway-oriented and auto-serving commercial uses to locations that are compatible with the Urban Form policies of the General Plan. Ensure adequate buffering measures for adjacent residential uses, noise, glare, odors, and dust.

Policy LU-6-g: Lodging Facilities Location. Site lodging facilities and related accommodations near major transportation facilities.

Policy LU-8-b: Access to Public Facilities. Ensure that major public facilities and institutions have adequate multi-modal access and can be easily reached by public transit.

Resource Conservation and Resilience Element

Objective RC-4: In cooperation with other jurisdictions and agencies in the San Joaquin Valley Air Basin, take necessary actions to achieve and maintain compliance with State and federal air quality standards for criteria pollutants.

Commentary: This includes compliance with California Government Code Section 65302.1 for the San Joaquin Valley.

Policy RC-4-a: Support Regional Efforts. Support and lead, where appropriate, regional, State and federal programs and actions for the improvement of air quality, especially the SJVAPCD's efforts to monitor and control air pollutants from both stationary and mobile sources and implement Reasonably Available Control Measures in the Ozone Attainment Plan.

Commentary: A list of Reasonably Available Control Measures was submitted by the SJVAPCD to the U.S. Environmental Protection Agency as part of the Ozone Attainment Plan designed to reduce ozone-forming emissions. The City is responsible for implementing measures related to operations and/or services that the City controls.

Policy RC-4-b: Conditions of Approval. Develop and incorporate air quality maintenance requirements, compatible with Air Quality Attainment and Maintenance Plans, as conditions of approval for General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals.

Policy RC-4-c: Evaluate Impacts with Models. Continue to require the use of computer models used by SJVAPCD to evaluate the air quality impacts of plans and projects that require such environmental review by the City.

Policy RC-4-d: Forward Information. Forward information regarding proposed General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals that require air quality evaluation, and amendments to development regulations to the SJVAPCD for their review of potential air quality and health impacts.

Policy RC-4-e: Support Employer-Based Efforts. Support and promote employer implementation of staggered work hours and employee incentives to use carpools, public transit, and other measures to reduce vehicular use and traffic congestion.

Policy RC-4-f: Municipal Operations and Fleet Actions. Continue to control and reduce air pollution emissions from vehicles owned by the City and municipal operations and facilities by undertaking the following:

- Expand the use of alternative fuel, electric, and hybrid vehicles in City fleets.
- Create preventive maintenance schedules that will ensure efficient engine operation.
- Include air conditioning recycling and charging stations in the City vehicle maintenance facilities, to reduce Freon gases being released into the atmosphere and electrostatic filtering systems in City maintenance shops, when feasible or when required by health regulations.

- Use satellite corporation yards for decentralized storage and vehicle maintenance.
- Convert City-owned emergency backup generators to natural gas fuels whenever possible, and create an advanced energy storage system.

Policy RC-4-g: FAX Actions. Continue to improve Fresno Area Express (FAX) bus transit system technical performance, reduce emission levels, streamline system operations, and implement BRT where supportive land uses are proposed by Figure LU-1: Land Use Diagram.

Policy RC-4-h: Airport Actions. Support Airport efforts to develop and maintain programs and policies to support City, State and federal efforts to achieve and maintain air quality standards.

Policy RC-4-i: Methane Capture. Continue to pursue opportunities to reduce air pollution by using methane gas from the old City landfill and the City's wastewater treatment process.

Policy RC-4-j: All Departments. Continue to develop and implement in all City departments, operational policies to reduce air pollution.

Policy RC-4-k: Electric Vehicle Charging. Develop standards to facilitate electric vehicle charging infrastructure in both new and existing public and private buildings, in order to accommodate these vehicles as the technology becomes more widespread.

Policy RC-7-d: Update Standards for New Development. Continue to refine water saving and conservation standards for new development.

Objective RC-8: Reduce the consumption of non-renewable energy resources by requiring and encouraging conservation measures and the use of alternative energy sources.

Policy RC-8-a: Existing Standards and Programs. Continue existing beneficial energy conservation programs, including adhering to the California Energy Code in new construction and major renovations.

Policy RC-8-b: Energy Reduction Targets. Strive to reduce per capita residential electricity use to 1,800 kWh per year and non-residential electricity use to 2,700 kWh per year per capita by developing and implementing incentives, design and operation standards, promoting alternative energy sources, and cost-effective savings.

Commentary: These targets represent 28 and 30 percent reductions respectively, from the 2010 rate of consumption.

Policy RC-8-c: Energy Conservation in New Development. Consider providing an incentive program for new buildings that exceed California Energy Code requirements by fifteen percent.

Policy RC-8-d: Incentives. Establish an incentive program for residential developers who commit to building all of their homes to ENERGY STAR performance guidelines.

Commentary: See also Policy RC-7-j on PACE financing for energy efficient retrofits.

Policy RC-8-e: Energy Use Disclosure. Promote compliance with State law mandating disclosure of a building's energy data and rating of the previous year to prospective buyers and lessees of the entire building or lenders financing the entire building.

Policy RC-8-f: City Heating and Cooling. Reduce energy use at City facilities by updating heating and cooling equipment and installing "smart lighting" where feasible and economically viable.

Policy RC-8-g: Revolving Energy Fund. Create a City Energy Fund which uses first year savings and rebates from completed City-owned energy efficiency projects to provide resources for additional energy projects. Dedicate this revolving fund to the sole use of energy efficiency projects that will pay back into the fund.

Policy RC-8-h: Solar Assistance. Identify and publicize information about financial mechanisms for private solar installations and provide over-the-counter permitting for solar installations meeting specified standards, which may include maximum size (in kV) of units that can be so approved.

Policy RC-8-i: Renewable Target. Adopt and implement a program to increase the use of renewable energy to meet a given percentage of the city's peak electrical load within a given time frame.

Policy RC-8-j: Alternative Fuel Network. Support the development of a network of integrated charging and alternate fuel station for both public and private vehicles, and if feasible, open up municipal stations to the public as part of network development.

Policy RC-8-k: Energy Efficiency Education. Provide long-term and on-going education of homeowners and businesses as to the value of energy efficiency and the need to upgrade existing structures on the regular basis as technology improves and structures age.

Healthy Communities Element.

Policy HC-3-b: Housing-Related Illness Assessment and Testing. Support efforts to provide community assessment and testing programs for housing-related illnesses (i.e. blood lead levels, respiratory health, and skin conditions).

Commentary: Work collaboratively with the American Lung Association to support assessment and testing of housing related illnesses through best practice program, such as the Master Home Environmentalist Program.

Policy HC-3-d: Green Standards for Affordable Housing. Provide appropriate incentives for affordable housing providers, agencies, non-profit, and market rate developers to use LEED and CALGreen Tier 1 or Tier 2 standards or third-party equivalents.

Commentary: The City will publicize the health, environmental, and long term economic and maintenance benefits of applying LEED, CALGreen for third-party equivalents to projects in Fresno.

Policy HC-3-f: New Drive-Through Facilities. Incorporate design review measures in the Development Code to reduce vehicle emissions resulting from queued idling vehicles at drive-through facilities proximate to residences.

Commentary: This action will help the City achieve the health benefits associated with improved neighborhood air quality through reduced auto-related emissions.

Mobility and Transportation Element.

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-c: Plan Line Adoption. Prepare and adopt Official Plan Lines, or other appropriate documentation such as Director Determinations, for transportation corridors, roadways, and bicycle/pedestrian paths/trails, as necessary to preserve and/or obtain right-of-way needed for planned circulation improvements.

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.

Implementation actions will include:

- Meeting the needs of all users within the street system as a whole; each individual street does not need to provide all modes of travel, but travel by all modes must be accommodated throughout the Planning Area;
- Continuing to adopt refined street cross-section standards as appropriate in response to needs identified;
- Encouraging conversion of one-way streets to two-way streets to improve location circulation, access, and safety;
- Considering the impact of streets on public health by addressing storm water runoff quality, air quality, and water conservation among other factors; and
- Adhering to the water efficient landscape standards adopted by the City for median and streetscape plantings and irrigation methods.

Policy MT-1-h: Update Standards for Complete Streets. Update the City's Engineering and Street Design Standards to ensure that roadway and streetscape design specifications reflect the Complete Streets concept, while also addressing the needs of through traffic, transit stops, bus turnouts, passenger loading needs, bike lanes, pedestrian accommodation, and short- and long-term parking.

Commentary: For instance, transit stops and bus turnouts may have higher priority than through traffic on important transit corridors; through traffic may have higher priority than parking on Arterials; and pedestrian and bicycle movement may have high priority in areas with high pedestrian interest and activity such as the Downtown Planning Area.

Policy MT-1-i: Local Street Standards. Establish and implement local roadway standards addressing characteristics such as alignment, width, continuity and traffic calming, to provide efficient neighborhood circulation; to allow convenient access by residents, visitors, and public service and safety providers; and to promote neighborhood integrity and desired quality of life by limiting intrusive pass-through traffic.

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.

- In implementing this policy, the City will design improvements to:
- Facilitate provision of multi-modal transportation opportunities;
- Provide added safety, including appropriate traffic calming measures;
- Promote achievement of air quality standards;
- Provide capacity in a cost effective manner; and
- Create improved and equitable access with increased efficiency and connectivity.

Policy MT-1-l: Level of Service in the Downtown Area. Within the Downtown Planning Area accept vehicle LOS F conditions during peak hours for street segments and intersections specified in community and Specific Plans as may be adopted by the City. Where there is an overlap in policies regarding LOS in the Downtown Planning Area, this policy shall supersede.

Policy MT-1-o: LOS Deviations Outside of Activity Centers and Areas Designated for Mixed-Use. Accept vehicle LOS E or F conditions outside of identified multi-modal districts only if provisions commensurate with the level of impact and approved by the City Traffic Engineer are made to sufficiently improve the overall transportation system and/or promote non-vehicular transportation as part of a development project or City-initiated project.

Policy MT-1-p: Participate in Sustainable Communities Strategy/ Regional Transportation Plan. Continue to work with the Fresno Council of Governments in developing and updating the Sustainable Communities Strategy and Regional Transportation Plan, consistent with the goals, objectives and policies of the General Plan.

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-a: Active Transportation Plan. To the extent consistent with this General Plan, continue to implement and periodically update the Active Transportation Plan to meet State standards and requirements for recommended improvements and funding proposals as determined appropriate and feasible.

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-d: Prioritization of Bikeway Improvements. Prioritize bikeway components that link existing separated sections of the system, or that are likely to serve the highest concentration of existing or potential cyclists, particularly in those neighborhoods with low vehicle ownership rates, or that are likely to serve destination areas with the highest demand such as schools, shopping areas, recreational and park areas, and employment centers.

Policy MT-4-e: Minimum Bike Lane Widths. Provide not less than 10 feet of street width (five feet for each travel direction) to implement bike lanes for designated Class II bikeways along roadways. Strive for 14 feet of street width (seven feet for each travel direction) for curbside bike lanes where right-of-way is available.

Policy MT-4-f: Bike Detection Devices. Include bicycle detection devices when new intersection traffic control signals are installed and strive to retrofit existing traffic control signals to provide bicycle detection and retiming of signal phases to make them more bicycle friendly.

Policy MT-4-g: Advocacy for Bike Accommodation. Advocate for the accommodation of bike facilities in new or upgraded State Route interchanges and railroad construction projects, and construction of bicycle crossings of freeways and railroads.

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.

Policy MT-4-j: Street Maintenance for Bicycle Safety. Provide regular sweeping and other necessary maintenance to clear bikeways of dirt, glass, gravel, and other debris and maintain the integrity of the bicycling network.

Policy MT-4-k: Bicycle Safety, Awareness, and Education. Promote bicycle ridership by providing secure bicycle facilities, promoting traffic safety awareness for both bicyclists and motorists, promoting the air quality benefits, promoting non-renewable energy savings, and promoting the public health benefits of physical activity.

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 onto 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.

Commentary: To make this determination, the City Traffic Engineer may require an evaluation of alternative means of access, including frontage roads, backup treatment, and substantial redesign of the subdivision proposal.

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.

Policy MT-5-e: Traffic Management in Established Neighborhoods. Establish acceptable design and improvement standards and provide traffic planning assistance to established neighborhoods to identify practical traffic management and calming methods to enhance the pedestrian environment with costs equitably assigned to properties receiving the benefits or generating excessive vehicle traffic.

Policy MT-5-f: Modifications to Street Standards. Continue to evaluate and adopt modifications to City street standards to achieve overall objectives of providing good access

and travel opportunities while calming traffic, promoting pedestrian and other transportation options, and reducing the amount of land devoted to streets.

Objective MT-6: Establish a network of multi-purpose pedestrian and bicycle paths, as well as limited access trails, to link residential areas to local and regional open spaces and recreation areas and urban Activity Centers in order to enhance Fresno's recreational amenities and alternative transportation options.

Policy MT-6-a: Link Residences to Destinations. Design a pedestrian and bicycle path network that links residential areas with Activity Centers, such as parks and recreational facilities, educational institutions, employment centers, cultural sites, and other focal points of the city environment.

Policy MT-6-b: Multi-Agency Planning for Paths and Trail System. Continue to participate in multi-agency planning and implementation partnerships for the coordinated development of the Fresno-Clovis Metropolitan Area planned path and trail system and with Madera County for the San Joaquin River Parkway trail system.

Policy MT-6-c: Link Paths and Trails and Recreational Facilities. Strive to provide path or trail connections to recreational facilities, including parks and community centers where appropriate, and give priority to pathway improvements within neighborhoods characterized by lower vehicle ownership rates and lower per capita rates of parks and public open space.

Policy MT-6-d: Link Paths and Trails and Cultural Resources. Strive to designate and implement paths and trails to pass by environmental amenities, historic sites, and other cultural resources, where appropriate, and provide informational signage or other interpretation of those resources to the public.

Policy MT-6-e: Utilize Public Rights of Way. Pursue the attainment of path and trail corridors within abandoned railroad rights-of-way, canal alignments, PG&E transmission tower easements, limited access streets (Expressways, freeways), riverbottom/bluff areas, or other such rights-of-ways. Offer existing easements and rights-of-way to local agencies before selling them to private parties.

Policy MT-6-f: Path and Trail Designation Process. Develop a network of multi-purpose path and trail corridors by using the Official Plan Line process or other processes as provided by the Development Code to obtain appropriate linear rights-of-way along riparian corridors, drainage and irrigation easements, utility easements, abandoned railroad rights-of-way, and major street corridors.

Policy MT-6-g: Path and Trail Development. Require all projects to incorporate planned multi-purpose path and trail development standards and corridor linkages consistent with the General Plan, applicable law and case-by-case determinations as a condition of project approval.

Commentary: This should be done pursuant to Figure MT-2: Paths and Trails, and the adopted ATP, as may amended.

Policy MT-6-h: Preference for Public Ownership. Avoid path and trail alignments that involve private ownership of sections of public path or trail right-of-way. Use the Director Determination process, if necessary, to adjust planned path or trail rights-of-way to avoid these situations by realigning along more visible, publicly owned routes.

Policy MT-6-i: Path and Trail Design Standards. Designate and design paths and trails in accordance with design standards established by the City that give consideration to all path and trail users (consistent with design, terrain and habitat limitations) and provide for appropriate widths, surfacing, drainage, design speed, barriers, fences, signage, visibility, intersections, bridges, and street cleaning.

Commentary: Trail improvements and characteristics (e.g. accessibility, continuity, width and location, and surface treatment) within the Fancher Creek water conveyance and riparian corridor, and other alignments immediately adjacent to existing or planned residential land, will be determined by the City Council after providing for appropriate public participation.

Policy MT-6-j: Variety in Path and Trail Design. Provide for different levels and types of usable pedestrian and bicycle corridors, including broad, shaded sidewalks; jogging paths; paved and all terrain bicycle paths; through-block passageways; and hiking trails. Where a designated multi-purpose path route is adjacent to a public right-of-way which accommodates bike lane, allow for flexibility in path design, so that bike lanes may be substituted for the bicycle component of the multi-purpose path where it is safe and appropriate to do so.

Commentary: This should be done pursuant to Figure MT-2: Paths and Trails, and the adopted ATP, as may amended.

Policy MT-6-k: Path and Trail Buffers. Use landscaping with appropriate and adequate physical and visual barriers (e.g., masonry walls, wrought-iron, or square-tube fencing) to screen path and trail rights-of ways and separate paths and trails from mining operations, drainage facilities, and similar locations as warranted.

Policy MT-6-l: Environmentally Sensitive Path and Trail Design. Develop paths and trails with minimum environmental impact by taking the following actions:

- Surface paths and trails with materials that are conducive to maintenance and safe travel, choosing materials that blend in with the surrounding area;
- Design paths and trails to follow contour lines where the least amount of grading (fewest cuts and fills) and least disturbance of the surrounding habitat will occur;

- Beautify path and trail rights-of-way in a manner consistent with intended use, safety, and maintenance;
- Use landscaping to stabilize slopes, create physical or visual barriers, and provide shaded areas; and
- Preserve and incorporate native plant species into the landscaping.

Policy MT-6-m: Path and Trail Crossings. Limit vehicle access, to the extent feasible, where paths or trails are designated parallel and adjacent to roadways, with consideration given to other transportation, land use, and site design priorities and constraints.

Policy MT-6-n: Emergency Vehicle Access along Paths and Trails. Provide points of emergency vehicle access within the path and trail corridors, via parking areas, service roads, emergency access gates in fencing, and firebreaks.

Commentary: Service roads will be interconnected, where possible, to permit through travel by emergency vehicles.

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.

Commentary: Public transit services must meet accessibility standards for individuals with disabilities as required by applicable state and federal regulations.

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.

Commentary: Neighborhoods with circuitous and discontinuous streets are more difficult for public transit to serve efficiently than those with consistently spaced linear or semi-grid patterns.

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.

Policy MT-8-d: Coordination of Transportation Modes. Plan, design, and implement transportation system improvements promoting coordination and continuity of transportation modes and facilities, such as shared parking or park and ride facilities at Activity Centers.

Policy MT-8-e: Regional Coordination. Continue to work with local and regional governmental institutions to promote efficient transportation policies and coordinated programs.

Policy MT-8-f: Multi-modal Downtown Transportation Facility. Support the development of a multi-modal transportation facility in Downtown.

Commentary: Additional details for the facility are anticipated to be addressed in a future community or Specific Plan, such as the proposed DNCP or FCSP.

Policy MT-8-g: High Speed Train. If the State moves forward with HST, ensure it is constructed through Fresno in a manner that minimizes impacts to surrounding property owners and creates the most opportunity for redevelopment around the HST station.

Policy MT-8-h: Move Forward with High Speed Train Station Area Planning. Work with local residents, property and business owners, and other stakeholders to develop a station area plan to provide the most opportunity for growth and prosperity in concert with development of the Fresno HST station.

Policy MT-8-i: Legislative Support. Monitor State and federal legislation that creates incentives to reduce auto dependency and support the use of alternatives to the single occupant vehicle and support legislation that is consistent with the General Plan.

Policy MT-8-j: Transit Services. Emphasize expansion of transit service in low income neighborhoods that lack appropriate service levels.

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.

Policy MT-9-b: Transit Service Productivity Evaluation. Continue to evaluate transit service productivity and cost efficiency indicators in the City's Short-Range Transit Plan, and make necessary and appropriate service adjustments when operationally and financially feasible.

Commentary: Short-range transportation planning is a federal requirement for continued funding.

Policy MT-9-c: Addressing Unmet Transit Needs. Continue to participate in the Council of Fresno County Governments' annual unmet transit needs evaluation process, particularly with respect to identifying need for access to medical and educational services; perform market analysis to identify potential transit choice riders; and pursue public education and information programs to identify changes in demand characteristics and opportunities to increase ridership.

Policy MT-9-d: Long-Range Transit Options. Advocate and participate in regional transportation analyses and identify appropriate long-range measures to support incorporation of light rail transit and other advanced transit service within major transportation corridors, freeway and railroad alignments.

Policy MT-9-e: Area Specific Transit Improvements. Continue to evaluate and pursue the planning and implementation of area specific transit improvements, such as street car facilities.

Policy MT-9-f: Encourage Telecommuting. Support measures that will facilitate expanded use of telecommunications technologies to reduce congestion, expansion of regional transportation facilities consistent with this General Plan, energy use, and air emissions (i.e., work at home, dispersed telecommute work centers, teleconferencing).

General Plan Policy Revisions. The following General Plan policies are proposed to be revised as a part of this project. Specific text changes are shown below; double-underlined text represents language that will be added to the General Plan, and text with ~~strikethrough~~ represents language that will be deleted from the General Plan.

Policy MT-1-k: Multi-Modal Level of Service Standards. Develop and use a tiered system of flexible, multi-modal 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.

Policy MT-1-m: Standards for Planned Bus Rapid Transit Corridors and Activity Centers. Independent of the Traffic Impact Zones identified in MT-2-i and Figure MT-4, strive to maintain the following vehicle LOS standards on major roadway segments and intersections along Bus Rapid Transit Corridors and in Activity Centers:

- LOS E or better at all times, including peak travel times, unless the City Traffic Engineer determines that ~~mitigation to~~ maintaining this LOS would be infeasible and/or conflict with the achievement of other General Plan policies.

- Accept LOS F conditions in Activity Centers and Bus Rapid Transit Corridors only if provisions are made to improve the overall system and/or promote non-vehicular transportation and transit as part of a development project or a City-initiated project. In accepting LOS F conditions, the City Traffic Engineer may request limited analyses of

operational issues at locations near Activity Centers and along Bus Rapid Transit Corridors, such as queuing or left-turn movements.

- Give priority to maintaining pedestrian service first, followed by transit service and then by vehicle LOS, where conflicts between objectives for service capacity between different transportation modes occur.

- Identify pedestrian-priority and transit-priority streets where these modes would have priority in order to apply a multi-modal priority system, as part of the General Plan implementation.

Policy MT-1-n: Peak Hour Vehicle LOS. For planning purposes and implementation of Capital Improvement Projects, ~~M~~maintain a peak-hour vehicle LOS standard of D or better for all roadway areas outside of identified Activity Center and Bus Rapid Transit Corridor districts, unless the City Traffic Engineer determines that ~~mitigation to~~ maintaining this LOS would be infeasible and/or conflict with the achievement of other General Plan policies.

4.3.6 Significance Criteria

The thresholds for impacts to air quality used in this analysis are consistent with Appendix G of the State CEQA Guidelines. The continued implementation of the approved General Plan would result in a significant impact related to air quality if it would:

AIR-1 Conflict with or obstruct implementation of the applicable air quality plan;

AIR-2 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard;

AIR-3 Expose sensitive receptors to substantial pollutant concentrations;

AIR-4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The SJVAPCD is the applicable air pollution control district for the SJVAB, which includes the city of Fresno. The SJVAPCD has adopted thresholds of significance in its GAMAQI that are used where appropriate in the following analysis. While the final determination of whether a project is significant is within the purview of the Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines, SJVAPCD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the City as Lead Agency finds that the project has the potential to exceed these air pollution thresholds, the project will be considered to have significant air quality impacts.

4.3.7 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to air quality that could result from continued implementation of the approved General Plan. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with continued implementation of the approved General Plan and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less-than-significant level. Cumulative impacts are also addressed.

4.3.7.1 Project Impacts

The following discussion describes the potential impacts related to air quality that could result from the continued implementation of the approved General Plan.

AIR-1 The proposed project would not conflict with or obstruct implementation of the applicable air quality plan.

The project was assessed to determine if the impacts from continued implementation of the approved General Plan would conflict with or obstruct the implementation of the applicable attainment plan. As defined above, the project is the buildout of the Project Area. Buildout is predicted to occur at growth rates consistent with those used by the SJVAPCD to develop plans for all nonattainment pollutants in the SJVAB. The General Plan growth rate would result in buildout by the year 2056.

The assessment used two tests to determine if the project conflicts or obstructs the applicable air quality plans. First, if development proposed by the approved General Plan exceeds the growth projections used in the applicable attainment plan, it would produce a potentially significant impact. Second, if the project includes goals, policies, and development standards that are in conflict with the development related control measures in the attainment plans, the project would be potentially significant. Under these tests, the project would not have a significant impact.

The growth projections used for the approved General Plan assume that growth in population, vehicle use and other source categories will occur at historically robust rates that are consistent with the rates used to develop the SJVAPCD's attainment plans. In other words, the amount of growth predicted for the approved General Plan is accommodated by the SJVAPCD's attainment plan and would allow the air basin to attain the 8-hour ozone standard by the 2023 attainment date. In addition, reductions anticipated from existing regulations and adopted control measures will result in emissions continuing to decline even though development and population will increase. Furthermore, continued implementation of the approved General Plan would allow for implementation of the City's sustainability efforts that reduce motor vehicle use and energy consumption. This is accomplished with more compact development achieved by increasing development density and by providing a land use pattern and transportation infrastructure more supportive of public transportation, walking, and bicycling. Therefore, continued implementation of the approved General Plan would support the implementation of SJVAPCD's attainment plans and would meet this criterion.

Review of the goals and policies of the approved General Plan found them to be consistent with the applicable control measures of the SJVAPCD attainment plan. The approved General Plan includes numerous policies that would reduce operational air pollutant emissions and increase energy efficiency. The applicable goals and policies are listed in the previous section. The City also participates in regional planning efforts such as the San Joaquin Valley Blueprint Project and works closely with Fresno COG in developing Regional Transportation Plans and capital improvement plans and capital improvement plans (see Policy MT-1-p). These efforts contribute to the attainment strategy for the SJVAB.

The SJVAPCD has adopted rules and regulations specifically designed to reduce the impacts of growth on the applicable air quality plans. For example, Rule 9510, Indirect Source Review, was adopted to provide emission reductions needed by the SJVAPCD to demonstrate attainment of the federal PM_{10} standard and contribute to reductions that assist in attaining federal ozone standards. Rule 9510 also contributes toward attainment of State standards for these pollutants. The SJVAPCD's Regulation VIII, Fugitive PM_{10} Prohibitions, requires controls for sources of particulate matter necessary for attaining the federal PM_{10} standards and achieving progress toward attaining the State PM_{10} standards. Rule 2201, New and Modified Stationary Source Review, requires new and modified stationary/industrial sources to provide emission controls and offsets that ensure that stationary sources decline over time and do not impact the applicable air quality plans. Development associated with continued implementation of the approved General Plan would comply with these rules and regulations providing additional support for the conclusion that it would not interfere or obstruct with the application of the attainment plans.

Therefore, the project would be consistent with the air quality attainment plans and would result in a less than significant impact. No mitigation would be required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.3.5.4, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

AIR-2 The proposed project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is non-attainment under an applicable federal or State ambient air quality standard.

The SJVAPCD has adopted project level quantitative thresholds for ozone precursors reactive organic gases ROG and NO_x of 10 tons per year and recommends quantitative thresholds for PM_{10} and $PM_{2.5}$ of 15 tons per year. Although these thresholds are intended for use on individual development projects, no other quantitative plan level threshold has been adopted. Continued implementation of the approved General Plan would provide for the development of numerous individual development projects that would be subject to the project level thresholds at the time they are proposed. Large individual projects are likely to exceed the thresholds during project construction and operation.

Continued implementation of the approved General Plan reflects the cumulative projects anticipated for the City from the present until buildout. A more appropriate metric for cumulative contribution at the plan level is whether the cumulative impact of development predicted by the continued implementation of the approved General Plan would conflict with plans adopted to achieve the applicable standards. A conflict would result when emission levels exceed the amounts required for attainment by the years mandated by State and federal regulations. After the attainment year, the emissions inventory must stay below the attainment inventory even with continued growth in order to maintain the standard. Once standards are achieved, no significant impact to health would occur as long as standards are maintained. As described in Impact AIR-1 above, the project would not conflict with the implementation of the SJVACD's air quality attainment plans.

The project area is designated nonattainment for ozone, PM_{10}, and $PM_{2.5}$. Ozone is not directly emitted but is formed in the atmosphere by ozone precursors (ROG and NO_2). In addition, PM_{10} and $PM_{2.5}$ are emitted directly and also form in the atmosphere as a secondary pollutant from emissions of NO_2 and ammonia. Ammonia is not a criteria pollutant and the SJVAPCD PM control strategy is based primarily on NO_2 controls and reductions of directly emitted PM_{10} and $PM_{2.5}$. Therefore, this section addresses the cumulative emissions of the pollutants ROG, NO_x, PM_{10}, and $PM_{2.5}$.

Development of the approved General Plan would result in air pollutant emissions from short-term construction activities and long-term project operation described below.

Construction. Construction activity from continued implementation of the approved General Plan would cause temporary, short-term emissions of various air pollutants within the Planning Area. ROG and NOx (ozone precursors), PM_{10}, and $PM_{2.5}$ would be emitted by construction equipment during various activities, which may include but are not limited to grading, excavation, building construction, or demolition. Soil disturbance during construction activities emit fugitive dust, a fraction of which is comprised of PM_{10} and $PM_{2.5}$.

SJVAPCD and State regulations have been created to reduce construction emissions. The CARB has adopted regulations for new off-road diesel engines and equipment that result in cleaner equipment being placed in service as older, higher emitting equipment is retired. The CARB also adopted the in-use off-road diesel vehicle regulation requiring NO_x and PM_{10} emission reductions from equipment and vehicles currently in operation. SJVAPCD Regulation VIII includes requirements to control fugitive dust emissions during construction activities and requires commercial projects over 5 acres and residential projects over 10 acres to file a Dust Control Plan. The GAMAQI states that compliance with Regulation VIII will normally reduce impacts from fugitive dust to less than significant. Rule 9510 – Indirect Source Review requires projects to reduce exhaust related construction emissions by 20 percent for NO_x and by 50 percent for PM_{10}; however, significance for these emissions is based on whether projects exceed the SJVAPCD annual quantitative thresholds.

The SJVAPCD indicates that the control measures in Regulation VIII are required by regulation for all construction sites to reduce fugitive dust emissions. The GAMAQI lists additional measures that may be required because of sheer project size or proximity of the project to sensitive receptors. The additional measures are referred to as "enhanced control measures" in the GAMAQI. These enhanced control measures have been added as amendments to Regulation VIII, so they are no

longer considered mitigation measures that could be imposed on very large or sensitive projects, but standard control measures required for rule compliance. As stated above, each commercial project over 5 acres in size and residential project over 10 acres in size is required to submit a Dust Control Plan to the SJVAPCD for approval and requires control measures adequate to prevent significant fugitive dust impacts. If measures included in the Dust Control Plan prove inadequate to control fugitive dust, construction contractors must implement additional controls or cease dust generating construction activities. In addition, projects smaller than the Dust Control Plan size thresholds must still comply with most other Regulation VIII requirements. Therefore, fugitive dust impacts from construction activities are considered less than significant.

The buildout associated with the continued implementation of the approved General Plan would result in potentially hundreds of individual development projects. Information regarding specific development projects, soil conditions, and the location of sensitive receptors in relation to the various projects would be needed in order to determine localized impacts associated with construction activity. However, overall estimates based on annual rates of construction activity required to reach buildout provides a reasonable method for determining an annual contribution rate for construction emissions. Emissions from construction activities are expected to decline over time as new cleaner equipment replaces older higher emitting equipment. However, on a cumulative basis, construction emissions would continue to exceed SJVAPCD annual thresholds even with the regulatory reductions.

Emissions related to projected construction activities are included in emission forecasts used to demonstrate attainment of the applicable air quality standards and would therefore, not interfere or obstruct with SJVAPCD attainment plans. However, the combined impact of all construction projects to reach buildout is a cumulative impact that makes it more difficult to attain the air quality standards compared to a scenario where no growth takes place. Although individual projects may exceed SJVAPCD project level thresholds, using a project threshold to address the impact of hundreds of projects that would be constructed under General Plan buildout is a highly conservative measure of project level significance for an impact that is cumulative in nature.

Rule 9510 – Indirect Source Review requires reductions of construction emissions in order to mitigate the impacts of growth. The rule requires NO_x reductions of 20 percent and PM_{10} reductions of 45 percent compared to the statewide average by using clean construction equipment at the project site or paying mitigation fees to the SJVAPCD to obtain off-site reductions. Rule 9510 serves to mitigate both project level and cumulative effects of construction on ozone and particulate matter emissions. Individual projects that exceed project level significance thresholds after accounting for Rule 9510 reductions would be required to implement additional mitigation measures to reduce significant emissions or the City would be required to prepare an EIR and adopt a statement of overriding considerations.

CARB off-road equipment regulations would result in reductions in NO_x and PM emissions as new equipment meeting current and future standards replaces older higher emitting equipment. The regulations provide substantial reductions near term and midterm. CARB also requires retrofits of existing equipment to reduce particulate emissions that will help reduce emissions from older equipment. Regulations are normally implemented over a 5 to 10-year period at which time a new round of regulations are proposed if still needed to attain the air quality standards. The CARB has a

long history of tightening regulations as technology advances increase the feasibility of additional controls. Large individual projects that exceed the SJVAPCD project thresholds will be required to include feasible mitigation measures that reduce the significant impact. The measures could include additional onsite controls or off-site mitigation fees that reduce emissions to less than significant levels.

When project construction emissions are viewed in relation to the applicable air quality plans adopted by the SJVAPCD, the emissions would not result in a significant cumulative contribution since the emissions would not interfere with attainment of air quality standards. However, estimated annual project construction emissions exceed project level thresholds by a substantial margin for all pollutants. Therefore, construction emissions are considered potentially significant.

Operation. Long-term air pollutant emission impacts are those associated with mobile sources (e.g., vehicle trips), energy sources (e.g., electricity and natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment.

PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM_{10} occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles.

Energy source emissions result from activities in buildings for which electricity and natural gas are used. The quantity of emissions is the product of usage intensity (i.e., the amount of electricity or natural gas) and the emission factor of the fuel source. Major sources of energy demand include building mechanical systems, such as heating and air conditioning, lighting, and plug-in electronics, such as refrigerators or computers. Greater building or appliance efficiency reduces the amount of energy for a given activity and thus lowers the resultant emissions. The emission factor is determined by the fuel source, with cleaner energy sources, like renewable energy, producing fewer emissions than conventional sources.

Area source emissions consist of direct sources of air emissions located at a project site, including architectural coatings and the use of landscape maintenance equipment. Area source emissions associated with the continued implementation of the approved General Plan would include emissions from the use of landscaping equipment and the use of consumer products.

The estimated annual City of Fresno air pollutant emissions associated with buildout of the General Plan are shown in Table 4.3-8. The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on release or, in the case of vehicle emissions associated with the project; emissions are released in other areas of the Air Basin. The annual emissions associated with project operational trip generation, energy, and area sources are identified in Table 4.3-8 for ROG, NO_x, PM_{10}, and $PM_{2.5}$.

As shown in Table 4.3-8, total annual emissions of ROG, NO_x, PM_{10}, and $PM_{2.5}$ for all development that could occur under the approved General Plan would exceed the SJVAPCD's project level

significance thresholds; however, as previously discussed, the project level thresholds are a highly conservative measure of significance for a long-range plan. The scale of individual project level emissions that would result under the continued implementation of the approved General Plan has not been determined. Therefore, in order to present conservative assumptions, the air quality impacts associated with future operation of individual projects that may occur with implementation of the approved General Plan, when measured against annual regional thresholds, are assumed to be potentially significant. Therefore, Mitigation Measure MM AQ-2 is identified and requires the preparation of project specific technical assessments evaluating operational-related air quality impacts to further ensure that operational-related emissions are reduced to the maximum extent feasible for projects that require environmental evaluation under CEQA. Despite implementation of MM AQ-2, and in an abundance of caution, the potential regional criteria pollutant emissions impact associated with the continued implementation of the approved General Plan would remain significant and unavoidable.

Table 4.3-8: City of Fresno Planning Area Annual Average Air Pollutant Emissions

Land Use	Source	Emissions (tons/year)			
		ROG	NO_x	PM_{10}	$PM_{2.5}$
Residential	Area	21.9	1.8	0.3	0.3
	Energy	0.4	3.3	0.3	0.3
	Mobile	2.8	45.1	17.4	4.8
	Total	**25.1**	**50.3**	**18.0**	**5.3**
Commercial/ Mixed-Use	Area	10.8	<1	0.0	0.0
	Energy	0.1	1.2	0.1	0.1
	Mobile	7.2	124.8	32.5	8.9
	Total	**18.1**	**126.0**	**32.6**	**9.0**
Industrial	Area	5.2	0.0	0.0	0.0
	Energy	0.1	1.1	0.1	0.1
	Mobile	0.5	8.6	3.3	0.9
	Total	**5.8**	**9.8**	**3.4**	**1.0**
Total	**Area**	**37.8**	**1.8**	**0.3**	**0.3**
	Energy	**0.6**	**5.7**	**0.4**	**0.4**
	Mobile	**49.1**	**186.0**	**54.0**	**15.3**
	Total	**87.5**	**193.5**	**54.7**	**16.0**
SJVAPCD Annual Thresholds		**10**	**10**	**15**	**15**

Source: LSA, January 2020.

Table 4.3-9: City of Fresno Planning Area Daily Air Pollutant Emissions

Source	Emissions (tons/day)			
	ROG	NO_x	PM_{10}	$PM_{2.5}$
Area	0.1	<0.1	<0.1	<0.1
Energy	<0.1	<0.1	<0.1	<0.1
Mobile	0.1	0.5	0.2	<0.1
Total	**0.2**	**0.5**	**0.2**	**<0.1**

Source: LSA, January 2020.

The State and the SJVAPCD continue to adopt additional regulations on most sources of emissions to be implemented during the approved General Plan buildout period and result in much greater reductions than is predicted with the adopted regulations included in the air quality models as of 2019 or with off-model quantification methods available pending the next model update. Expanded use of renewable fuels, zero emission vehicles, and replacing combustion sources with electrically powered alternatives will also result in reductions in criteria pollutant emissions. In addition, the approved General Plan includes policies and development patterns that will result in lower vehicle miles traveled and energy use compared to development projects constructed in the recent past that provide the basis for future emission projections. However, future development within the Planning Area would result in increases in annual emissions that exceed SJVAPCD significance thresholds for all nonattainment pollutants. Although the growth in emissions is accounted for in SJVAPCD attainment plans, this analysis identifies the impact as significant under the ton per year quantitative threshold criterion as shown in Table 4.3-8.

Stationary Sources. A variety of industrial and commercial processes (e.g., food processing plants, glass manufacturers, gas stations, dry cleaning) allowed under the project would also be expected to emit criteria pollutant emissions. These are referred to as stationary and stationary/area sources in this assessment. The top three stationary/area source emitters within the city of Fresno Planning Area are shown in Table 4.3-10.

Emissions from stationary sources are regulated at the local and regional level through SJVAPCD permitting and prohibitory rules. Under Rule 2201– New and Modified Stationary Source Review, sources emitting more than two pounds per day of any regulated pollutant are required to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) from the SJVAPCD, and to implement best available control technology (BACT). Emission offsets are required for stationary sources that exceed offset thresholds contained in Rule 2201. The SJVAPCD has also adopted prohibitory rules that set emission limits and/or identify control technologies that apply to new and existing sources and further reduce emissions. The net effect of this regulatory system is continued reductions in stationary source emissions including the continued implementation of the approved General Plan. Therefore, stationary source emissions from the project are considered less than significant.

Table 4.3-10: Top Three Stationary/Area Source Emitters in City of Fresno Planning Area (2015)

Pollutant	Facility (Type of Facility)	Percent of Emissions (%)
ROG	E&J Gallo Winery	54.3
	SFPP, L.P.	11.0
	MB Technology	7.7
NO_x	Vitro Flatt Glass LLC	66.3
	Rio Bravo Fresno	15.8
	SFPP, L.P.	2.7
PM_{10}	Rio Bravo Fresno	14.9
	MB Technology	13.0
	Vitro Flatt Glass LLC	9.4

Source: California Air Resources Board, CEIDARS database. Website: www.arb.ca.gov/app/emsinv/facinfo/facinfo.php.

Health Effects Summary. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Particulate matter can also lead to a variety of health effects in people. These include premature death of people with heart or lung disease, heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms.

Although the emissions from project operations are expected to exceed the SJVAPCD's project level thresholds, this does not in itself constitute a significant health impact to the future residents on the project site and within the SJVAB.

The SJVAPCD's project level thresholds are based in part on Section 180 (e) of the Clean Air Act. The project level thresholds are intended to provide a means of consistency in significance determination within the environmental review process.

Notwithstanding, simply exceeding the SJVAPCD's project level thresholds does not constitute a particular health impact to an individual nearby. The reason for this is that the project level thresholds are in tons/year emitted into the air, whereas health effects are determined based on the concentration of a pollutant in the air at a particular location (e.g., ppm by volume of air or $\mu g/m^3$of air). CAAQS and NAAQS were developed to protect the most susceptible population groups from adverse health effects and were established in terms of ppm or $\mu g/m^3$ for the applicable emissions.

The total emissions inventory for Fresno County is shown in Table 4.3-2. As shown in Table 4.3-9 above, the daily increase in emissions associated with the continued implementation of the General Plan would be a small fraction of the county's emissions.

Therefore, the project emissions would not be expected to exceed the most stringent applicable NAAQS or CAAQS for NO_X, $PM_{2.5}$, and PM_{10}. It should be noted that the AAQS are developed and represent levels at which the most susceptible persons (children and the elderly) are protected. In other words, the AAQS are purposefully set low to protect children, the elderly, and those with existing respiratory problems.

Furthermore, air quality trends for emissions of NO_X, VOCs, and ozone (which is a byproduct of NO_X and VOCs) have been trending downward within the SJVAB even as development has increased over the last several years. Therefore, continued implementation of the approved General Plan is not expected to result in any Basin-wide increase in health effects.

As noted in the Brief of Amicus Curiae by the SJVAPCD (2015)[14], the SJVAPCD has acknowledged that currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts. (See page 4 of the SJVAPCD Brief of Amicus Curiae).

[14] San Joaquin Valley Unified Air Pollution Control District. 2015. *Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District*. April. Available online at: www.courts.ca.gov/documents/7-s219783-ac-san-joaquin-valley-unified-air-pollution-control-dist-041315.pdf (accessed January 2020).

Additionally, the SJVAPCD acknowledges that health effects quantification from ozone, as an example, is correlated with the increases in ambient level of ozone in the air (concentration) that an individual person breathes. The SJVAPD indicates that it would take a large amount of additional emissions to result in a modeled increase in ambient ozone levels over the entire region. As such, it is not currently possible to accurately quantify ozone-related health impacts caused by NO_X or VOC emissions from relatively small projects (defined as projects with a regional scope) due to photochemistry and regional model limitations.

Therefore, the project's emissions are not sufficiently high enough to use a regional modeling program to correlate health effects on a Basin-wide level. Further, the SJVAPCD acknowledges the same:

> "…the Air District is simply not equipped to analyze and to what extent the criteria pollutant emissions of an individual CEQA project directly impact human health in a particular area…even for projects with relatively high levels of emissions of criteria pollutant precursor emissions." (See page 8 of the SJVAPCD Brief of Amicus Curiae.)

The SJVAPCD Brief of Amicus Curiae are incorporated by reference into this environmental documentation for this project.

Current scientific, technological, and modeling limitations prevent the relation of expected adverse air quality impacts to likely health consequences.

Applicable Laws, Regulations, Relevant Land Use Policies

- **SJVAPCD Land Use Related Regulations**. Individual projects to be developed under the proposed project would be subject to District Rules and Regulations, including Rule 9510 (Indirect Source Review) and Regulation VIII (Fugitive Dust Prohibitions), Existing businesses and new projects that are large employers (over 100 employees) will be subject to Rule 9410 (Employer Based Trip Reduction). Rule 9510 was adopted with the purpose of mitigating the impacts of growth on air quality throughout the San Joaquin Valley. Rule 9510 is by far the most stringent development related air regulation in California and the nation. Reductions from Rule 9510 are surplus, meaning they are not required to demonstrate attainment of air quality standards. Rule 9410's purpose is to reduce emissions related to employee commute trips. These two rules provide substantial emission reductions from the approved General Plan buildout and provide assurance that the project would not result in significant air quality impacts.

- **SJVAPCD Voluntary Emission Reduction Agreements (VERA).** The SJVAPCD offers VERAs as a method for development projects that exceed SJVAPCD thresholds after accounting for Rule 9510 reductions to mitigate significant criteria pollutant impacts. VERAs require emission reductions in addition to those required by Rule 9510. The developers of individual projects enter into contracts with the SJVAPCD to purchase emission reductions obtained through projects funded under SJVAPCD grant and incentive programs. The SJVAPCD will also verify emission reductions from projects identified by the developer and manage the implementation

and long term monitoring of the projects. The use of a VERA may not be feasible for all projects but should be considered for large projects with significant impacts.

Although the existing policies, ordinances, and regulations and the objectives and policies proposed in the approved General Plan will reduce criteria pollutant emissions, the project exceeds the SJVAPCD project level thresholds of significance for ROG, NO_x, PM_{10}, and $PM_{2.5}$. Therefore, the project impact is potentially significant.

- Refer to the approved General Plan policies and objectives identified in Section 4.3.5.4, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact AIR-2: The proposed project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is non-attainment under an applicable federal or State ambient air quality standards.

Mitigation Measures:

Mitigation Measure AIR-2.1 Prior to future discretionary project approval, development project applicants shall prepare and submit to the Director of the City Planning and Development Department, or designee, a technical assessment evaluating potential project construction phase-related air quality impacts. The evaluation shall be prepared in conformance with SJVAPCD methodology for assessing construction impacts. If construction related air pollutants are determined to have the potential to exceed the SJVAPCD adopted threshold of significance, the Planning and Development Department shall require that applicants for new development projects incorporate mitigation measures into construction plans to reduce air pollutant emissions during construction activities. The identified measures shall be included as part of the Project Conditions of Approval. Possible mitigation measures to reduce construction emissions include but are not limited to:

- Install temporary construction power supply meters on site and use these to provide power to electric power tools whenever feasible. If temporary electric power is available on site, forbid the use of portable gasoline- or diesel-fueled electric generators.
- Use of diesel oxidation catalysts and/or catalyzed diesel particulate traps on diesel equipment, as feasible.
- Maintain equipment according to manufacturers' specifications.

- Restrict idling of equipment and trucks to a maximum of 5 minutes (per California Air Resources Board [CARB] regulation).
- Phase grading operations to reduce disturbed areas and times of exposure.
- Avoid excavation and grading during wet weather.
- Limit on-site construction routes and stabilize construction entrance(s).
- Remove existing vegetation only when absolutely necessary.
- Sweep up spilled dry materials (e.g., cement, mortar, or dirt track-out) immediately. Never attempt to wash them away with water. Use only minimal water for dust control.
- Store stockpiled materials and wastes under a temporary roof or secured plastic sheeting or tarp.

Mitigation Measure AIR-2.2 Prior to future discretionary project approval, development project applicants shall prepare and submit to the Director of the City Planning and Development Department, or designee, a technical assessment evaluating potential project operation-related air quality impacts. The evaluation shall be prepared in conformance with SJVAPCD methodology in assessing air quality impacts. If operation-related air pollutants are determined to have the potential to exceed the SJVAPCD-adopted thresholds of significance, the Planning and Development Department shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during operational activities. The identified measures shall be included as part of the Project Conditions of Approval. Possible mitigation measures to reduce long-term emissions include but are not limited to:

- For site-specific development that requires refrigerated vehicles, the construction documents shall demonstrate an adequate number of electrical service connections at loading docks for plugging in the anticipated number of refrigerated trailers to reduce idling time and emissions.
- Applicants for manufacturing and light industrial uses shall consider energy storage (i.e., battery) and combined heat and power (CHP, also known as cogeneration) in appropriate applications to optimize renewable energy generation systems and avoid peak energy use.

- Site-specific developments with truck delivery and loading areas and truck parking spaces shall include signage as a reminder to limit idling of vehicles while parked for loading/unloading in accordance with CARB Rule 2845 (13 California Code of Regulations [CCR] Chapter 10, Section 2485).
- Require that 240-volt electrical outlets or Level 3 chargers be installed in parking lots that would enable charging of neighborhood electric vehicles (NEVs) and/or battery powered vehicles.
- Maximize use of solar energy including solar panels; installing the maximum possible number of solar energy arrays on building roofs throughout the city to generate solar energy.
- Maximize the planting of trees in landscaping and parking lots.
- Use light-colored paving and roofing materials.
- Require use of electric or alternatively fueled street-sweepers with HEPA filters.
- Require use of electric lawn mowers and leaf blowers.
- Utilize only Energy Star heating, cooling, and lighting devices, and appliances.
- Use of water-based or low volatile organic compound (VOC) cleaning products.

Level of Significance With Mitigation: Significant and Unavoidable Impact.

While Mitigation Measure AIR-2.1 and Mitigation Measure AIR-2.2 would significantly reduce criteria air pollutant emissions generated during construction and operational activities associated with the continued implementation of the approved General Plan, there is currently not enough information to quantify emissions of specific project development that may occur under the proposed project. Without quantification to guarantee a less than significant finding, future development projects may still exceed the SJVAPCD regional significance thresholds. Therefore, operational activities would be considered to remain significant and unavoidable.

AIR-3 The proposed project would expose sensitive receptors to substantial pollutant concentrations.

The analysis below addresses exposure to sensitive receptors from both stationary sources and mobile sources. Proposed projects associated with the continued implementation of the approved General Plan that emit TACs would require review under SJVAPCD rules and regulations or review

under CEQA, especially if located near sensitive receptors. Projects with sensitive receptors proposed near localized sources of TAC emissions (e.g., residents to be located near major roadways or stationary sources) could expose new sensitive populations to TACs and other air pollutants. According to the CARB and SJVAPCD, exposure to elevated levels of TACs contribute to elevated health risks. The ARB recommends that buffers should be included to avoid exposure of sensitive receptors to TAC sources. Risk levels drop dramatically beyond 500 feet from a source due to dispersion of emissions with distance.

It is important to note that CEQA generally does not require analysis or mitigation of the impact of existing environmental conditions on a project, including a project's future users or residents. However, as with other laws and regulations enforced by other agencies that protect public health and safety, the City, as the lead agency, has authority other than CEQA to institute policies that aim to protect public health and safety.

Stationary Sources. Stationary sources of TACs within the city of Fresno include the stationary sources permitted by the SJVAPCD. Various permitted uses are dispersed throughout the city. Various industrial and commercial processes (e.g., manufacturing and dry cleaning) allowed under the continued implementation of the approved General Plan would be expected to release TACs. Industrial land uses, such as chemical processing facilities, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities, have the potential to be substantial stationary sources that would require a permit from SJVAPCD for emissions of TACs. Emissions of TACs would be controlled through permits issued by SJVAPCD and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits. Since it is not possible to determine the amount of TAC concentrations at the time of this analysis, it is not possible to calculate the risks for a particular health effect within the Planning Area. The proposed project is a programmatic project and until specific future projects are proposed, the associated TAC emissions cannot be determined or modeled at this time. Future development projects subject to environmental review under CEQA would be required to analyze potential TAC emissions and include mitigation as appropriate.

In addition to stationary/area sources of TACs, commercial and industrial operations could generate a substantial amount of diesel particulate matter emissions from off-road equipment use and truck idling. New land uses in the city that use diesel trucks, including trucks with transport refrigeration units, could generate an increase in DPM that would contribute to cancer and non-cancer health risk in the Basin. Land use projects are required to comply with AB 2588 and CARB standards for diesel engines. As stated above, until specific future projects are proposed, the associated emissions cannot be determined or modeled at this time. However, mitigation has been identified so that future projects would be subject to environmental review under CEQA and would be required to analyze potential emissions and include mitigation as appropriate.

Siting of Sensitive Receptors. Because placement of sensitive land uses falls outside CARB's jurisdiction, CARB developed and approved the *Air Quality and Land Use Handbook: A Community Health Perspective* to address the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. This guidance document was developed to assess compatibility and associated health risks when placing sensitive receptors near existing pollution sources.

CARB's recommendations for the siting of new sensitive land uses were based on a compilation of recent studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in these studies is that proximity to air pollution sources substantially increases both exposure and the potential for adverse health effects. Respiratory and cardiovascular problems including asthma, lung cancer, and premature death have been associated with living near major roadways and freeways.[15] Children who live near major roadways and freeways have been found to have higher asthma rates and reduced lung function.[16] There are three carcinogenic toxic air contaminants that constitute the majority of the known health risks from motor vehicle traffic: DPM from trucks and benzene and butadiene from passenger vehicles. Exposure to DPM accounts for the majority of carcinogenic risk in the Basin. It has been found that outdoor concentrations are highest near the roadway and decrease with increasing distance downwind of the source.[17] CARB recommends avoiding siting new sensitive land uses within 500 feet of urban roads with more than 100,000 vehicles per day or rural roads with more than 50,000 vehicles per day.[18]

Table 4.3-6 shows a summary of the other CARB recommendations for siting new sensitive land uses within the vicinity of air pollutant sources. Recommendations in the table are based on data that show that localized air pollution exposures can be reduced by as much as 80 percent by following CARB minimum distance separations.

Continued implementation of the approved General Plan would allow for new residential units to be constructed within the city; however precise location of future residential units is unknown at this time. Based on modeling conducted by LSA, if new sensitive receptors were sited within 500 feet of SR-99, 400 feet within SR-41, 400 feet of 180, or 500 feet within SR-168; or within CARB's minimum siting recommendations of other stationary sources; future residents may be exposed to significant concentrations of air pollutants. Residential land uses or other sensitive uses could be developed near or adjacent to areas designated for commercial and industrial uses and in proximity to existing permitted TAC sources. Risk contours within the city of Fresno are shown in Appendix C.

CEQA does not generally require an agency to consider the effects of existing environmental conditions on a proposed project's future users or residents. However, as with other laws and regulations enforced by other agencies that protect public health and safety, the City, as the lead agency, has authority other than CEQA to require measures to protect public health and safety.

As listed in Section 4.2.7.1 above, the approved General Plan includes Policies with provisions for reducing exposure of sensitive receptors to TAC emissions including: UF-12-d, LU-6-f, MT-1-d, MT-1-j, and MT-5-c.

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15 Balmes, J.R., Earnest, G., Katz, P.P., Yelin, E.E., Eisner, M.D., Chen, H., Trupin, L., Lurmann, F., and Blanc, P.D. 2009. *Exposure to traffic: Lung function and health status of adults with asthma. The Journal of Allergy and Clinical Immunology*, 123(3):626–631.

16 California Air Resources Board. 2013. Overview of the Children's Health Study. Website: ww3.arb.ca.gov/research/chs/over.htm (accessed February 17, 2020).

17 Zhu, Y., Hinds, W.C., Kim, S., Shen, S., and Sioutas, C. 2002. *Study of ultrafine particles near a major roadway with heavy-duty diesel traffic*. Atmospheric Environment, 36(27):4323-4335.

18 California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April.

Future development associated with the continued implementation of the approved General Plan would be required to comply with AB 2588, and CARB standards for diesel engines. While existing City policies and regulations are intended to minimize impacts associated with sensitive receptors, mitigation measures for future project developments that implement these policies and regulations are identified to ensure that the intended environmental protections are achieved. Compliance with Mitigation Measure AIR-3.1 would ensure that mobile sources of TACs not covered under SJVAPCD permits are considered during subsequent project-level environmental review. Mitigation Measure AIR-3.1 would require the preparation of project-specific technical health risk assessments for certain discretionary large industrial or warehousing uses to evaluate operational-related health risk impacts to further ensure that operational-related emissions are reduced to a less than significant level. However, information regarding operational characteristics of future specific development projects and the associated emissions cannot be determined at the time of this analysis; therefore, cumulative growth within the city could result in potential TAC health could cumulatively contribute to elevated health risks in the city. Therefore, in an abundance of caution, potential TAC health risks are considered a significant impact.

In addition, Mitigation Measure AIR-3.2 identifies the use of the discretionary review process for residential and other sensitive land uses near freeways to impose site plan and design features aimed at minimizing exposure to environmental pollution. Therefore, compliance with Mitigation Measure AIR-3.1 and Mitigation Measure AIR-3.2 would ensure the potential TAC health risk impact associated with the continued implementation of the approved General Plan would be less than significant.

No specific development projects are identified in the approved General Plan; therefore, measures are identified that shall be implemented on a project-by-project basis to reduce project related impacts.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.3.5.4, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact AIR-3: Development projects associated with the continued implementation of the approved General Plan could expose sensitive receptors to substantial pollutant concentrations.

Mitigation Measure AIR-3.1 Prior to future discretionary approval for projects that require environmental evaluation under CEQA, the City of Fresno shall evaluate new development proposals for new industrial or warehousing land uses that: (1) have the potential to generate 100 or more truck trips per day or have 40 or more trucks with operating diesel-powered transport refrigeration units, and (2) are within 1,000 feet of a sensitive land use (e.g., residential, schools, hospitals, or nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use. Such projects shall submit a Health Risk Assessment (HRA) to the City Planning and Development Department. The HRA shall be prepared in accordance

with policies and procedures of the most current State Office of Environmental Health Hazard Assessment (OEHHA) and the SJVAPCD. If the HRA shows that the incremental health risks exceed their respective thresholds, as established by the SJVAPCD at the time a project is considered, the Applicant will be required to identify and demonstrate that best available control technologies for toxics (T-BACTs), including appropriate enforcement mechanisms to reduce risks to an acceptable level. T-BACTs may include, but are not limited to:

- Restricting idling on site or electrifying warehousing docks to reduce diesel particulate matter;
- Requiring use of newer equipment and/or vehicles;
- Provide charging infrastructure for: electric forklifts, electric yard trucks, local drayage trucks, last mile delivery trucks, electric and fuel-cell heavy duty trucks; and/or
- Install solar panels, zero-emission backup electricity generators, and energy storage to minimize emissions associated with electricity generation at the project site.

T-BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.

Mitigation Measure AIR-3.2 Locate sensitive land uses (e.g., residences, schools, and daycare centers) to avoid incompatibilities with recommended buffer distances identified in the most current version of the CARB *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB Handbook). Sensitive land uses that are within the recommended buffer distances listed in the CARB Handbook shall provide enhanced filtration units or submit a Health Risk Assessment (HRA) to the City. If the HRA shows that the project would exceed the applicable SJVAPCD thresholds, mitigation measures capable of reducing potential impacts to an acceptable level must be identified and approved by the City.

Level of Significance With Mitigation: Significant and Unavoidable.

Implementation of Mitigation Measure AIR-3.1 and AIR 3.2 would serve to ensure that the impacts of the continued implementation of the approved General Plan are assessed to determine if they would expose sensitive receptors to potentially significant impacts from TAC emissions. However, at the time an individual project is proposed, an assessment may identify significant impacts or

cumulative contributions of TAC emissions for which feasible mitigation measures are not available. Therefore, TAC impacts would remain significant.

AIR-4 The proposed project would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The city of Fresno has many sources with the potential to generate odors including wastewater treatment facilities, landfills, transfer stations, recycling centers, manufacturing plants, food processors, painting operations, and rendering plants. Based on review of odor complaint history, very few of these facilities experience substantial odor complaints over the last three years. The continued implementation of the approved General Plan could result in the odor sources being located near sensitive receptors and could result in significant impacts on sensitive receptors.

The approved General Plan could also result in sensitive receptors being constructed within the screening level distances from existing odor sources. These potential odor impacts on new sensitive receptors could be significant. When potential odor impacts on these new sensitive receptors occur, the SJVAPCD has authority under Rule 4102 to require the owner of the odor-generating source to take actions that would reduce impacts to less than significant.

The SJVAPCD provided a record of all odor complaints within the City of Fresno Planning Area from 2015 through 2019, which are included in Appendix C. The odor complaints revealed three odor complaints at Church Avenue and Willow Avenue between August 2016 and September 2016, eight odor complaints at E&J Gallo Winery between October 2015 and December 2018, eight odor complaints at Cedar and Jensen Avenues between January 2015 and November 2017, and 43 odor complaints at P-R Farms between October 2018 and November 2018.

Potential impacts from odor sources would be mitigated through compliance with General Plan Policy PU-9-d and by enforcement actions by agencies with regulatory authority over odors. General Plan Policy PU-9-d would ensure that waste and recycling facilities are properly located. Potential odor impacts from waste and recycling facilities is one of the primary factors considered in the location decision and are regulated by the State of California through CalRecycle and the Local Enforcement Agency delegated by the State. The SJVAPCD addresses odor issues through Rule 4102 – Nuisance. Facilities creating nuisance odors generating public complaints can result in SJVAPCD enforcement action. Individual development projects are required to determine if odors would be a potentially significant impact as part of CEQA review. The approved General Plan does not identify specific projects that are likely to result in an increase in odors. However, projects meeting the screening criteria are likely to be proposed in the Plan Area. In addition, projects containing sensitive receptors are likely to be proposed near existing odor sources. Projects proposing new receptors within screening level distances will reduce the impact to less than significant through procedures provided by Rule 4102. Proposal of a new source within the screening distance would require the applicant to demonstrate that the proposed facility includes odor controls within its design and through implementation of odor management practices to reduce odors to less than significant. Therefore, impacts from the project are potentially significant.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.3.5.4, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact AIR-4: The proposed project could result in significant odors that could adversely affect a substantial number of people.

Mitigation Measure AIR-4.1 Require developers of projects with the potential to generate significant odor impacts as determined through review of SJVAPCD odor complaint history for similar facilities and consultation with the SJVAPCD, to prepare an odor impact assessment and to implement odor control measures recommended by the SJVAPCD or the City as needed to reduce the impact to a level deemed acceptable by the SJVAPCD. The City's Planning and Development Department shall verify that all odor control measures have been incorporated into the project design specifications prior to issuing a permit to operate.

Level of Significance With Mitigation: Less Than Significant Impact.

4.3.7.2 Cumulative Impacts

AIR-5 ***The proposed project would have a significant effect on the environment if it – in combination with other projects – would contribute to a significant cumulative impact related to air quality.***

As defined in Section 15130 of the State CEQA Guidelines, cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for air quality. The cumulative study area analyzed for potential air quality impacts is the Basin. Each project in the Basin is required to comply with SJVAPCD rules and regulations and is subject to independent review.

The Basin is currently designated as a nonattainment area for the federal ozone standard and $PM_{2.5}$ standard and as a nonattainment area for the State ozone, PM_{10}, and $PM_{2.5}$ standard. Thus, the Basin has not met the federal and State standards for these air pollutants. Future development that may occur with the continued implementation of the approved General Plan would contribute criteria pollutants to the area during project construction and operation. However, future development under the proposed project would be required to comply with CARB motor vehicle standards, SJVAPCD regulations from stationary sources and architectural coatings, Title 24 energy efficiency standards, and the approved General Plan and policies. While the approved General Plan policies and regulations are intended to reduce impacts associated with air quality violations, specific standard conditions for future project developments that implement these policies and regulations are identified as mitigation measures to ensure that the intended environmental

protections are achieved. Consequently, emissions generated by development projects in addition to existing sources within the city would be considered to cumulatively contribute to the nonattainment designations of the Basin. Continued implementation of the approved General Plan could contribute to an increase in frequency or severity of air quality violations and delay attainment of the AAQS or interim emission reductions in the AQMP due to the increase in vehicle trips associated with implementation of the project. Therefore, emissions generated from the proposed project would result in a significant cumulative air quality impact.

Since the combination, number, and size of projects that could be under construction at any one time are unknown, even with implementation of mitigation measures, the proposed project would result in significant cumulative construction emissions from criteria pollutants. Additionally, even with implementation of mitigation, operational impacts from criteria pollutant emissions would contribute to an ozone exceedance, which could hinder the attainment of air quality standards. Further, cumulative growth within the city could result in potential TAC health risks exceeding applicable standards and cumulatively contributing to elevated health risks in the Basin. Therefore, air quality emissions associated with future development that may occur under the continued implementation of the approved General Plan could result in cumulatively considerable impacts, even with implementation of mitigation.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.3.5.4, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact AIR-5: The proposed project in combination with other projects, would contribute to a significant cumulative impact related to air quality.

Mitigation Measures: Refer to Mitigation Measures AIR-2.1, AIR-2.2, AIR-3.1, AIR-3.2 and AIR-4.1.

Level of Significance With Mitigation: Significant and Unavoidable Impact.

As discussed above, while implementation of Mitigation Measures AIR-2.1, AIR-2.2, AIR-3.1, AIR-3.2 and AIR-4.1 would significantly reduce criteria air pollutant emissions generated by continued implementation of the approved General Plan, there is currently not enough information to quantify emissions of specific project development that may occur under the proposed project. Without quantification to guarantee a less than significant finding, future development projects may still exceed the SJVAPCD regional significance thresholds. Therefore, cumulative impacts to air quality would be considered to remain significant and unavoidable.

4.4 BIOLOGICAL RESOURCES

4.4.1 Introduction

This section describes how the project and continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan (proposed project) may affect biological resources that are known to occur within the Planning Area, including vegetation communities, special-status plant and wildlife species and their associated habitats, and special-status natural communities, including riparian communities and wetlands. This section also addresses local, state, and federal regulations as they pertain to project impacts on biological resources.

For the purposes of this evaluation, "special-status species" are those species that meet one or more of the following criteria:

4.4.1.1 Listed Species

"Listed species" includes those species that are:

1. Listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA) or candidates for possible future listing as threatened or endangered under the ESA (50 CFR §17.12); and/or

2. Listed or candidates for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (Fish and Game Code §2050 et seq.).

4.4.1.2 "Other Special-Status Species"

"Other special-status species" include those species that are:

1. Listed as rare under the California Native Plant Protection Act (California Fish and Game Code §1900 et seq.).

2. Meet the definition of rare or endangered under the California Environmental Quality Act [CEQA] §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:

    - Species considered by the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (California Rare Plant Ranks (CRPR) 1A, 1B, 2A, and 2B);

    - Species that may warrant consideration on the basis of local significance or recent biological information;

    - Some species included on the California Natural Diversity Database's (CNDDB) Special Plants, Bryophytes, and Lichens List.

3. Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region

(California Environmental Quality Act [CEQA] §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

4. Listed as "Species of Special Concern" or as California Fully Protected Species by the CDFW;

5. Listed as "Species of Concern" by the U.S. Fish and Wildlife Service (USFWS).

4.4.1.3 "Special-Status Natural Communities"

In general, "special-status natural communities" include those communities that are of limited distribution statewide or within a county or region; communities that are of special concern to resource agencies; and communities that, because they are vulnerable to the environmental effects of projects, are assessed or protected under CEQA Section 1600 of the California Department of Fish and Game Code, and/or Section 404 of the Clean Water Act, among others. The most current version of the California Department of Fish and Wildlife's (CDFW's) List of Vegetation Alliances and Associations (or "Natural Communities List") (2010) indicates which natural communities are considered "special-status" in the state of California.

4.4.2 CEQA Baseline

The City of Fresno is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Travelled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the approved General Plan, explains that the PEIR will evaluate the continued implementation of the approved General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of Senate Bill (SB) 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. The General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur.

Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.4.3 Existing Environmental Setting

The study area for project impacts to biological resources includes the Planning Area and areas within an approximately 5-mile-radius because continued implementation of the approved General Plan could have either direct or indirect effects on biological resources occurring within these areas.

4.4.3.1 Existing Conditions

Vegetation Communities. The following discussion of vegetation communities known to occur in the Planning Area is based on a review of information in the California Natural Diversity Database (CNDDB) in 2019. A total of 11 vegetation communities occur within the Planning Area (see Table 4.4-1), two of which are considered "special-status natural communities" by the CDFW.

Table 4.4-1: Vegetation Communities within the City of Fresno Planning Area

Vegetation Community Type	Total Acres within Planning Area (acres)
Annual Grassland	1,000
Barren	106
Deciduous Orchard	14,500
Irrigated Row and Field Crops	19,500
Lacustrine	3,000
Pasture	60
Riverine	270
Urban	67,100
Valley Foothill Riparian	370
Valley Oak Woodland	120
Northern Claypan Vernal Pool	1
Total	106,027

Source: LSA (2019).

Appendix D includes an index map of the plant communities within the Planning Area. The mapping of vegetation communities included in Appendix D, does not include the northern claypan vernal pool community due to its small size (i.e., less than one acre). The northern claypan vernal pool community is located in an area that is surrounded by a lacustrine vegetation community in the northern portion of the Planning Area.

The majority (approximately 63 percent) of the approximately 106,027-acre Planning Area consists of previously disturbed urban/developed areas containing industrial, commercial, and residential development and associated roads and infrastructure. Approximately 32 percent of the Planning Area contains previously disturbed agricultural lands, orchards, pasture, and row and field crops

located predominately along the outer boundaries of the Planning Area. Undeveloped and undisturbed areas with native vegetation occur within the remaining 5 percent of the Planning Area.

For the purposes of this evaluation, vegetation communities are classified according to the CDFW's Natural Communities List and cross-referenced to descriptions provided in Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California and Oberbauer's update to those descriptions.[1] The CDFW does not maintain narrative description of these vegetation communities, so the descriptions provided below have been adapted from Holland and Oberbauer.

The vegetation maps produced for this evaluation do not imply regulatory jurisdictional determinations under Section 404 of the Federal Clean Water Act, Section 10 of the Rivers and Harbors Act, or Section 1600 of the California Fish and Game Code (Lake and Streambed Alteration Program), or the lack thereof. Such determinations usually require a site visit to assess the current conditions on the ground and to map boundaries. Similarly, terms such as "riparian" and "wetland" in the vegetation keys and type descriptions may inform, but do not imply or assert, regulatory jurisdiction or the lack thereof.

Annual Grassland. The Planning Area contains approximately 1,000 acres of annual grassland, located primarily along the northern and western borders of the Planning Area boundary. Annual grassland in the Planning Area includes a mix of native and non-native, annual grasses, which often occur in association with ruderal herbs and occasional native annual forbs. The dominant plant species within the annual grassland vegetation community typically include black needlegrass (*Nasella sp.*), fescue (*Vulpia sp.*), brome (*Bromus sp.*), and wild oats (*Avena spp*), with mustard (*Brassica nigra*), dove weed (*Eremocarpus setigerus*), and poppy (*Eschscholzia sp.*). These grasses germinate with the fall rains, grow during the winter and spring, and wither in the early summer.

Special-status species with a potential to occur in the Planning Area and associated with annual grassland habitats include:

- American Badger
- Burrowing owl
- California horned lark
- California linderiella
- California tiger salamander
- Fresno kangaroo rat
- Pallid bat
- San Joaquin kit fox
- San Joaquin pocket mouse
- Swainson's hawk
- Western mastiff bat
- Western spadefoot
- Hartweg's golden sunburst
- Caper-fruited tropidocarpum
- California jewel-flower
- Dwarf downingia
- Spiny-sepaled button-celery
- Succulent owl's clover
- Greene's tuctoria

[1] Holland, R.F. 1986 (updated 1996). Preliminary Descriptions of the Terrestrial Natural Communities of California. Non-game Heritage Program. California Department of Fish and Game. Sacramento, California.

Barren. The Planning Area includes approximately 106 acres of barren land. Barren lands include areas in which the vegetative cover comprises less than 10 percent of the surface area (disregarding natural rock outcrops) and where there is evidence of soil surface disturbance and compaction from previous legal human activity, and/or areas in which the vegetative cover is greater than 10 percent, soils surface compaction is evident, and building foundations and debris are present (e.g., irrigation piping, fencing, old wells, abandoned farming or mining equipment) from legal activities (as opposed to illegal dumping). Barren land occurs in the northwest corner of the Planning Area, adjacent to the San Joaquin River corridor. Vegetation within barren land has a high predominance of non-native or weedy species that are indicators of soil disturbance, including Russian thistle (*Salsola tragus*), telegraph weed (*Heterotheca grandiflora*), horehound (*Marrubium vulgare*), and sow thistle (*Sonchus oleraceus*), and a sub-dominance of non-native grasses. Barren land only provides moderately suitable habitat for one special-status species, California horned lark.

Deciduous Orchard. Deciduous orchard communities comprise the third most abundant vegetation community in the Planning Area, accounting for approximately 14,500 acres along the western, southern and eastern margins of the Planning Area, where there are flat alluvial soils on valley floors, rolling foothills and relatively steep slopes. Orchard communities are typically comprised of artificially irrigated habitat dominated by one, sometimes several, tree or shrub species planted for cultivation. Trees are typically low and bushy, and the understory is open, with little groundcover. In the Planning Area, deciduous orchards include a variety of fruit trees (e.g., apples, apricots, cherries, citrus, kiwi, peaches, nectarines, pears, persimmons, plums, pluots, pomegranates, etc.) and/or nut trees and shrubs (e.g., almonds, olives, pistachios, walnuts, etc.). Understory species generally consist of short native and non-native grasses and other herbaceous species.

Deciduous orchard is a relatively disturbed vegetation community and contains very little groundcover and planted trees that provide moderately suitable habitat for only one special-status species, California horned lark.

Irrigated Row and Field Crops. The second most abundant vegetation community in the Planning Area is irrigated row and field crops, accounting for 19,500 acres along the four borders of the Planning Area. This vegetation community frequently occurs in floodplains or upland areas with high soil quality. Irrigated row and field crows include annual and perennial crops, grown in rows, with open space between the rows. Row and field crops are artificially irrigated and feature a moderate disturbance rate by vehicle and pedestrian encroachment typically associated with farming activities. Species composition changes frequently, both by season and by year.

Since irrigated row and field crops contain active agriculture, and are therefore significantly disturbed with altered substrates, this vegetation community does not provide suitable habitat for any special-status plant species and limited habitat for special-status wildlife species. Special-status wildlife species with a potential to occur within this vegetation community include:

- burrowing owl
- California horned lark
- Swainson's hawk

Lacustrine. Lacustrine communities consist of standing/open waters in topographic depressions (i.e., lakes) or dammed river channels. Lacustrine communities lack persistent emergent vegetation, but may have submerged or floating-leaved aquatic vegetation. Generally, lacustrine systems are surrounded by hydrophytic plants, grasses, and trees. Lacustrine systems account for approximately 3,000 acres in the northern portion of the Planning Area, near the San Joaquin River; within the isolated southwestern most portion of the Planning Area; and within the isolated basins and ponds that are interspersed throughout the city.

Special-status species with a potential to occur within a lacustrine community include:

- western spadefoot
- tricolored blackbird
- hoary bat
- spotted bat
- western pond turtle
- dwarf downingia
- Sanford's arrowhead

Pasture. Approximately 60 acres of pasture lands occur along the northwest corner of the Planning Area, near deciduous orchards and other irrigated row and field crops. Pasture lands form a dense habitat with nearly 100 percent cover; usually monoculture crops are planted in these areas, which are irrigated, artificially seeded, and frequently maintained. Characteristic species include non-native grasses such as oat (*Avena sp.*), bermuda grass (*Cynodon sp.*), barley (*Hordeum sp.*), Sorghum grass, as well as clover (*Medicago sp.*). Often times, this land contains significant areas of bare ground due to livestock grazing and movement across acres of this vegetation community.

Special-status species with a potential to occur within this vegetation community include:

- burrowing owl
- California horned lark

- San Joaquin kit fox
- Swainson's hawk

Riverine. Riverine systems consist of linear aquatic communities of flowing, non-tidal waters with a distinct channel and little to no persistent emergent vegetation. Riverine systems may also include areas with abundant submerged or floating-leaved aquatic vegetation. Vegetation communities abutting riverine systems tend to be dominated by trees, shrubs, persistent emergent vegetation, and/or emergent mosses and lichens. This vegetation community occurs near or depends upon a nearby freshwater source or areas with fresh water flow during all or part of the year. Riverine communities in the Planning Area account for approximately 270 acres, predominately along the northern boundary, within the San Joaquin River system.

Special-status species that are known to occur in riverine habitat include:

- western yellow-billed cuckoo
- tricolored blackbird
- hardhead
- hoary bat
- spotted bat
- western pond turtle
- California satintail

Urban. Urban (or developed) lands have been constructed upon or otherwise covered with a permanent, unnatural surface (e.g., concrete, asphalt, buildings, homes, etc.) or large amount of debris or other materials. The Planning Area consists predominately of urban areas, which are concentrated in the central portion of the Planning Area, within the Fresno city limits. Urban land is less common within the rural and agricultural portions of the Planning Area. Approximately 67,100 acres of the Planning Area consist of urban land.

Urban land provides poor quality habitat for any special-status species. Special-status species are unlikely to occur within this vegetation community.

Valley Foothill Riparian. The Planning Area includes approximately 370 acres of the valley foothill riparian community, which occurs primarily within mature riparian forests along the San Joaquin River corridor. Valley foothill riparian communities typically have a 20 to 80 percent canopy cover with trees that are winter deciduous. Wild grape (*Vitis californica*) often provides 30 to 50 percent ground cover. There is very little herbaceous understory with the exception of disturbed openings in the canopy cover. The understory typically consists of leaf-litter, fallen limbs, and is often impenetrable for smaller herbaceous plants. Tree canopy species within this community typically includes cottonwood (*Populus fremontii*), California sycamore (*Platanus*

racemosa), and valley oak (*Quercus lobata*). Subcanopy species often includes white alder (*Alnus rhombifolia*), boxelder (*Acer negundo*), and Oregon ash (*Fraxinus latifolia*). Typical understory shrub layer plants include wild grape, California blackberry (*Rubus ursinus*), blue elderberry (*Sambucus caerulea*), poison oak (*Toxicodendron diversilobum*), and willows (*Salix sp.*).

Special-status species with a potential to occur within valley foothill riparian habitat includes:

- western spadefoot
- western yellow-billed cuckoo
- California horned lark
- hoary bat
- spotted bat
- pallid bat
- western mastiff bat
- valley elderberry longhorn beetle
- California satintail

Valley Oak Woodland. The Valley Oak Woodland is a special-status natural community. The Planning Area includes approximately 120 acres of valley oak woodland located primarily within the San Joaquin River corridor. Valley oak woodland communities vary from open-canopy savanna-like woodlands to partially closed canopy woodlands but mostly consist of winter-deciduous, broad-leaved species. Valley oak (Quercus lobata), a winter-deciduous species and California's largest broad-leaved tree, is usually the only tree species present, although blue oak (Q. douglasii) may also be present. Mature valley oaks can reach heights of 50 to 100 feet (about 15 to 35 meters). Valley oak woodlands typically occur on deep, well-drained alluvial soils in valley bottoms that have a higher summer moisture content. This community intergrades with valley oak riparian near rivers and with blue oak woodlands on drier slopes. Characteristic understory species include creeping wild rye (Elymus triticoides), wild oats (Avena sp.), brome (Bromus sp.), barley (Hordeum zp.), needlegrass (Nassella sp.) and poison oak (Toxicodendron diversilobum).

Special-status species known to occur within valley oak woodland habitat includes:

- western spadefoot
- spotted bat
- pallid bat

- western mastiff bat
- San Joaquin pocket mouse
- Hartweg's golden sunburst
- Madera leptosiphon

Northern Claypan Vernal Pool. The northern claypan vernal pool is a special-status natural community. The Planning Area includes approximately one acre of northern claypan vernal pool along the northwest boundary of the Planning Area. Typically, these pools are located within the lower elevations of the main San Joaquin Valley. These areas are typically associated with a series of small mima mounds with interspersed pools. Typically, these pools have highly alkaline and may display whitish salt deposits in nonvegetated centers of dry pools. These vernal pools are dominated by a high percentage of non-native species.

Special-status species known to occur within northern claypan vernal pool includes:

- California tiger salamander
- vernal pool fairy shrimp
- California linderiella
- molestan blister beetle
- midvalley fairy shrimp
- succulent owl's clover
- Green's tuctoria

Special-Status Natural Communities. As described above, the Planning Area contains two special-status natural communities: valley oak woodland and northern claypan vernal pool. Based on a review of the CNDDB, there are three additional special-status natural communities located in the vicinity of the Planning Area. These three special-status natural communities include the northern hardpan vernal pool, great valley mixed riparian forest, and sycamore alluvial woodland. Each of these three special-status natural communities are associated with stream courses, waterways, drainages, wetlands, and seasonal pools; however, these have not been recorded to occur within the Planning Area and are, therefore, not likely to occur.

Special-Status Species. The Planning Area contains potentially suitable habitat for a total of 28 special-status species (including 12 plant species and 16 wildlife species). Each of the special-status species with potential to occur (or that are known to occur) within the Planning Area is described in more detail below. A listing of plant species was obtained from the California Native Plant Society

Inventory of Rare and Endangered Plants in 2019, and is included in Appendix D. A listing of the wildlife species was obtained from the CNDDB in 2019, and is included in Appendix D.

Listed Plant Species. Six listed plant species have the potential to occur within the Planning Area. Impacts to these species should be avoided to the greatest extent possible. Consultation with state and/or federal agencies would be required in the event that a proposed project had the potential to affect a listed plant species.

California Jewel-Flower. California jewel-flower (*Caulanthus californicus*) is a state and federally listed endangered species and a CNPS list 1B.1 species. California jewel-flower occurs within chenopod scrub in valley and foothill grasslands and pinyon-juniper woodlands. It is historically known from various valley habitats in both the Central Valley and Carrizo Plain from 65 to 900 meters. There is one historical known location within the Planning Area, but it is located within an area that appears to have already been converted to urban use.

San Joaquin Valley Orcutt Grass. San Joaquin Valley orcutt grass (*Orcuttia inaequalis*) is a state endangered species, a federally threatened species, and a CNPS list 1B.1 species. This species is restricted to vernal pools at elevations from 30 to 755 meters above sea level. There is one historic known location within the Planning Area, near the central/western portion, just west of Highway 99.

Hairy Orcutt Grass. Hairy orcutt grass (*Orcuttia pilosa*) is state and federally endangered species and a CNPS list 1B.1 species. This species is restricted to vernal pools surrounded by annual grasslands. It is specifically known to occur within the northern hardpan vernal pool community, on San Joaquin fine sandy loam. There are no historic/known locations of this species within the Planning Area.

Hartweg's Golden Sunburst. Hartweg's golden sunburst (*Pseudobahia bahiifolia*) is state and federally endangered species and a CNPS list 1B.1 species that is known to occur within valley and foothill grasslands and cismontane woodlands. Hartweg's golden sunburst is associated with clay soils, predominantly on the northern slopes of knolls, but also along shady creeks or near vernal pools. There are no historic/known locations of this species within the Planning Area.

Succulent Owl's Clover. Succulent owl's clover (*Castilleja campestris ssp. succulenta*) is a state endangered species, a federally threatened species, and a CNPS list 1B.2 species. Succulent owl's clover is isolated to vernal pools in valley and foothill grasslands. Microhabitat requirements include moist places with acidic soils, from 25 to 750 meters. There is one historic/known location in the Planning Area, located within the county of Fresno (and outside of the City of Fresno sphere of influence), just south of the San Joaquin River corridor.

Greene's Tuctoria. Greene's tuctoria (*Tuctoria greenei*) is a federally endangered species, a California Rare species, and a CNPS list 1B.1 species. This species is known to occur within vernal pools surrounded by valley and foothill grasslands. Specifically this species is located on dry bottoms of vernal pools from an elevation range of 30 to 1,065 meters. There are no historic/known locations of this species within the Planning Area.

Other Special-Status Plant Species. In addition to the six listed plant species, there are six "other" special-status plant species have the potential to occur in the Planning Area: California satintail (*Imperata brevifolia*), Madera leptosiphon (*Leptosiphon serrulatus*), Sanford's arrowhead (*Sagittaria sanfordii*), caper-fruited tropidocarpum (*Tropidocarpum capparideum*), spiny-sepaled button-celery (*Eryngium spinosepalum*), dwarf downingia (*Downingia pusilla*). Direct take of these species should be avoided wherever possible.

Listed Wildlife Species. A total of seven listed wildlife species have the potential to occur or are known to occur within the Planning Area. Project impacts to these species should be avoided to the greatest extent possible.

California Tiger Salamander. The California tiger salamander is federally threatened within the Central Valley in California. The Central Valley species is known to occur within grasslands and oak savannas and along the edges of mixed woodland and lower elevation coniferous forests. This species is endemic to California, but most of the historic range is not well known because it has been fragmented. Currently most populations in the Central Valley have been eliminated, and the remainder are found in the surrounding foothills from Tulare county north to Yolo county, and from Santa Barbara county to the Sacramento Valley.

The California tiger salamander is nocturnal and fossorial, spending most of its time underground in animal burrows, especially those of California ground squirrels and valley pocket gophers. Breeding occurs within vernal pools or other seasonal waters. The California tiger salamander emerges at night with the fall rains, sometimes in early November. This species needs both suitable upland terrestrial habitat and temporary breeding ponds in order to survive.

Fresno Kangaroo Rat. Fresno kangaroo rat (*Dipodomys nitratoides exilis*) is state and federally listed as endangered. This species excavates burrows in gently undulating to level terrain with sandy loam soils that are mildly to moderately alkaline and characterized by herbaceous vegetation with scattered shrubs. Herbaceous vegetation with scattered shrubs is common aboveground cover. Burrow systems cover a surface area from about 7-feet by 7-feet to 12-feet by 12-feet. Some burrow systems included short dead-end tunnels, apparently used to escape predators.

San Joaquin Kit Fox. San Joaquin kit fox (*Vulpes macrotis mutica*) is a state threatened species and a federally endangered species that is in population decline, particularly in California, largely due to widespread habitat loss from agriculture and urbanization. The species occurs from the San Joaquin Valley north to Contra Costa and Alameda counties. This species generally prefers open, level areas with loose-textured soils supporting scattered, shrubby vegetation with little human disturbance.

The San Joaquin kit fox is a small grayish fox about two and one half feet in length and weighing up to five and one half pounds. The kit fox is distinguished from other foxes by its large ears. The fox preys on rodents, rabbits, and lizards, and in turn is preyed upon by larger carnivores, particularly coyote.

Swainson's Hawk. Swainson's hawk (*Buteo swainsoni*) is a state threatened species that breeds regularly from southwestern Canada to northern Mexico. Typical habitat includes open desert, grassland, or croplands near scattered, large trees or small groves. This species nests in open riparian habitat or in scattered trees or small groves in sparsely vegetated flatlands. While it typically roosts in large trees, it will also roost on the ground in areas of suitable habitat, if no large trees are available. The nesting/breeding period for this species is from late March to mid-August, with peak activity in late May to late July. Swainson's hawks build their nests on a platform of sticks, bark, and fresh leaves in a tree, bush, or utility pole from 1.3 to 30 meters (4-100 feet) above ground. The Swainson's hawk forages in shrub-steppe habitats and agricultural lands. Swainson's hawk populations have declined markedly since the 1920s, with steep declines in the 1950s. In some areas there have been losses of 90 to 95 percent of past populations.

Valley Elderberry Longhorn Beetle. Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is a federally threatened species. The beetle's current distribution is patchy throughout the remaining riparian forests of the Central Valley, between Redding and Bakersfield. The beetle is locally common (i.e., found in population clusters that are not evenly distributed across the Central Valley). The species is nearly always found on or close to its host plant, elderberry (*Sambucus sp.*). Females lay their eggs on the bark and larvae hatch and burrow into the stems. The larval stage may last 2 years, after which the larvae enter the pupal stage and transform into adults. Adults are active from March to June, feeding and mating. It appears that in order to serve as habitat, the shrubs must have stems that are 1.0 inch or greater in diameter at ground level. Use of the plants by the animal is rarely apparent.

Vernal Pool Fairy Shrimp. Vernal pool fairy shrimp (*Branchinecta lynchi*) is a federally threatened species. Populations of this species are known to live in ephemeral freshwater habitats, such as vernal pools and swales. None are known to occur in running or marine waters or other permanent bodies of water. This species has a sporadic distribution within vernal pool complexes, wherein the majority of pools in a given complex typically are not inhabited by the species.

Although the vernal pool fairy shrimp has a relatively wide range, the majority of known populations inhabit vernal pools with clear to tea-colored water, most commonly in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands, but one population occurs in sandstone rock outcrops and another population in alkaline vernal pools. They are ecologically dependent on seasonal fluctuations in their habitat, such as absence or presence of water during specific times of the year, duration of inundation, and other environmental factors that include specific salinity, conductivity, dissolved solids, and pH levels. Water chemistry is one of the most important factors in determining the distribution of fairy shrimp. The vernal pool fairy shrimp occurs at temperatures between 6-20 degrees C, in soft and poorly buffered waters.

Western Yellow-Billed Cuckoo. Western Yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a federally threatened species and a state endangered species. The yellow-billed cuckoo breeds in large blocks of riparian habitat (willow and cottonwood stands in river floodplains). This bird feeds primarily on large insects, including caterpillars and cicadas, and

occasionally on small frogs and lizards. Breeding coincides with the emergence of cicadas and tent caterpillar. Historically, yellow-billed cuckoos nested primarily in coastal counties from San Diego county, near the Mexican border, to Sonoma county, to the Central Valley from Kern through Shasta Counties, and along the lower Colorado River. Primary threats to its habitat include conversion of riparian habitat to agriculture, urban development, and flood control, as well as disease, predation and lack of regulatory mechanisms.

Other Special-Status Wildlife Species. In addition to the seven listed wildlife species, there are nine "other" special-status wildlife species that have the potential to occur or are known to occur within the Planning Area. Direct take of these species should be avoided and significant reductions in suitable habitat and project impacts that result in significant population decline should be avoided to the maximum extent feasible.

American Badger. American badger (*Taxidea taxus*) is a California Species of Special Concern that is known to occur within a variety of open, arid habitats, most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub. Principle habitat requirements include sufficient prey base, friable soils, and relatively open, uncultivated ground. They typically occur at elevation ranges from below sea level to over 12,000 feet above mean sea level. American badger habitat is threatened by habitat conversion to urban and agricultural uses, farming operations, shooting and trapping, poisoning, and reduction of prey base because of rodent control activities. This species occurs as far north as Canada, and as far south as central Mexico. In the United States, it currently extends east from the Pacific coast to Texas, Oklahoma, Missouri, Illinois, Indiana, and Ohio. In California, American badger is an uncommon, permanent resident throughout most of the state, with the exception of the North Coast area.

Burrowing Owl. Burrowing owl (*Athene cunicularia*) is designated as a California Species of Special Concern. Burrowing owls require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. Typical habitat associated with the species includes short-grass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a year-round resident. Burrowing owls may also use golf courses, cemeteries, road easements and rights-of-way within cities, airports, vacant lots in residential areas, and irrigation ditches. Burrowing owls often use existing rodent burrows (or other burrows) for roosting and nesting. They may also use pipes and culverts where burrows are scarce. If left undisturbed, a burrowing owl pair will use the same burrow year after year for nesting.

Hardhead. Hardhead (*Mylopharodon conocephalus*), a fish, is a California Species of Special Concern that occurs in low to mid-elevation streams in the Sacramento-San Joaquin drainage and the Russian River. Microhabitat requirements include clear, deep pools with a mix of sand, gravel and boulder bottoms with slow water velocity. This species is not found where exotic centrarchids (commonly known as sunfish) predominate. Populations of this species are well established in mid-elevation reservoirs used exclusively for hydroelectric power generation, such as the Redinger and Kerkhoff Reservoirs on the San Joaquin River in Fresno county. Hardhead is a bottom feeder that forages for benthic invertebrates and aquatic plant material in quiet water. They will also occasionally feed on plankton and surface insects. This species is in

decline due to predation by smallmouth bass, and damming of large to medium-sized warm water streams with natural flow regimes.

Pallid Bat. The pallid bat (*Antrozous pallidus*) is a California Species of Special Concern and a High Priority species as designated by the Western Bat Working Group. This species ranges throughout California and occurs within a wide range of habitat types, typically below 6,000 feet above mean sea level. Pallid bats are non-migratory and hibernate during the winter, during which they experience very little activity. Pallid bats occur in a variety of habitats throughout the State and are most abundant in xeric ecosystems. Pallid bats roost alone and in both large and small groups. Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees, and human structures such as bridges, barns, porches, bat boxes, and buildings. This species also has been found roosting on or near the ground under stone piles, rags, and baseboards. Pallid bat is a gregarious species and often roost in colonies of 20 to several hundred individuals. The tendency to roost gregariously, combined with a relative sensitivity to disturbance, makes it vulnerable to mass displacement. Pallid bats are generalists that surface glean for arthropods and capture insects on the wing. Breeding occurs from October to February. Pups are born from late April to July and are Volant at 4 to 6 weeks of age. Breeding colonies disperse between August and October.

Spotted Bat. The spotted bat (*Euderma maculatum*) is a California Species of Special Concern and a High Priority species as designated by the Western Bat Working Group. The spotted bat is easily identifiable by its unique coloration of dorsal black fur with three white spots, white ventral surface and long, pink ears. In addition to being found in California, the species is known to occur in all of the states west of (and including) Montana, Wyoming, Colorado, New Mexico and Texas. The species generally occurs in arid, low desert habitats to high elevation conifer forests. Prominent rock features appear to be a necessary feature for roosting. The winter range and hibernacula are unknown for most of its range, though the species has been captured year-round in the southern part of its range. This species likely breeds in late summer with females giving birth to a single pup in early summer (May or June). They appear to be solitary animals but occasionally roost or hibernate in small groups. Roost sites are cracks, crevices, and caves usually high in fractured rock cliffs. In general, the long-term persistence of this bat, as well as most bats, is threatened by the loss of clean, open water; modification or destruction of roosting and foraging habitat, and disturbance or destruction of hibernacula.

Tricolored Blackbird. The tricolored blackbird (*Agelaius tricolor*) is a California Species of Special Concern (CSC) that commonly occurs throughout central and coastal California. The species is often found near fresh water, as it prefers emergent wetlands with tall, dense cattails or tules, but it can also be found in thickets of willow, blackberry, wild rose, and other tall herbs. Tricolored blackbird is known to forage on the ground in croplands, grassy fields, flooded land, and along the edges of ponds. The tricolored blackbird diet generally consists of insects and spiders as a juvenile, and seeds and cultivated grains, such as rice and oats, as an adult. The breeding season for this colonial breeding species generally ranges from mid-April to late July.

Western Mastiff Bat. The western mastiff bat (*Eumops perotis*) is a California Species of Special Concern and a High Priority species as designated by the Western Bat Working Group. The western mastiff bat occurs throughout California in a wide range of habitat types, typically

below 9,000 feet in elevation. Distribution is correlated with suitable rock features required for roosting. Western mastiff bats are non-migratory; however, they may move short distances within their home ranges. This bat species does not hibernate and is active periodically throughout the winter. Western mastiff bat is generally a cliff-dwelling species, but also uses building crevices for day roosts. This species forages most frequently in broad open areas such as flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas, and requires large lakes or ponds at least 100 feet long for drinking. Western mastiff bat generally roosts high above the ground, allowing a clear vertical drop of at least 7 feet for flight. Maternity colonies range from 30 to several hundred individuals and generally include adult males. This species has an audible echolocation call and is easily detected while foraging. This bat forages primarily on moths, but also takes crickets and katydids. Breeding occurs from October to March, from which pups are born primarily in July and are Volant at 4 to 6 weeks of age.

Western Pond Turtle. The western pond turtle (*Emys marmorata*) is a California Species of Special Concern that inhabits ponds, lakes, rivers, streams, creeks, marshes and irrigation ditches containing abundant vegetation and either rocky or muddy bottoms in woodlands, forests and grasslands. It can be found basking on logs, rocks, cattail mats, and exposed banks within brackish water and seawater. This turtle feeds primarily on aquatic plants, invertebrates, worms, frog and salamander eggs and larvae, crayfish, carrion, and occasionally frogs and fish. It mates in April and May, eggs are laid sometime between April and August, and hatchlings emerge in early fall or overwinter in the nest.

Western Spadefoot. Western spadefoot (*Spea hammondii*), a California Species of Special Concern, can be found primarily in grassland habitats and valley-foothill hardwood woodlands. It prefers open areas with sandy or gravelly soils in sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools and rain pools that do not contain bullfrogs, fish or crayfish are necessary for breeding. The species can be found from sea level up to 4,500 feet. Western spadefoot eats a variety of invertebrates, including adult beetles, larval and adult moths, crickets, flies, ants, and earthworms. This species is nocturnal and almost completely terrestrial, entering water only to breed. It can burrow underground to escape hot, arid environments, and will spend most of its life underground. The species is typically active between October and May.

Other Wildlife Species for Consideration. Species that are not state or federally listed, and are not afforded additional state or federal protection include: California horned lark (*Eremophila alpestris actia*), hoary bat (*Lasiurus cinereus*), San Joaquin pocket mouse (*Perognathus inornatus inornatus*), California linderiella (*Linderiella occidentalis*), Antioch efferian robberfly (*Efferia antiochi*), molestan blister beetle (*Lytta molesta*), Hurd's metapogon robberfly (*Metapogon hurdi*), and midvalley fairy shrimp (*Branchinecta mesovallensis*).

4.4.4 Regulatory Context

This section describes the relevant federal, state, and local (County and City) laws, regulations and policies pertaining to environmental impacts within the Planning Area.

4.4.4.1 Federal Regulations

Federal Endangered Species Act. The United States Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (ESA). The ESA provides a process for listing species as either threatened or endangered and methods of protecting listed species. The ESA defines as "endangered" any plant or animal species that is in danger of extinction throughout all or a significant portion of its known geographic range. A "threatened" species is a species that is likely to become endangered. A "proposed" species is one that has been officially proposed by the USFWS for addition to the federal threatened and endangered species list.

Per Section 9 of the ESA, "take" of threatened or endangered species is prohibited. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct (codified at 16 U.S.C.A. § 1532(19). "Take" can include disturbance to habitats used by a threatened or endangered species during any portion of its life history. The presence of any federally threatened or endangered species in a project area generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. Under the regulations of the ESA, the USFWS may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act.

Federal Clean Water Act - Section 404. The US Army Corps of Engineers (USACE) administers Section 404 of the federal Clean Water Act (CWA). This section regulates the discharge of dredge and fill material into waters of the United States. "Discharge of fill material" is defined as the addition of fill material into waters of the United States, including, but not limited to, the following: placement of fill that is necessary for the construction of any structure or impoundment requiring rock, sand, dirt, or other material for the structure's construction; site development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-aqueous utility lines (33 C.F.R. §328.2[f]).

The USACE has established a series of nationwide permits that authorize certain activities in waters of the United States, if a proposed activity can demonstrate compliance with standard conditions. Normally, USACE requires an individual permit for an activity that will affect an area equal to or in excess of 0.5 acre of waters of the United States. Projects that result in impacts to less than 0.5 acre can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. USACE also has discretionary authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.5 acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

Federal Clean Water Act - Section 401. Per Section 401 of the CWA, "any applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable waters at the point where the discharge originates or will originate, that any such discharge will comply with the applicable provisions of sections 1311, 1312, 1313, 1316, and 1317 of this title" (33 U.S.C.A. § 1341(a)(1)). Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification from the RWQCB.

Waters of the United States. USACE has primary federal responsibility for administering regulations that concern "waters of the U.S." The Corps acts under two statutory authorities, the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in "navigable waters of the U.S.," and the Clean Water Act (CWA) (Section 404), which governs specified activities in "other waters of the U.S.," including wetlands. The Corps requires that a permit be obtained if a project proposes placing structures within, over, or under navigable waters or discharging dredged or fill material into "waters of the U.S." below the ordinary high-water mark in non-tidal waters. The U.S. Environmental Protection Agency (USEPA), USFWS, NMFS, and several other agencies can provide comments on Corps permit applications.

The federal government defines wetlands in CWA Section 404 as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support (and do support, under normal circumstances) a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR § 328.3(b) and 40 CFR § 230.3). The federal definition of wetlands requires three wetland identification parameters to be present: wetland hydrology, hydric soils, and hydrophytic vegetation.

"Other waters of the U.S." refers to those hydric features that are regulated by the CWA but are not wetlands (33 CFR § 328.4). To be considered jurisdictional, these features must exhibit a defined bed and bank and an ordinary high-water mark. Examples of other waters of the U.S. include rivers, creeks, intermittent and ephemeral channels, ponds, and lakes. Human-made wetland areas that are not regulated under this act include stock watering ponds and created water treatment facilities.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act (MBTA) protects all common wild birds found in the United States (U.S.) except the house sparrow, starling, feral pigeon, and resident game birds such as pheasant, grouse, quail, and wild turkey. Resident game birds are managed separately by each state. Under the MBTA, "it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof …" (16 U.S.C.A. § 703(a)).

4.4.4.2 California Regulations

California Endangered Species Act. The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA). CESA applies to "endangered" or "threatened" birds, mammals, fish, amphibians, reptiles, and plants, but does not apply to insects (see 81 Cal. Op. Att'y Gen. 222 (1998)). The State of California considers an "endangered" species one whose prospects of survival and reproduction are in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease. Any species determined by the commission as "endangered" on or before January 1, 1985, is an "endangered species." A "threatened" species is one present in such small numbers throughout its range that it is

likely to become an endangered species in the foreseeable future in the absence of special protection or management. The California Endangered Species Act of 1970 created the categories of "Endangered" and "Rare." The California Endangered Species Act of 1984 created the categories of "Endangered" and "Threatened." On January 1, 1985, all animal species designated as "Rare" were reclassified as "Threatened" (see Fish and Game Code § 2067).

Section 2080 of the Fish and Game Code prohibits "take" of any species that the commission determines to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate mitigation planning to offset project caused losses of listed species populations and their essential habitats.

"Candidate species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list (Fish and Game Code § 2068).

The CDFW exercises authority over mitigation projects involving State-listed species, including those resulting from CEQA mitigation requirements. Lead agencies are directed by the CESA to consult with the CDFW on projects or actions that could affect listed species. A "taking" may be authorized by the CDFW if an approved habitat management plan or management agreement that avoids or compensates for possible jeopardy is implemented. In addition, the CDFW requires preparation of mitigation plans in accordance with published guidelines.

California Department of Fish and Wildlife "Species of Special Concern." A Species of Special Concern (SSC) is a species, subspecies, or distinct population of an animal (i.e., fish, amphibian, reptile, bird and mammal) native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- is extirpated from the State or, in the case of birds, in its primary seasonal or breeding role;
- is listed as Federally-, but not State-, threatened or endangered;
- meets the State definition of threatened or endangered but has not formally been listed;
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status;
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.

SSCs tend to have a number of factors in common, including that they:

- occur in small, isolated populations or in fragmented habitat, and are threatened by further isolation and population reduction;
- show marked population declines;
- depend on a habitat that has shown substantial historical or recent declines in size and/or quality or integrity;
- have few California records, or which historically occurred in the State but for which there are no recent records; and
- occur largely in areas where current management practices are inconsistent with the animal's persistence.

"Species of Special Concern" is an administrative designation that carries no formal legal status per se, but signifies that the species is recognized as sensitive by the CDFW. Section 15380 of the CEQA Guidelines clearly indicates that species of special concern should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined therein.

California Native Plant Protection Act. In 1977, the Legislature formally recognized the status of rare or endangered plants with the passage of the Native Plant Protection Act (NPPA) (Fish and Game Code, Section 1900 et seq.). The NPPA directed the CDFW to preserve, protect, and enhance rare and endangered plants in California. The NPPA also authorized the Fish and Game Commission to designate native plants as "rare" or "endangered" and to require permits for collecting, transporting, or selling such plants.

Under Section 1901 of the Fish and Game Code, "native plant" means a plant growing in a wild uncultivated state, which is normally found native to the plant life of this state. A species, subspecies, or variety is considered "endangered" when its prospects of survival and reproduction are in immediate jeopardy from one or more causes. A species, subspecies, or variety is considered "rare" when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens.

Under Section 1913(c) of the NPPA, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of plant.

Fish and Wildlife Protection - California Fish and Game Code, Sections 1600 to 1603. The California Fish and Game Code mandates that "it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity." CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses, including dry washes, characterized by the presence of hydrophytic vegetation, the location of definable bed and banks, and the presence of existing fish or wildlife resources.

Furthermore, CDFW jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function as part of the riparian system. Historic court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdiction. However, CDFW does not regulate isolated wetlands; that is, those that are not associated with a river, stream, or lake.

Porter-Cologne Water Quality Act. The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the water of the state" (Water Code Section 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. "Waters of the State" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code Section 13050 (e)).

Regional Water Quality Control Board Regulated Activities. Under Section 401 of the CWA, the RWQCB regulates all activities that are regulated by the USACE. Additionally, under the Porter-Cologne Water Quality Act, the RWQCB regulates all activities, including dredging, filling, or discharge of materials into waters of the state that are not regulated by the USACE due to a lack of connectivity with a navigable water body and/or lack of an OHWM.

California Fish and Game Code - Section 3503 and Section 3511. The CDFW administers the California Fish and Game Code. There are particular sections of the Fish and Game Code that are applicable to natural resource management. For example, Section 3503 of the Fish and Game Code states it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird that is protected under the MBTA. Fish and Game Code Section 3503.5 further protects all birds in the orders Falconiformes and Strigiformes, birds of prey such as hawks and owls, and their eggs and nests, from any form of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is also considered a "taking" by the CDFW. Fish and Game Code Section 3511 lists fully protected bird species where the CDFW is unable to authorize the issuance of permits or licenses to take these species.

Natural Community Conservation Planning Act - Fish and Game Code Sections 2800 et seq. The State of California has adopted the Natural Community Conservation Planning and Habitat Conservation Planning (NCCP/HCP) program to focus on creating a multiple-species, multiple-habitat subregional Reserve System and implementing a long-term "adaptive management" program. To accomplish this, the NCCP/HCP creates a subregional habitat Reserve System and implements a coordinated program to manage biological resources within the habitat reserve. The creating of a defined Reserve System provides certainty to the public and to affected landowners with respect to the location of future development and open space within the subregion. The NCCP/HCP was developed with coordination through the CDFW and the USFWS, in order to account for the CESA and the federal ESA. The Planning Area does not occur within any NCCP/HCP designated area.

California Native Plant Society. The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Plants of California. Potential impacts to populations of CNPS-listed plants require consideration under CEQA.

The following identifies the definitions of the California Rare Plant Ranks (formerly known as the CNPS lists):

- California Rare Plant Rank 1A: Plants believed extirpated in California and either rare or extinct elsewhere.
- California Rare Plant Rank 1B: Plants rare, threatened, or endangered in California and elsewhere.
- California Rare Plant Rank 2A: Plants presumed extirpated in California, but more common elsewhere.
- California Rare Plant Rank 2B: Plants rare threatened or endangered in California but more common elsewhere.
- California Rare Plant Rank 3: Plants about which more information is needed - a review list.
- California Rare Plant Rank 4: Plants of limited distribution – a watch list.

The CNPS Threat Rank is an extension added onto the California Rare Plant Rank, which designates the level of threats by a 1 to 3 ranking, with 1 being the most threatened and 3 being the least threatened. Each threat rank is defined as follows:

- 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat).
- 0.2-Moderately threatened in California (20 - 80% occurrences threatened / moderate degree and immediacy of threat).
- 0.3-Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

4.4.4.3 Local Policies and Regulations

County of Fresno. The County of Fresno Open Space and Conservation Element of the General Plan is concerned with protecting and preserving natural resources, preserving open space areas, managing the production of commodity resources, protecting and enhancing cultural resources, and providing recreational opportunities.

The Open Space and Conservation Element sets out goals, policies, and implementation measures under three main headings: Productive Resources, Natural Resources, and Recreation and Cultural Resources. Productive Resources encompasses three sections: Water Resources, Forest Resources, and Mineral Resources. Natural Resources encompass four sections: Wetland and Riparian Areas, Fish and Wildlife Habitat, Vegetation and Air Quality. The Recreation and Cultural Resources sections encompass: Parks and Recreation, Recreational Trails, Cultural, Geologic Resources, Scenic Resources, and Scenic Roadways.

City of Fresno Regulations. The guidelines outlined in the City of Fresno General Plan and Municipal Code ensure project level compliance with all applicable state and federal regulations.

General Plan. ***Parks, Open Space, and Schools Element***

Objective POSS-5. Provide for long-term preservation, enhancement, and enjoyment of plant, wildlife, and aquatic habitat.

Policy POSS-5-a: Habitat Area Acquisition. Support federal, State, and local programs to acquire significant habitat areas for permanent protection and/or conjunctive educational and recreational use.

Policy POSS-5-b: Habitat Conservation Plans. Participate in cooperative, multi-jurisdictional approaches for area-wide habitat conservation plans to preserve and protect rare, threatened, and endangered species.

Policy POSS-5-c: Buffers for Natural Areas. Require development projects, where appropriate and warranted, to incorporate natural features (such as ponds, hedgerows, and wooded strips) to serve as buffers for adjacent natural areas with high ecological value.

Policy POSS-5-d: Guidelines for Habitat Conservation. Establish guidelines for habitat conservation and mitigation programs, including:

- Protocols for the evaluation of a site's environmental setting and proposed design and operating parameters of proposed mitigation measures.
- Methodology for the analysis depiction of land to be acquired or set aside for mitigation activities.
- Parameters for specification of the types and sources of plant material used for any re-vegetation, irrigation requirements, and post-planting maintenance and other operational measures to ensure successful mitigation.
- Monitoring at an appropriate frequency by qualified personnel and reporting of data collected to permitting agencies.

Policy POSS-5-e: Pursue development of conjunctive habitat and recreational trail uses in flood control and drainage projects.

Commentary: Establishment of wildlife and aquatic habitat is unsuitable along primary conveyance systems to existing and future water treatment facilities. Certain waterways may be excluded from habitat development for this reason.

Policy POSS-5-f: Regional Mitigation and Habitat Restoration. Coordinate habitat restoration programs with responsible agencies to take advantage of opportunities for a coordinated regional mitigation program.

Objective POSS-6. Maintain and restore, where feasible, the ecological values of the San Joaquin River corridor.

Policy POSS-6-a: San Joaquin River Parkway Master Plan. Support the San Joaquin River Conservancy in its efforts to update the San Joaquin River Parkway Master Plan by working with the other jurisdictions and the River Conservancy to create a comprehensive and feasible plan for preservation, conservation, and Parkway development.

Policy POSS-6-b: Effects of Stormwater Discharge. Support efforts to identify and mitigate cumulative adverse effects on aquatic life from stormwater discharge to the San Joaquin River.

- Avoid discharge of runoff from urban uses to the San Joaquin River or other riparian corridors.
- Approve development on sites having drainage (directly or indirectly) to the San Joaquin River or other riparian areas only upon a finding that adequate measures for preventing pollution of natural bodies of water from their runoff will be implemented.
- Periodically monitor water quality and sediments near drainage outfalls to riparian areas. Institute remedial measures promptly if unacceptable levels of contaminant(s) occur.

Objective POSS-7. Support the San Joaquin River Conservancy in its collaborative, multiagency efforts to develop the San Joaquin River Parkway.

Policy POSS-7-a: Preserve Wildlife Corridors. Acquire and expand natural reserves and wildlife corridors through purchase, easements, mitigation for proposed activities, or other mutually satisfactory transactions.

Policy POSS-7-b: Wildlife Corridor along San Joaquin River. Create a wildlife corridor to provide continuous open space land and water areas parallel to the San Joaquin River within the jurisdiction of the City.

- Preserve a minimum width of 200 feet of riparian vegetation on both sides of the river.
- Require the corridor to be wider when possible and/or necessary to protect additional areas of native plants and critical habitat (such as wildlife breeding areas). Re-establishment of a 200-foot or wider band of native plants is recommended in areas where 200 feet of riparian vegetation no longer exists along the river bank, to the maximum extent feasible from topologic and hydrologic standpoints.
- Allow exceptions where the minimum-width corridor is infeasible due to topography, hydrology, or other constraints. An offsetting expansion may be approved in those instances on the opposite side of the river. Incorporate the bluff face into the wildlife corridor where steep bluffs drop directly into or close to the river.

Policy POSS-7-c: Monitoring River Corridor Conditions. Undertake periodic monitoring to determine the status of conditions and mitigation measures required for projects within, and in the vicinity of, the river corridor.

- Pursue a Memorandum of Understanding (MOU) or other agreement so that the San Joaquin River Conservancy can perform, or participate in, this monitoring program in order to furnish additional expertise, provide for cost efficiency, and to ensure consistency throughout the river corridor.

- Based on information obtained from monitoring, modifications in special permits, reclamation plans, and other documents, operating parameters for uses may be necessary to insure human health and safety and the well-being of riparian plants and wildlife.

Policy POSS-7-d: Buffer Zones near Intensive Uses. Protect natural reserve areas and wildlife corridor areas in the San Joaquin River corridor whenever more intensive human uses exist or are proposed on adjacent lands. Use buffer zones to allow multiple uses on parts of the parkway while still protecting wildlife and native plants.

- Require studies of appropriate buffer widths to be approved by State and federal wildlife agencies before variances from standard buffer zone widths are granted.

- Maintain natural riparian buffer zones with appropriate native plants (seed material and cuttings locally derived).

- Incorporate open space uses such as pasture, low-intensity agricultural activities, and the “rough” or marginal areas of golf courses, into buffer zones when they constitute an improvement in habitat over a previous use or degraded area. Evaluate and address the potential impacts of construction, cultural, and operational practices (such as grading, number of livestock per acre, lighting, and use of pesticides, herbicides, and fertilizers) before these uses are be approved for buffering.

- For nearby areas of the San Joaquin River corridor outside of the exclusive jurisdiction of the City, support efforts to work with other jurisdictions to achieve this policy.

Municipal Code. ***Chapter 13, Article 3 Street Trees and Parkways***

This section of the municipal code provides guidelines and requirements for the preservation and protection existing street trees, as well as guidelines establishing the installation of city-owned trees along streets.

4.4.5 Significance Criteria

Continued implementation of the approved General Plan would result in a significant impact related to biological resources if it would:

BIO-1 Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

BIO-2 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

BIO-3 Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

BIO-4 Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

BIO-5 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

BIO-6 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.4.6 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to biological resources that could result from continued implementation of the approved General Plan. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with continued implementation of the approved General Plan and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less-than-significant level. Cumulative impacts are also addressed.

4.4.6.1 Project Impacts

The following discussion describes the potential impacts related to biological resources that could result from continued implementation of the approved General Plan.

BIO-1 ***The project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.***

Development within the Planning Area could result in the loss of natural vegetation communities that provide suitable habitat for 28 special-status plant and wildlife species that have the potential to occur or are known to occur within the Planning Area. The vegetation communities within the

Planning Area boundary that provide suitable habitat for listed and other special-status species are described above, under Section 4.4.3. Development within the Planning Area could result in the loss or degradation of natural habitats such as annual grassland, oak woodland, lacustrine, riverine, and pasture, which may support special-status plant and wildlife species. Project-related impacts to any of these habitat types may result in a substantial adverse effect, if it is determined that a special-status species would be impacted, either directly or through habitat modifications.

Direct project impacts to species listed as a candidate, sensitive, or special-status species by local, state, and federal agencies should be avoided to the greatest extent feasible; however, it is acknowledged that future projects may not be able to avoid these species. Project-related impacts that result in the direct take of a special-status species may be considered a significant impact. The presence/absence of a special-status species on a project site and the potential to impact a special-status species must be determined prior to project construction. If development within the Planning Area results in the direct take or loss of suitable habitat for any of the 28 special-status species that have the potential to occur in the Planning Area, project-level site-specific mitigation would be required to reduce the potential impacts to less-than-significant levels. Project impacts to special-status species listed as threatened or endangered by CDFW and/or USFWS may also require agency consultation and/or take permits.

Proposed projects within the Planning Area would incorporate project design features outlined in the objectives and policies of the approved General Plan. The approved General Plan includes specific implementing policies pertaining to biological resources that must be adhered to for development within the Planning Area, specifically within the Open Space and Biological Resources Section of Chapter 5, the Parks, Open Space, and Schools Element. Project-level implementation of the General Plan Policies POSS-5-a through POSS-5-f will reduce potential project impacts to special-status species and their associated habitats.

To reduce potential project-specific impacts on biological resources, the approved General Plan includes the following policies.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.4.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially significant unless mitigated.

Impact BIO-1: Continued implementation of the General Plan could result in adverse effects to special-status species and associated habitat.

Mitigation Measure BIO-1.1 Construction of a proposed project shall avoid, where possible, vegetation communities that provide suitable habitat for a special-status species known to occur within the Planning Area. If construction within potentially suitable habitat must occur, the presence/absence of any special-status plant or wildlife species must be determined prior to construction, to determine if the

habitat supports any special-status species. If a special-status species are determined to occupy any portion of a project site, avoidance and minimization measures shall be incorporated into the construction phase of a project to avoid direct or incidental take of a listed species to the greatest extent feasible.

Mitigation Measure BIO-1.2 Direct or incidental take of any state or federally listed species shall be avoided to the greatest extent feasible. If construction of a proposed project will result in the direct or incidental take of a listed species, consultation with the resources agencies and/or additional permitting may be required. Agency consultation through the CDFW 2081 and USFWS Section 7 or Section 10 permitting processes shall take place prior to any action that may result in the direct or incidental take of a listed species. Specific mitigation measures for direct or incidental impacts to a listed species will be determined on a case-by-case basis through agency consultation.

Mitigation Measure BIO-1.3 Development within the Planning Area shall avoid, where possible, special-status natural communities and vegetation communities that provide suitable habitat for special-status species. If a proposed project will result in the loss of a special-status natural community or suitable habitat for special-status species, compensatory habitat-based mitigation is required under CEQA and CESA. Mitigation shall consist of preserving on-site habitat, restoring similar habitat or purchasing off-site credits from an approved mitigation bank. Compensatory mitigation shall be determined through consultation with the City and/or resource agencies. An appropriate mitigation strategy and ratio shall be agreed upon by the developer and lead agency to reduce project impacts to special-status natural communities to a less than significant level. Agreed-upon mitigation ratios shall depend on the quality of the habitat and presence/absence of a special-status species. The specific mitigation for project level impacts shall be determined on a case-by-case basis.

Mitigation Measure BIO-1.4 Proposed projects within the Planning Area should avoid, if possible, construction within the general nesting season of February through August for avian species protected under Fish and Game Code 3500 and the Migratory Bird Treaty Act (MBTA), if it is determined that suitable nesting habitat occurs on a project site. If construction cannot avoid the nesting season, a pre-construction clearance survey shall be conducted by a qualified biologist to determine if any nesting birds or nesting activity is observed on or within 500-feet of a project site. If an active nest is observed during the survey, a biological monitor shall be on site to ensure that no proposed

project activities would impact the active nest. A suitable buffer shall be established around the active nest until the nestlings have fledged and the nest is no longer active. Project activities may continue in the vicinity of the nest only at the discretion of the biological monitor. Prior to commencement of grading activities and issuance of any building permits, the Director of the City of Fresno Planning and Development Department, or designee, shall verify that all proposed project grading and construction plans include specific documentation regarding the requirements of the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Section 3503, that preconstruction surveys have been completed and the results reviewed by staff, and that the appropriate buffers (if needed) are noted on the plans and established in the field.

Level of Significance With Mitigation: Less than Significant Impact.

BIO-2 The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

The Planning Area contains riparian habitat areas and special-status natural communities, primarily along the Planning Area boundaries. The riparian habitat within the Planning Area provides suitable habitat for a number of special-status plant and wildlife species known to occur in the region. There are two special-status natural communities with a potential to occur within the Planning Area: northern claypan vernal pool and valley oak woodland. Planned development within the Planning Area is primarily limited to existing disturbed, developed and agricultural areas located around the geographic center of the Planning Area. However, as development continues within the Planning Area, it would likely continue towards existing water features. Future development that occurs in the vicinity of the San Joaquin River, its tributaries, any lakes or streams, and/or open grasslands with seasonal wetlands, may result in a significant impact to riparian habitat or a special-status natural community. The presence of riparian habitat and/or a special-status natural community on a project site must be evaluated prior to project approval. Any project-related impacts to riparian habitat and/or a special-status natural community are considered a significant impact and require mitigation.

Project level implementation of the approved General Plan Objective POSS-6 and Policies POSS-6-a and POSS-6-b, and Objective POSS-7 and Policies POSS-7-a through POSS-7-d will reduce potential project impacts to riparian habitat, and areas such as the San Joaquin River corridor.

With the continued implementation of the above objectives and policies, potential impacts to riparian habitat areas would be reduced; however, the impact would remain significant without mitigation.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.4.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Unless Mitigated.

Impact BIO-2: The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community.

Mitigation Measure BIO-2.1 A pre-construction clearance survey shall be conducted by a qualified biologist to determine if a proposed project will result in the removal or impact to any riparian habitat and/or a special-status natural community with potential to occur in the Planning Area, compensatory habitat-based mitigation shall be required to reduce project impacts. Compensatory mitigation must involve the preservation or restoration or the purchase of off-site mitigation credits for impacts to riparian habitat and/or a special-status natural community. Mitigation must be conducted in-kind or within an approved mitigation bank in the region. The specific mitigation ratio for habitat-based mitigation shall be determined through consultation with the appropriate agency (i.e., CDFW or USFWS) on a case-by-case basis. The project applicant/developer for a proposed project shall develop and implement appropriate mitigation regarding impacts on their respective jurisdictions.

Mitigation Measure BIO-2.2 A pre-construction clearance survey shall be conducted by a qualified biologist to determine if a proposed project will result in significant impacts to streambeds or waterways protected under Section 1600 of Fish and Wildlife Code and Section 404 of the CWA. The project applicant/developer for a proposed project shall consult with partner agencies such as CDFW and/or USACE to develop and implement appropriate mitigation regarding impacts on their respective jurisdictions, determination of mitigation strategy, and regulatory permitting to reduce impacts, as required for projects that remove riparian habitat and/or alter a streambed or waterway. The project applicant/developer shall implement mitigation as directed by the agency with jurisdiction over the particular impact identified.

Mitigation Measure BIO-2.3 Prior to project approval, a pre-construction clearance survey shall be conducted by a qualified biologist to determine if a proposed project will result in project-related impacts to riparian habitat or a special-status natural community or if it may result in direct or incidental impacts to special-status species associated with riparian or wetland habitats. The project applicant/developer for a proposed

project shall be obligated to address project-specific impacts to special-status species associated with riparian habitat through agency consultation, development of a mitigation strategy, and/or issuing incidental take permits for the specific special-status species, as determined by the CDFW and/or USFWS.

Level of Significance With Mitigation: Less Than Significant Impact.

BIO-3 The project would have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Development within the Planning Area, particularly in undeveloped areas, could result in the loss of jurisdictional wetland habitat, which includes vernal pools, seasonal wetlands, waters of the U.S. or intermittent/permanent water bodies. Proposed projects that encroach into grassland, agricultural, lake or riverine areas may result in the significant disturbance and/or fill of potentially jurisdictional wetlands. Any project-related impacts that result in the significant alteration or fill of a federally protected wetland is considered a significant impact. Additionally, special-status species associated with wetlands and vernal pool habitats, such as vernal pool fairy shrimp, may be impacted as a result of project impacts to protected wetlands. Project-specific agency (i.e., CDFW, RWQCB, and/or USACE) coordination and/or regulatory permitting would be required to reduce project impacts to wetland habitat. The continued implementation of Policies POSS-6-a through POSS-7-d would reduce potential project impacts to wetlands and wetland habitat, and areas such as the San Joaquin River corridor.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.4.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Unless Mitigated.

Impact BIO-3: Implementation of the project would have a substantial adverse effect on state or federally protected wetlands.

Mitigation Measure BIO-3.1 If a proposed project will result in the significant alteration or fill of a federally protected wetland, a formal wetland delineation conducted according to USACE accepted methodology is required for each project to determine the extent of wetlands on a project site. The delineation shall be used to determine if federal permitting and mitigation strategy are required to reduce project impacts. Acquisition of permits from USACE for the fill of wetlands and USACE approval of a wetland mitigation plan would ensure a “no net loss” of wetland habitat within the Planning Area. Appropriate wetland mitigation/creation shall be implemented in a ratio according to the size of the impacted wetland.

Mitigation Measure BIO-3.2 In addition to regulatory agency permitting, Best Management Practices identified from a list provided by the USACE shall be incorporated into the design and construction phase of the project to ensure that no pollutants or siltation drain into a federally protected wetland. Project design features such as fencing, appropriate drainage and incorporating detention basins shall assist in ensuring project-related impacts to wetland habitat are minimized to the greatest extent feasible.

Level of Significance with Mitigation: Less Than Significant Impact.

BIO-4 The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Project development within the Planning Area is primarily focused on existing disturbed and developed areas situated near the geographic center of the Planning Area. These areas are mainly surrounded by existing development and disturbed habitat areas. The majority of habitat within the Planning Area consists of urban areas characterized by disturbed land and development. Planned land use within the Planning Area includes residential, commercial, industrial, and associated infrastructure.

Open space areas, undeveloped land, and agricultural land are mainly located along the boundaries of the Planning Area, particularly near the northern boundary along the San Joaquin River corridor. The San Joaquin River corridor functions as a wildlife movement corridor for a number of terrestrial and aquatic mammals and birds. The San Joaquin River corridor facilitates movement of wildlife species from the Planning Area to the Sierra Nevada Mountains to the east and open agricultural land to the west. The proposed project could include development within and adjacent to the San Joaquin River corridor. This development could result in potential impacts to the wildlife movement corridor. The approved General Plan includes policies POSS-6-a through POSS-7-d that would reduce impacts to species that use the San Joaquin River corridor as a wildlife movement corridor by providing buffer zones, control stormwater runoff, and providing periodic monitoring of the biological resource conditions. These policies would reduce potential impacts to wildlife movement corridors along the San Joaquin River to less than significant.

In the remaining portions of the Planning Area, there are open space parks and recreational use areas, but these areas are scattered throughout the Planning Area. Due to the isolation of these areas, there are no substantive linkages to consider them as part of a wildlife movement corridor. Therefore, implementation of future development within the Planning Area in accordance with the approved General Plan would result in less than significant impacts on wildlife movement corridors.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.4.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

BIO-5 The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Project development within the Planning Area may result in the removal or alteration of existing street and public trees within the boundaries of the Planning Area. Existing preserved trees and landscaped trees within public property, including parkways, must be preserved in order to beautify the city, purify its air, and provide shade for its inhabitants. Project development within the Planning Area could have the potential to impact trees on public property; however, the future development would be required to comply with Article 3 of Chapter 13 of the City of Fresno Municipal Code, which provides for plans and establishes regulations governing the preservation of trees in public property. Section 13-305, Tree Preservation, of the Municipal Code establishes a policy to utilize whatever techniques, methods, and procedures are required to preserve, whenever feasible, all trees in the city. Section 13-306, Special Tree List, authorizes the Director to develop and maintain a Special Tree List to give such trees special treatment and care to retain and protect them. Compliance with Article 3 of Chapter 13 of the City of Fresno Municipal Code would reduce any impacts related to conflicts with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Therefore, potential impacts to the City's public tree ordinance would be less than significant.

Applicable Laws, Regulations, Relevant Land Use Policies

- Fresno Municipal Code, Chapter 13, Article 3, Street Trees and Parkways

Level of Significance Without Mitigation: Less Than Significant Impact.

BIO-6 The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The Planning Area is not located within the boundaries of any approved or draft Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other adopted local, regional or state HCP. Therefore, development within the Planning Area would not result in any impacts to an adopted HCP or NCCP.

The Pacific Gas & Electric (PG&E) San Joaquin Valley Operation and Maintenance (O&M) Habitat Conservation Plan (HCP)[2] was approved in 2007 and covers portions of nine counties, including Fresno county and the city of Fresno. This HCP covers PG&E activities which occur as a result of ongoing O&M that would have an adverse impact on any species covered by the HCP. The HCP also provides incidental take coverage from the USFWS and CDFW. The project site is not located within the covered area of any other HCP, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

[2] Pacific Gas & Electric. 2007. *PG&E San Joaquin Valley Operation & Maintenance Habitat Conservation Plan*. November.

Mitigation Measures recommended in this Program EIR are largely consistent with the PG&E HCP in that site-specific analysis would be required to avoid and/or minimize potential impacts resulting from continued implementation of the General Plan and the PG&E HCP.[3] Because project specific analysis would be required from continued implementation of the General Plan and site-specific analysis is required under the small-scale temporary effects required for operation and maintenance activities under the PG&E HCP, these plans would not conflict. Therefore, the project would not conflict with the provisions of the PG&E HCP and the proposed project and would have a less-than-significant impact.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.4.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: No Impact.

4.4.6.2 Cumulative Impacts

BIO-7 The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to biological resources.

Development within the San Joaquin Valley study area during buildout of the Planning Area primarily focuses on the conversion of agricultural land to development, which would reduce the availability of suitable habitat for special-status species, including suitable foraging habitat for raptor species. Additionally, agricultural land and open space conversion has the potential to reduce the size, extent, and/or quality of existing wildlife movement corridors, due to habitat fragmentation of undeveloped open space areas within the San Joaquin Valley study area.

The loss of potentially suitable habitat for special-status species as a result of cumulative development would primarily result from the total conversion of agricultural and undeveloped land to urban and rural development. This potential conversion by cumulative development is considered a potential significant impact on special-status species. Since the continued implementation of the approved General Plan would also result in potential significant impacts on special-status species, the project's contribution is considered cumulatively considerable, and therefore, would result in a significant cumulative impact.

Implementation of cumulative development within the San Joaquin Valley could result in potential impacts to riparian habitat. Cumulative development could encroach into areas adjacent to existing rivers and streams that could contain riparian habitat. In addition, cumulative development near the San Joaquin River corridor could result in potential impacts on riparian habitat. Since development in accordance with the approved General Plan could result in potential impacts on riparian habitat, the project's contribution to cumulative impacts would be considerable and would represent a significant cumulative impact.

[3] Ibid.

The conversion of grassland and undeveloped areas to cumulative development, within the San Joaquin Valley, may increase effects on protected wetland habitats. Cumulative development that encroaches into wetland habitat areas or indirectly impacts wetland habitat through the increase of upstream urban runoff could result in significant impacts. Since the development in accordance with the approved General Plan could increase impacts on wetland habitats, the project's contribution to potential impacts on wetland habitat is cumulatively considerable. Thus, the proposed project would result in a significant cumulative impact.

The San Joaquin Valley study area contains vast areas of agricultural land, open space areas, several rivers and mountains that serve to facilitate wildlife movement across the San Joaquin Valley study area and most of the Central Valley. Development within the Planning Area and cities within the San Joaquin Valley study area are characterized by existing disturbed and developed land. As development has occurred over the years, it has been within or immediately adjacent to the existing cities and communities within the San Joaquin Valley study area. Open areas for wildlife movement typically occur outside cities and communities within the study area, particularly along river corridors, connected open space, and the foothills along the east and west sides of the valley. Development within the San Joaquin Valley study area could have a significant impact on wildlife movement corridors. However, the approved General Plan includes policies POSS-6-a through PSS-7-d that would reduce impacts to species that use the San Joaquin River corridor as a wildlife movement corridor by providing buffer zones, controlling stormwater, and providing periodic monitoring of the biological resource conditions. These policies would reduce potential impacts to wildlife movement corridors along the San Joaquin River. In the remaining portions of the Planning Area, there are open space parks and recreational use areas, but due to the isolation of these areas, there are no substantive linkages to consider them as part of a wildlife movement corridor. The project's potential contribution to cumulative impacts on wildlife movement corridors is therefore considered less than cumulatively considerable. Thus, the project's cumulative impacts to potential wildlife movement corridors or wildlife nursery sites within the San Joaquin Valley study area, through development of the Planning Area, are considered less than cumulatively significant.

Implementation of cumulative development throughout the San Joaquin Valley would primarily not impact trees within public property of the Planning Area. However, there could be other cumulative projects within the Planning Area, such as the High Speed Train project, that could impacts trees within public property. Since cumulative development within the Planning Area as well as development in accordance with the approved General Plan would be required to comply with Article 3 of Section 13 of the City of Fresno Municipal Code, potential impacts on trees within public property would be less than significant. Therefore, the project's contribution to potential cumulative impacts on the City's public tree ordinance would be less than cumulatively considerable and thus a less than significant cumulative impact.

As discussed in under BIO-6, cumulative development resulting from continued implementation of the approved General Plan within the PG&E HCP would not result in any impacts to the HCP. Therefore, the proposed project would result in no cumulative impacts regarding HCPs.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.4.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Unless Mitigated.

Impact BIO-7: Implementation of the project would have a substantial adverse cumulative effect on state or federally protected wetlands.

Mitigation Measures: Refer to Mitigation Measures BIO-1.1 through BIO-1.4, Mitigation Measures BIO-2.1 through BIO-2.3, and Mitigation Measures BIO-3.1 through BIO-3.2.

Level of Significance with Mitigation: Less Than Significant Impact.

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4.5 CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

4.5.1 Introduction

This section describes the existing cultural resources setting in the Planning Area. The descriptions in this section are based in part on information obtained from a records search conducted at the Southern San Joaquin Valley Information Center (SSJVIC) completed prior to adoption of the approved General Plan Update, background literature research, and a review of environmental compliance documents in and near the Planning Area.

For the purposes of this analysis, an archaeological resource is considered any cultural resource that was deposited before Europeans established a Franciscan Mission in California (1769), although it has long been recognized that Europeans plied the coast as early as the mid-16th Century and landed on the California Coast on several occasions. Buried resources deposited after 1769 are technically considered historical resources. Such resources would also include Native American resources deposited after that date.

The following information is provided in accordance with Section 15125 of the California Environmental Quality Act (CEQA). The environmental setting discussion provides a baseline discussion of the existing conditions within the Planning Area and surrounding area.

4.5.2 CEQA Baseline

The City of Fresno is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Travelled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the approved General Plan, explains that the PEIR will evaluate the continued implementation of the approved General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of Senate Bill (SB) 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the General Plan. Text changes related to the Mobility and Transportation Element, including the

addition of VMT policies, would not occur. The General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.5.3 Existing Environmental Setting

Cultural resources include prehistoric-era archaeological sites, historic-era archaeological sites, Native American traditional cultural properties, sites of religious and cultural significance, and historical buildings, structures, objects, and sites. The importance of any single cultural resource is defined by the context in which it was first created, current public opinion and modern yet evolving analysis. From the analytical perspective, temporal and geographic considerations help to define the historical context of the Planning Area. The importance or significance of a cultural resource is in part described by the context in which it originated or developed. National Park Service Bulletin 16a[1] describes a historic context as "information about historic trends and properties grouped by an important theme in prehistory or history of a community, state, or the nation during a particular period of time." A context links an existing property to important historic trends and this allows a framework for determining the significance of a property. Given this, a major goal of the historian is to determine accurate themes of analysis, a task that can only be undertaken by a thorough review of previous researchers' thoughts and ideas, as well as reviewing the literature of the resources.

In California, historians have divided the past into broad categories based on climate models, archaeological dating and written histories. Paleontologists divide time into much larger segments, with defined and named periods of time shortening in timespan as the modern era is reached. For the purposes of this analysis, these periods in history have been summarized below.

4.5.3.1 Prehistoric Era

To better understand the past, archaeologists develop models of prehistoric resource chronologies and description of lifestyles based on data collected at the archaeological sites they investigate. Models of prehistoric lifeways were developed from archaeological research and ethnographic information. As more archaeological data is brought forth, the models are refined and reinterpreted.

Unfortunately, prehistoric archaeological investigations are very limited in the Fresno area. Indeed, the San Joaquin River section of the middle and lower San Joaquin Valley is identified by many researchers to be one of the least understood areas of the State.[2] For this reason, the prehistoric background review in this section is derived from several regional reports of recent publication. General information associated with Fresno County and San Joaquin Valley regional archaeology has

[1] National Park Service. 1997. Bulletin 16a. Available online at: www.nps.gov/subjects/nationalregister/upload/NRB16A-Complete.pdf (accessed February 28, 2020).

[2] Rosenthal, Jeffrey S., et al. 2007. The Central Valley: A View from the Catbird's Seat. *In* California Prehistory: Colonization, Cultural, and Complexity.

been derived from several sources.[3,4,5] Prehistoric background information regarding near-city cultural resource projects has been derived several sources, as well.[6,7,8]

Bennyhoff and Fredrickson's Central California Taxonomic System[9] has in the past been used to form descriptions of the temporal background for certain projects in Fresno County. A more generalized systemic description is provided here because many of the archaeological elements supporting the CCTS have not been uncovered in the Planning Area. Part of the challenge associated with archaeological research in this area is that the eastern side of the San Joaquin Valley has been farmed for generations and farming tends to destroy the surface signatures of most prehistoric sites.

Terminal Pleistocene (13,500 to 11,000 BP [Before Present]). About 14,000 years ago, California was a much wetter and cooler place, but with the retreat of continental Pleistocene glaciers, the whole of California except the northwest coast saw a warming and drying trend. Large shallow lakes filled with glacial meltwater were located in the Central Valley and used by populations of large game animals, most of which are now extinct. The waters in these pluvial lakes rose and fell with the season, but were unlikely to have dried completely. A few prehistoric sites have been discovered near the southwestern shore of Tulare Lake, but none in or near the Planning Area and none in the middle San Joaquin Valley. Native American populations were probably widely dispersed hunter-gatherers, and their archaeological assemblages would have consisted of large projectile points with distinctive "fluted" styles and deeply buried features with animal fragments. Such sites would likely be discovered on Late Pleistocene-dated ground surfaces. Within the city, these surfaces are not exposed at the ground surface and would quite probably be deeply buried.

Early and Middle Holocene (11,000 to 7,000 BP - 7,000 to 3,800 BP). Historical analysis set forth the argument that land located between the floodplain of the middle and lower San Joaquin Valley and the lower foothills is covered with a recent and thick blanket (30 feet or more) of alluvium derived from a post-Pleistocene erosion of the western Sierras. Thus, while a few sites from the early Holocene periods are found in upland environments, there are no such dated sites in or very near the Planning Area.

Sites in the nearby foothills exhibit groundstone assemblages suggesting that acorns and pine nuts were harvested when ripe by bands of mobile groups. Comparative ethnographic data suggests that

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3 Moratto, Michael J. 1984. California Archaeology.

4 Fagan, Brian. 2003. Before California. Landham, MD: Rowman & Littlefield.

5 Arnold, et al. 2004. The Archaeology of California. Journal of Archaeological Research 12:1-73.

6 Rosenthal, Jeffrey S., et al. 2007. The Central Valley: A View from the Catbird's Seat. *In* California Prehistory: Colonization, Cultural, and Complexity.

7 San Joaquin River Restoration Program (SJRRP). 2011. *San Joaquin River Restoration Program Draft Program Environmental Impact Statement/Environmental Impact Report*. Available online at: www.usbr.gov/mp/nepa/includes/documentShow.php?Doc_ID=7557 (accessed February 28, 2020).

8 California High Speed Rail Authority. 2012. *California High-Speed Train Project EIR/EIS Merced to Fresno Section*.

9 Hughes, Richard E. 1994. Toward a New Taxonomic Framework for Central California Archaeology: Essays by James A. Bennyhoff and David A. Frederickson. Contributions of the University of California Archaeological Research Facility, No. 52. Berkeley.

mobile peoples with a seasonal round may have created a home base (village) in winter during these periods, then travelled to exploit pockets of certain resources in temporary encampments. This type of lifeway was likely common for most California peoples except those on the North Coast, and probably continued in a like fashion throughout the Early and Middle Holocene. Differences in lowland and upland sites emerged about 4,500 BP giving the regional populations distinct patterns. Lowland groups may have predominated in the Fresno area during the late Middle Holocene and archaeological sites dated to this time would likely exhibit foodstuff and processing tools more focused on lakeshore resources than grinding implements seen in upland sites. Soil strata found in the northwestern portion of the city has been defined as a Late Pleistocene non-marine alluvial fan covered with a veneer of late Holocene soil. In general, early and Middle Holocene alluvial deposits with cultural resources in them would typically be exposed only after several feet of soil has been removed. Soils near active stream channels are younger and are less likely to exhibit sites from this period except on intact dunes and at some depth. Thus, sites from this period are likely located in the Planning Area, but are more likely to be found at depth after a disturbed topsoil horizon has been removed.

Late Holocene (3,800 to 1,500 BP). This period saw an increase in the number of sites and evidence for an increased sophistication in the toolkit of the local prehistoric groups. Archaeologists often interpret increases in the number of sites dated to a certain period as reflecting an increase in population. Populations existing on flatter areas between braided stream channels near the city and those along the major riverine systems in the middle San Joaquin Valley probably concentrated their lifeways on marsh-based resources. Evidence for trading networks between nearby groups is robust.

The quantity of sites near the south bank of the San Joaquin River (in and near the city limits) is large and several have been investigated.[10] Archaeologists seldom excavate buried sites exhibiting data that might allow a determination of whether or not a prehistoric site “belongs” to one ethnographic group or another, but at the end of this period cultural groups possessing Great Basin-style toolkits began to arrive in California and appear to have begun influencing and/or merging with the existing populations. Local sites saw changes in the toolkit with an overall reduction of projectile point size suggestive of bow and arrow technologies. Previous studies suggest that at about 2,300 years ago, large villages were clustered along the banks of the San Joaquin River and other watersheds (winter villages).[11] Structured social hierarchies are inferred in the archaeological data. Evidence for Late Holocene deposits in and very near the city limits is likely. These would lie upon buried alluvial fans and riverine deposits at shallow depths, and possibly near the exposed surface of vacant properties.

Late Prehistoric (1,500 BP to Contact with the Spanish). With the introduction of Great Basin populations into the Eastern Sierras of California at the beginning of the Late Prehistoric, many of the ancestral California tribes were influenced by their toolkits and lifestyles. Part of this interpretation is derived from linguistic studies. The Yokuts were Penutian speakers, which appear to have arrived earlier, and many of the tribes to the east and southeast were newly arrived Takic or

[10] Rosenthal, Jeffrey S., et al. 2007. The Central Valley: A View from the Catbird’s Seat. *In* California Prehistory: Colonization, Cultural, and Complexity.

[11] Ibid.

Uto-Aztecan speakers.[12] The Takic speakers exhibited toolkits and lifeways adapted to desert climates. Bow and arrow technologies and the use of pottery are found in sites dating to this period. This period was the zenith of prehistoric California life, with an increase in sophisticated lifestyles, extensive trade networks, and a burgeoning population. The end of the period saw the introduction of Europeans and their diseases of which the local tribes had little defense or resistance. For more information on the Yokuts, see the ethnographic section below.

4.5.3.2 Ethnographic Overview

At the time of European contact, most of the San Joaquin Valley and the foothills of the western slope of the Sierra Nevada were occupied by 40 or so groups classified together as the Yokuts with a Foothills division and a Valley division of language dialects.[13] The Yokuts were recognized as having three major subgroups: the Northern Valley, the Foothill, and the Southern Valley. Each of these ethnolinguistic groups was composed of autonomous, culturally and linguistically related tribes or tribelets. Ethnographic evidence suggests the city is located in part of the Southern Valley Yokuts territory.

Alfred Kroeber divided a Yokuts classification system into Valley Divisions and Foothill Divisions based on ethnographic lines, geographic habitat, and dialect.[14] Here, the Foothill Division's worldview and economy were influenced more by their Shoshonean neighbors than the Valley Division Yokuts. Later, William Wallace divided the Yokuts into three subgroups, Southern Valley, Northern Valley, and Foothill, and shifted the known tribelets among these divisions.[15] The following is a review of ethnographic information associated with the Southern Valley Yokuts.

The Southern Valley Yokuts occupied a rich environment with abundant water resources from the nearby sloughs, lake basins, and river systems. Swamps and tule marshes surrounded the waterways and teemed with wildlife, including aquatic mammals, fish, and waterfowl. Adjacent grasslands provided food for herds of elk, antelope, and (in the winter) deer. The regional flora was equally, if not more, diverse and was used as a main staple of the Yokuts diet. The Southern Valley Yokuts dietary base relied on a mixed strategy of fishing, waterfowl hunting, shellfish, and plant collecting, with less emphasis on large-game hunting. Important vegetal resources included cattail roots, grasses, nuts, seeds, tule, and bulbs. The resource-rich environment allowed for permanent village sites, which typically were occupied throughout the year.

Resources not found in the local environment were obtained through an extensive trade network, which had begun to develop during the Late Holocene. Quality stone and wood were lacking in the Valley environment and were often acquired through trade with nearby tribes. Imported items included acorns, salt, obsidian, and seashells, which were exchanged for locally available asphaltum,

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12 Kroeber. A. L. 1925. *Handbook of the Indians of California* (1976 Diver Edition). Bureau of American Ethnology Bulletin 76, Smithsonian Institution, Washington D.C.

13 Wallace, William J. 1978. Southern Valley Yokuts. *In* Handbook of North American Indians, Vol 8, California. Smithsonian Institution, Washington D.C.

14 Kroeber. A. L. 1925. *Handbook of the Indians of California* (1976 Diver Edition). Bureau of American Ethnology Bulletin 76, Smithsonian Institution, Washington D.C.

15 Wallace, William J. 1978. Southern Valley Yokuts. *In* Handbook of North American Indians, Vol 8, California. Smithsonian Institution, Washington D.C.

steatite, and animal skins. The material culture of the Southern Valley Yokuts included structures, watercraft, basketry, weapons, and tools fashioned primarily from local resources. The ubiquitous tule was the primary component used for house construction and other fiber crafts such as basketry, mats, and cradles. Rafts were central to the economy base because of the abundance of waterways, which made watercraft the preferred mode of transportation. Wood, stone, and bone were commonly used to manufacture a variety of tools and weapons. Sweathouses were common to every settlement and, in the case of the Southern Valley Yokuts, were used exclusively by men on a daily basis.

The Southern Valley Yokuts were divided into true tribes, with individual tribelets having their own name, dialect, and territory. Typically, a tribelet was ruled by a central chief who inherited the position, was assisted by one or more aides, and lived in the largest village. The chief's duties included decisions that affected the well-being of the entire tribelet, sanctioning trade, entertaining guests, and arbitration of intra-tribal disputes. Marriage was typically informal, and patrilocality was the accepted practice following marriage. Thus, if a family had numerous sons, a circle of extended family members would inhabit the area immediately adjacent to the patriarch's home. Polygamy was not objected to, but it was practiced solely by men. There is scant evidence that the Southern Valley Yokuts participated in a large number of organized religious ceremonies.

4.5.3.3 Historic Era

Gabriel Moraga was one of the first Europeans to see and explore the Central Valley of California. In 1805, he was ordered by the Spanish Governor to send his cavalry into the Modesto area and Calaveras Rivers, naming both.[16] In 1806, he travelled past the Kings, Merced and Stanislaus watersheds, naming each river. In 1808, he was ordered into the Central Valley once again in search of potential new Mission sites and runaway neophytes. He named a tributary of the San Joaquin during this trip (San Joaquin Creek). It was later discovered that the creek fed into a larger river, which was named San Joaquin River. As Spanish California passed to Mexican control, American trappers increasing began to exploit the region's resources and once gold was discovered, the population rush into California began, with mineral exploration in the mountains and foothills east of the Planning Area. During the latter half of the 19th century, the size of all Yokuts populations dwindled dramatically, due to the spread of European settlements and the diseases the Europeans brought with them.

Mexican Period. With the declaration of Mexican independence in 1821, Spanish control of Alta California ended, although little change actually occurred. Political change did not take place until mission secularization in 1834, when Native Americans were released from missionary control and the mission lands were granted to private individuals. Researchers hypothesize that mission secularization removed the social protection and support on which Native Americans had come to rely. It exposed them to further exploitation by outside interests, often forcing them into a marginal existence as laborers for large ranchos. Following mission secularization, the Mexican population grew as the native population continued to decline. Anglo-American settlers began to arrive in Alta California during this period and often married into Mexican families, becoming Mexican citizens,

[16] Bancroft, Hubert Howe. 1884-1890. *History of California*, 7 vols. The History Company, San Francisco, California.

which made them eligible to receive land grants. In 1846, on the eve of the Mexican-American War (1846 to 1848), the estimated population of Alta California was 8,000 non-natives and 10,000 natives. However, these estimates have been debated.[17] It is estimated that the Native American population was 100,000 in 1850; the U.S. Census of 1880 reports the Native American population as 20,385.

American Expansion. In 1848, California became a United States territory as a result of the Treaty of Guadalupe Hidalgo. Also in 1848, John Marshall found gold at Sutter's Mill, which marked the start of the Gold Rush. The influx of miners and entrepreneurs increased the non-native population of California from 14,000 to 224,000 in just four years. In 1854, gold was discovered in the upper reaches of the Kern River, which brought a tremendous influx of miners into eastern Kern County. This, in turn, stimulated commercial growth in the central and lower San Joaquin Valley as eager entrepreneurs set up business to support the miners and mining operations. Gold and silver were mined along the San Joaquin but the deposits were not large. When the Gold Rush was over, many of the miners settled in the Central Valley communities and established farms, ranches, and lumber mills.

Local History. Mining opportunities allowed the development of very small communities along rivers and streams in the foothills and mountains east and northeast of the city. In 1856, Fresno County was created and the first county seat was located in the foothill community of Millerton. In 1867, the San Joaquin River flooded Millerton and several other small towns along its banks, causing locals to look for a safer place to build a trade center that could serve the whole of the foothills. Named for the Spanish word for "ash tree," Fresno has its roots in the form of a large farm established in 1867 by A.Y. Easterby in an area of what is now central downtown. Moses Church, his partner, began building a water delivery system for this farm and others and began diverting water from the Kings River into the region via a series of ditches. By 1871, Easterby's 5,000-acre ranch featured plots of wheat irrigated by these river-fed "Church ditches." When Central Pacific Railroad Company officials, including Leland J. Stanford, saw the Easterby farm in 1871, legend has it that Stanford declared the area the site of a stop for the new Central California Railroad (Southern Pacific) line. This line was later referred to as the Southern Pacific line, as the Central Pacific Railroad Company became the Southern Pacific Railroad Company in 1884.

Because the railroad followed a northwest-southeast track, the first town site of Fresno Station was built on the Easterby farm paralleling the tracks in 1872, with the upslope portions (east) preferred for development. After locals realized Fresno Station would become the trading center for the area, development spread beyond the original Easterby plat, and began to be oriented toward roadways put in along Section lines in cardinal directions. The need for water to irrigate the arid San Joaquin Valley became a priority for the economic development of Central Valley towns such as Fresno. Agriculture's dominance over ranching was exhibited in 1873 when the California State Legislature passed the "No Fence Law." Under this law, farmers were no longer obligated to put up fences to keep roaming livestock out of their crops; furthermore, any crop destruction became the responsibility of the rancher who owned the offending livestock. Irrigation companies, colonies, and districts were formed in the vicinity of various small towns including Fresno to promote agriculture.

[17] Cook, S.F. 1976. *The Population of the California Indians 1769-1970*. University of California Press. Berkeley, California.

In 1875 the Central California Colony was established south of Fresno, which set the model for a system of development that was used throughout the San Joaquin Valley. Tracts of land were subdivided into 20-40 acre parcels, irrigated from a system of canals and often landscaped with boulevards of palms, eucalyptus or other drought-resistant trees. By 1903, there were 48 separate colonies or tracts in Fresno County which drew farmers and their families from Scandinavia and from across the United States.

Church's Fresno Canal and Irrigation Company, a predecessor of the Fresno Irrigation District, began expanding in 1876 in response to locals moving into the area near the railroad stop; this became the first extensive irrigation system in the Central Valley. Agricultural colonies were developed and water rights for those colonies established. The expanding irrigation system led to a shift in both the types of crops grown and the size of a typical farm. Pioneers initially grew wheat and other grain crops or raised cattle. As irrigation water became more readily available, individual farmers realized that premium crops like grapes, citrus, and tree fruit could be profitably grown on lots as small as 20 acres.[18]

Fresno incorporated in 1885, with a population of over 3,000. Development was restricted to a six-block area beginning at and northeast from the Southern Pacific Railroad Depot; development was concentrated at Mariposa and H Street. Development of the infrastructure needed to support increases in agricultural and commercial industry soon followed and once diversity of industry began, immigrant populations also began to increase. Chinese, Japanese, Armenian and Volga Germans began to arrive and settle. By 1900, Fresno held 12,000 people.

Fresno County's first lumber mill was constructed in 1852, with 23 new mills following soon after. Wood flumes, some measuring more than 50 miles in length, were built by large lumber companies to transfer logs from the mills in the mountains to Fresno for rail transport. In 1921, the Sugar Pine Lumber Company (Sugar Pine) was incorporated: the goal was to harvest the vast sugar pine strands of the Sierra Nevada east of Fresno. Sugar Pine located its mill on a 574-acre tract overlooking the San Joaquin River north of Fresno. Fresno County historian Charles Clough called Pinedale "the largest [lumber mill] in the world at that time" with the capacity to cut 600,000-board feet and send out forty boxcars of lumber per day (Clough 1963, 1986).

As Fresno grew from its founding as a regional agricultural center, municipal infrastructure and amenities also increased. One of the first projects to build Fresno's infrastructure was the electric intra-urban railway. By 1905, Fresno Traction Company had laid 15.5 miles of track on Fresno streets before being purchased in 1910 by Southern Pacific Railroad. In addition, the Fresno Traction Company built an amusement park on eight acres of San Joaquin River bottomland eleven miles from downtown Fresno named Fresno Beach. They extended the tracks to the beach in 1913. The Fresno Beach route was terminated at Herndon Avenue in 1930 due to increasing automobile use. Fresno Traction Company continued to cut back all of its routes and in 1939 streetcar service in Fresno ended.

The founding and expansion of Fresno in the late 19th Century plus the extensive developments before World War I has left its mark on the setting of the city, its cultural and physical enclaves, the

[18] The Planning Center. 2010. *Fresno El Paseo Environmental Impact Report*. Prepared for the City of Fresno.

names of streets, and how the suburban areas of the city expanded and changed. Numerous project-level historical studies have taken place in the city during the last ten years (Bungalow Courts 2004; Chinatown Survey 2006; Germantown Historical Context 2006; Arts and Culture District 2006-7; Pinedale 2007; Mid-Century Modern Historic Context 2008; North Park 2008; South Stadium 2008; Wilson Island 2009; Downtown Fresno (Fulton Corridor) Historic Resources Survey 2011, amended 2014; Huntington Boulevard 2015; South Van Ness Industrial District Historic Survey 2015; Re-survey of Potential L Street Historic District 2018), and each have focused on the background history of specific areas in the city. Future historical research is likely to occur at neighborhood analytical levels because of the City's status as a NPS-SHPO Certified Local Government.

The first three decades of the 20th Century were a period of steady growth and increasing prosperity for Fresno during which the city established itself as the primary city of the San Joaquin Valley. The city's first electric streetcar was in use in 1902. By 1909, the first double-track streetcar line was installed along J Street (now Fulton Street). By the early 1920s, streetcar lines would radiate out from the central business district to the north, east, south, and west where farmland was being subdivided for suburban development. The expanding transit infrastructure, along with exponentially increasing private automobile ownership, made living further from the city center possible. Land within the central city increasingly became used for commercial and civic purposes.

By the end of the 1920s, Fresno had transformed into a thriving city at the center of the United States most productive agricultural region. The downtown was fully established as the San Joaquin Valley's primary marketplace offering office, retail, lodging, dining, and entertainment facilities. Adjacent industrial activity enabled agricultural goods to be processed and shipped to distant consumers. The central city's residential areas had largely been developed. Residential properties were increasingly redeveloped for commercial uses as the city's wide-ranging streetcar system and increased private automobile ownership allowed more of Fresno's citizens to live outside of the city center. Fresno, along with the nation, appeared increasingly prosperous. Then on November 24, 1929, the New York Stock Exchange crashed and millions of dollars in stock value vanished. The stock market crash exposed structural weaknesses in the banking and finance systems, key industries, and the economy as a whole, ushering in the Great Depression.

The Great Depression had a profound effect on the San Joaquin Valley. Farmers were forced to cut costs in the face of reduced demand for their products; many were forced into foreclosure. Along with the rest of the country, unemployment skyrocketed. The Valley's problems were exacerbated by the influx of migrant refugees or "Dust Bowl" migrants. It is believed that 2.5 million people migrated from the Midwestern Plains states between 1930 and 1940, with over 300,000 relocating to California just between 1930 and 1934. Thousands more would continue to arrive throughout the 1930s and many ended up in the Central Valley as migrant farm workers earning very low wages.

On December 7, 1941, the Japanese attacked Pearl Harbor and the United States officially entered World War II. The United States' entrance into the War effectively ended the Depression in California as all aspects of the national economy mobilized to serve the war effort. California received almost 12% of the government war contracts and produced 17% of all war supplies. California also acquired more military installations than any other state by a wide margin, and military bases were opened throughout the state. Aircraft, shipbuilding, and numerous other industries were booming due to the war effort, and unemployment was virtually eliminated.

Approximately 60,000 service members were stationed in and around Fresno during the War. Military activity was concentrated at two locations. One, the Hammer Field bomber base, was constructed in 1941 just beyond what was then the eastern boundary of the city. Today it is the site of Fresno Yosemite International Airport. The second, Camp Pinedale, was located six miles east of Downtown Fresno in the (then) unincorporated community of Pinedale on the site of the defunct Sugar Pine Lumber Company. The Army had acquired the site in March of 1942 for use as an Army Signal Training School.

Following World War II, the passage of the G.I. Bill enabled returning veterans to purchase homes and establish businesses, prompting another period of rapid expansion. The Mayfair subdivision, completed in 1947 northeast of the Project Area, included Fresno's first suburban shopping mall and ushered in an era of development at the suburban fringe. Between 1940 and 1950, the city's population grew by 30,000, with much of the growth accommodated in new auto-oriented suburbs. The Interstate Highway Act of 1956 served to spur development of suburbs, and ultimately led to the economic decline of many inner cities.

By the mid-1950s, however, the results of rapid suburbanization were becoming evident in Downtown Fresno as major retailers such as Sears & Roebuck relocated to newly developed suburban shopping centers such as Manchester Center (1955) and Fig Garden Village (1956). The downtown core was continually being bypassed as a place to locate new businesses. With Downtown unable to compete with burgeoning suburban development, construction of new buildings in Downtown Fresno came to a virtual halt.

Historic-Era Architectural Styles in Fresno. Fresno is home to a diversity of architectural styles that include Victorian, Period Revival (Colonial, Italian, Renaissance, Mission, Mediterranean, Spanish, and Tudor), Neoclassical, Craftsman Bungalow, Streamline Moderne, Beaux-Arts, Art Deco, International, Mid-Century Modern, and Ranch among others. While styles focus upon a collection of specific decorative features; types are based on form. Considered a distinctly American type, the Prairie Box—also known as the American Foursquare— was popular in Fresno in the early 20th Century.

Beginning in the early 20th century the city's downtown was completely transformed: the elegant "Victorian" style blocks and hotels were demolished or in the case of smaller buildings were eventually refaced with a "modern" storefront. What emerged was a more "rational" Classical Revival city, one influenced by the latest trends in architectural design emanating from American cities such as New York, Chicago, and San Francisco, as well as Paris, France. One of the first "high-rise" Neoclassical office buildings in Fresno was the Griffith-McKenzie Building, also known as the Helm Building, a 10-story steel frame structure constructed in 1914 and designed by the San Francisco architect George Kelham. Other buildings of note include two buildings constructed in 1912: the Hotel Fresno, which is included on the National Register, and is a 7-story Neoclassical building; and the Rowell Building, a 6-story Renaissance Revival building.

Numerous office buildings followed suit, many of them designed and constructed by the R.F. Felchlin Company. The building boom in downtown was halted in mid-1930 as the Depression began to sink in. Many of the downtown buildings that survived relatively intact are listed on Fresno's Local

Register of Historic Resources.[19] There are also 26 National Register-listed structures in the downtown core.

Although farming and ranching remain at the economic forefront, its place in central California means that Fresno is an excellent location for industrial complexes and distribution centers. In addition, its central location and less expensive housing prices offer opportunities for expansion.

4.5.3.4 SSJVIC Literature Review

Background information associated with cultural resources was derived from an extensive record search conducted at the Southern San Joaquin Valley Information Center (SSJVIC) in Bakersfield in 2012 for the General Plan. The record search review included examinations of existing reports, historic maps, and Department of Parks and Recreation (DPR) forms for the area within the City of Fresno boundaries. As of adoption of the General Plan in 2014, there were more than 50 cultural resource studies filed with the SSJVIC. Of these, there are 16 survey reports associated with block acreage. The total amount of area surveyed inside the Planning Area is approximately 358 acres of the total area within the Planning Area. As part of the literature review, the following files were reviewed at the SSJVIC:

- California Inventory of Historic Resources;
- California Historical Landmarks;
- California Points of Historical Interest;
- National Register of Historic Places;
- A Guide to Historic Architecture in Fresno (online site: www.HistoricFresno.org);
- California Register of Historical Resources;
- The Historic Property Data File for Fresno County as maintained by the Office of Historic Preservation, Sacramento (HRI)

One of the primary goals of the record search review was to identify previously recorded archaeological sites and archaeological analyses to determine, if possible, which parts of the Planning Area are sensitive for cultural resources. In addition, every effort was made to determine what areas within the Planning Area have environmental components (e.g., adjacent to water or vegetal resources), which would have the potential for unidentified archaeological deposits. Since the vast majority of the Planning Area is within an urbanized built environment, it is expected that the vast majority of listed cultural resources would be historic-era buildings. Table 4.5-1 provides a quantification of the known cultural resources within the Planning Area.

[19] City of Fresno. Planning and Development, Historic Preservation. Website: www.fresno.gov/darm/historic-preservation (accessed February 28, 2020).

In addition, all on-line documents found on the City of Fresno website related to historical resources located inside the Planning Area, many of which are not included in the SSJVIC database, were reviewed.

Table 4.5-1: SSJVIC California Historical Resources Information System (CHRIS) Records Search

Recorded Archaeological Resources	Recorded Built Environment Resources	Recorded Archaeological and Built Environment Resources
1	1,011	2

Note: This table identifies known cultural resources in the Planning Area based on an SSJVIC records search conducted for the General Plan. Additional resources, including historic-era buildings, may qualify as cultural resources.
Source: Southern San Joaquin Valley Information Center (2020).

Several historic building surveys and landscape surveys are known to have been prepared within the Planning Area but have not been filed with the SSJVIC, and include the following:

- Fulton Corridor Historic Resources Survey, prepared by Historic Resources Group in 2011
- Bungalow Court, prepared by the City of Fresno in 2004
- Germantown Historical Context, prepared by Architectural Resources Group in 2006
- Pinedale Historic Resource Survey, prepared by Planning Resource Associates in 2007
- Mid-century Modernism Historic Context, prepared by Planning Resource Associates in 2008
- North Park Survey: Historic Context & Survey Report, prepared by Galvin Preservation Associates in 2008
- South Stadium Project Area Historic Properties Survey Report, prepared by Page & Turnbull in 2008
- Wilson Island Historic Property Survey Report, prepared by the City of Fresno in 2009
- Fig Garden Historical Context, prepared by the City of Fresno in 2013
- South Van Ness Industrial District Historic Survey, prepared by the City of Fresno in 2015

Data from the Archaeological Resources Assessment Report for the Fulton Corridor Specific Plan and Downtown Neighborhoods Community Plan Project Survey,[20] which was focused within the Downtown area, uses an unconventional but not unprecedented technical analysis to show it was possible that the potential for buried cultural resources in any area of the Planning Area could be

[20] Greenwood and Associates (Slawson and Kay). 2012. *Archaeological Resources Assessment Report Fresno Fulton Corridor Specific Plan and Downtown Neighborhoods Community Plan Project*.

demonstrated through scientific means. Surveys of certain selected vacant parcels confirmed that there was moderate to high potential for impacts to buried historic archaeological deposits during future construction in those parcels, and that enough historic residues could be observed during the survey to warrant the preparation of DPR523 form sets for inclusion into the SSJVIC. For the first time within the Planning Area, this report demonstrated that a Moderate potential and High potential for buried archaeological resources exists within the Planning Area.

Over 300 individual properties were evaluated for their historical significance in the Downtown Area using a reconnaissance survey and intensive survey format. The historical importance of any one structure used the concepts of integrity and significance following the Historic Preservation Ordinance of the City of Fresno, National Register and California Register criteria. Based on the historical evaluation of the properties, there were 63 properties that potentially meet the criteria for designation as individual Historic Resources eligible for listing on the City of Fresno Local Register of Historic Resources. Seven of the 63 properties had previously been designated to the Local Register of Historic Resources by the City. Of the 56 properties that have not been designated by the City to the Local Register of Historic Resources, 14 appear to be eligible for listing in the National Register. In addition, 50 of the 56 properties appear to be eligible for listing in the California Register. The Fulton Corridor Historic Resources Survey also identified a potential Local Historic District, referenced as the “Civic Center Historic District,” with 14 contributing buildings and one non-contributing building. The "Civic Center Historic District" has not been designated by the City as a Local Historic District. However, seven of the 14 contributing buildings have been previously designated individually to the Local Register of Historic Resources by the City.

4.5.3.5 Known Prehistoric Resources

Review of documents at the SSJVIC and from on-line sources show that no previous prehistoric site or artifact has been recorded within the Planning Area, which covers approximately 106,027 acres. Since prehistoric deposits are typically detected by surveying archaeologists during the planning stages of a project, the lack of recorded deposits is not surprising. Additional reviews of various historic newspaper archive websites shows that no references to a Native American discovery within the city limits has been noted in an archived newspaper, such as the Fresno Bee. This is somewhat unusual for a California city, but not unique. Review of studies prepared for development projects located within the city show that little information is provided regarding the possibility that prehistoric resources might be uncovered during construction-related earthmoving.

As shown above in the historical and geological setting of the city, except near the San Joaquin River, most parts of the City are clearly not conducive to deposition or preservation of surface prehistoric resources at the modern ground surface. Slawson and Kay identified that the City is located in areas that might have had good potential for archaeological deposits, and that such deposits may have been damaged by development and farming practices. Citywide, an accurate assessment of resource sensitivity for prehistoric resources cannot be established at the present time. Based on existing data, the sensitivity for prehistoric cultural resources to be uncovered within the Planning Area is not certain because there has been a limited amount (approximately 0.3 percent) of land in the Planning Area surveyed. Upstream and downstream of the Planning Area, the banks of the San Joaquin River are known to contain prehistoric archaeological sites. This is because the river channel has carved a 50-70 foot deep cut into the surrounding alluvium since the end of

the Pleistocene, and the banks of permanent rivers in the Central Valley of California have a much greater chance to contain buried or otherwise undiscovered prehistoric resources compared to areas subject to regular flooding.

The portion of the Planning Area that extends from the south bank of the San Joaquin River to approximately one-mile south of the River is identified as having a high sensitivity for buried prehistoric resources. Because most lands in the remainder of the Planning Area have been built upon or disturbed by farming, it is difficult to predict when prehistoric resources will be uncovered as a result of new development. Researchers have shown that when reliable water is available, prehistoric people may have lived nearby and exploited local resources. They could have built permanent villages. Based on the geological study provided in Appendix F, it may be possible to detect certain types of Pleistocene and Holocene ground surfaces once the disturbed horizons have been removed by earthmoving equipment during development activities. Finally, the Native American Heritage Commission characterized the city of Fresno as being “very sensitive” for potential impacts to Native American sacred sites and prehistoric deposits.

4.5.3.6 Known Historical Resources

The city of Fresno has experienced extensive growth since the 1800s when the railroad arrived and the broad plain between the Kings and San Joaquin Rivers was hand-cleared of brush and native grasses. As agricultural commerce strengthened, most of the downtown area was transformed from little farms and railroad-supply businesses, to a burgeoning agricultural center, then to the development of Victorian style blocks with grand hotels, to more modern styles evidenced in many Classical Revival buildings.

The City of Fresno retains many of its historically significant buildings and structures through listings on various registers; local and national. Within the Planning Area there are 33 historical resources listed on the National Register of Historic Places,[21] and 276 existing structures[22] that are designated by the City on the Local Register of Historic Resources. Additionally, there are 29 Heritage Properties, which are not Historic Resources for the purposes of the City's Historic Preservation Ordinance but could potentially be treated as historical resources for the purposes of CEQA at the City's discretion.[23] The City identifies four historic districts: the Porter Tract (near Fresno City College), the Wilson Island (located within the Tower District), Huntington Boulevard (near Roosevelt High School), and the Chandler Airfield/Fresno Municipal Airport.[24]

Unlike the analysis of prehistoric resources, a process for establishing the significance of individual buildings and historic districts was mandated by the City in 1979 in the form of a Historic Preservation Ordinance, which was updated in 1999. The Ordinance has resulted in the

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21 National Register, October 18, 2019.

22 City of Fresno. Planning and Development, Historic Preservation. Website: www.fresno.gov/darm/historic-preservation/#tab-04 (accessed February 28, 2020).

23 Historic Fresno. 2019. A Guide to Historic Architecture in Fresno, California. Website: www.historicfresno.org/heritage/index.htm (accessed February 28, 2020).

24 City of Fresno. Planning and Development, Historic Preservation. Website: www.fresno.gov/darm/historic-preservation/#tab-04 (accessed February 28, 2020).

identification of over 2,000 older structures within the city limits, and as the city ages more historic era properties are added to the databases each year.

4.5.3.7 Native American Consultation

LSA consulted with the Native American Heritage Commission (NAHC) in October 2019. A letter to the NAHC was sent by City staff requesting a sacred lands search. The NAHC identified that there were no known sacred lands that were located within the Planning Area; however, the NAHC provided a list of 11 Native American tribes to consult. The City sent letters to each of the tribes in September 2019. Appendix E includes the Native American consultation information. No Native American resources were identified during the City's consultation with the tribes.

4.5.4 Regulatory Setting

State and local laws, regulations, plans, or guidelines that are potentially applicable to the Planning Area are summarized below. The Federal Section 106 compliance process is commonly discussed within EIRs but the process holds no regulatory requirement within the city unless cultural resources listed on the National Register are adversely affected by a City-approved project. Therefore, a review of the Federal process is necessary here only to provide background. Cultural resource law and regulations associated with the CEQA process are based upon, but are statutorily distinct from, the Section 106 process.

4.5.4.1 Federal

National Historic Preservation Act. The National Historic Preservation Act of 1966 (NHPA) is the most concise and effective federal law dealing with historic preservation. Federal preservation law does not apply to the purpose of this analysis but a short review of the legislation is needed because the State and Local requirements have been derived from this legislation. The NHPA established guidelines to "preserve important historic, cultural, and natural aspects of our cultural heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes regulations specifically for federal land-holding agencies, but also includes regulations (known as Section 106) which pertain to all projects that are funded, permitted, or approved by any federal agency and which have the potential to affect cultural resources. In addition, the NHPA authorizes the Secretary of the Interior to establish a National Register of Historic Places (The National Register). The Register is an inventory of districts, sites, buildings, structures and objects significant at a national, State, or local level in American history, architecture, archaeology, engineering, and culture. The National Register is wholly maintained by the National Park Service, the Advisory Council on Historic Preservation, and the State Office of Historic Preservation (SHPO) and grants-in-aid programs.

According to the National Park Service (NPS) and the State Historic Preservation Office (SHPO), the City is a Certified Local Government (CLG). The CLG program is a preservation partnership between local, state and national governments focused on promoting historic preservation at the grass roots level. The program is jointly administered by NPS and SHPO, with each local community working through a certification process to become recognized as a CLG. CLG's become an active partner in the Federal Historic Preservation Program and the opportunities (and funding) it provides.

4.5.4.2 State

California Register of Historical Resources. The California Register of Historical Resources (California Register or CRHR) is an inventory of significant architectural, archaeological, and historical resources in the State of California. Important cultural resources can be listed in the California Register through a number of methods, and listing requires approval from the State Historical Resources Commission. Properties can be nominated to the California Register by local governments, private organizations, or citizens. State Historical Landmarks and National Register-listed properties gain automatic listing in the California Register. The evaluative criteria used by the California Register for determining eligibility are closely based on those developed by the National Park Service for the National Register of Historic Places. In order for a cultural resource to be significant, or in other words eligible, for listing in the California Register, it must reflect one or more of the following criteria (PRC 5024.1c):

- Criterion 1 (Events): Resources that are associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

- Criterion 2 (Persons): Resources that are associated with the lives of persons important to local, California, or national history.

- Criterion 3 (Architecture): Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.

- Criterion 4 (Information Potential): Resources or sites that have yielded or have the potential to yield information important to the prehistory or history of the local area, California, or the nation.

California Environmental Quality Act. CEQA requires that public agencies assess the effects on historical resources of public or private projects that the agencies finance or approve. Historical resources are defined as buildings, sites, structures, objects, areas, places, records, or manuscripts that the lead agency determines to have historical significance, including architectural, archaeological, cultural, or scientific significance. CEQA requires that if a project results in an effect that may cause a substantial adverse change in the significance of a historical resource, alternative plans or mitigation measures must be considered.

However, only significant historical resources need to be addressed. Therefore, before the assessment of effects or development of mitigation measures, the significance of cultural resources must be determined. The steps that are normally taken in a cultural resources investigation for CEQA compliance are as follows:

1. Identify potential historical resources.
2. Evaluate the eligibility of historical resources.
3. Evaluate the effects of the project on all eligible historical resources.

In addition, properties that are listed in or eligible for listing in the NRHP are considered eligible for listing in the CRHR and thus are significant historical resources for the purposes of CEQA (PRC Section 5024.1[d][1]).

According to CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource may have a significant impact on the environment (State CEQA Guidelines 15064.5[b]). CEQA also states that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of an historical resource or its immediate surroundings such that the significance of the resource would be materially impaired. Actions that would materially impair the significance of a historical resource are any actions that would demolish or materially and adversely alter the physical characteristics of a historical resource that convey its historical significance and qualify or justify its eligibility for inclusion in the CRHR or in a local register or survey that meet the requirements of PRC Sections 5020.1(k) and 5024.1(g).

Significant Historical Resources under CEQA Guidelines. In completing an analysis of a project under CEQA, it must first be determined if the project site possesses a historical resource. A site may qualify as a historical resource if it falls within at least one of four categories listed in CEQA Guidelines Section 15064.5(a). The four categories are:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code Section 5024.1, Title 14 CCR, Section 4850 et seq.).

2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1 (g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852).

These conditions are related to the eligibility criteria for inclusion in the CRHR (PRC Sections 5020.1[k], 5024.1, 5024.1[g]). A cultural resource may be eligible for inclusion in the CRHR if it:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Pub. Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Pub. Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Pub. Resources Code sections 5020.1(j) or 5024.1.

A lead agency must consider a resource that has been listed in, or determined to be eligible for listing in the California Register (Category 1) as an historical resource for CEQA purposes. In general, a resource that meets any of the other three criteria listed in CEQA Guidelines Section 15064.5(a) is also considered to be a historical resource unless "the preponderance of evidence demonstrates" that the resource is not historically or culturally significant."

State Health and Safety Code. The discovery of human remains is regulated according to California Health and Safety Code Section 7050.5, which states, "If human remains are encountered, no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified to the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify Most Likely Descendant (MLD). With the permission of the landowner or his or her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials."

California Government Code 65352.3-5: Local Government-Tribal Consultation. California Government Code Sections 65092, 65351, 65352, 65352.3, and 65352.4, formally known as Senate Bill (SB) 18, regulate the consultation with California Native American tribes having traditional lands located within the jurisdiction of applicable cities and counties. The intent of the underlying legislation was to provide all California Native American tribes that are on the contact list maintained by the Native American Heritage Commission, an opportunity to consult with specific local governments for the purpose of preserving and protecting their sacred places. Such consultations apply to the preparation, adoption and amendment of general plans.

Senate Bill 18. Senate Bill (SB) 18, signed into law in September 2004, requires local (city and county) governments to consult with California Native American tribes to aid in the protection of traditional tribal cultural places through local land use planning. The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting or mitigating impacts to cultural places. The consultation and notice requirements apply to adoption and amendment of both general plans

(Government Code Section 65300 et seq.) and specific plans (Government Code Section 65450 et seq.). Specifically, Government Code Section 65352.3 requires local governments, prior to making a decision to adopt or amend a general plan, to consult with California Native American tribes identified by the NAHC for the purpose of protecting or mitigating impacts to cultural places. As previously discussed, the NAHC is the State agency responsible for the protection of Native American burial and sacred sites.

Assembly Bill 52. Assembly Bill (AB) 52, the Native American Historic Resource Protection Act, sets forth a proactive approach intended to reduce the potential for delay and conflicts between Native American and development interests. Projects subject to AB 52 are those that file a notice of preparation for an EIR or notice of intent to adopt a negative or mitigated negative declaration on or after July 1, 2015. AB 52 adds tribal cultural resources (TCR) to the specific cultural resources protected under CEQA. Under AB 52, a TCR is defined as a site, feature, place, cultural landscape (must be geographically defined in terms of size and scope), sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register, or included in a local register of historical resources. A Native American Tribe or the lead agency, supported by substantial evidence, may choose at its discretion to treat a resource as a TCR. AB 52 also mandates lead agencies to consult with tribes, if requested by the tribe, and sets the principles for conducting and concluding consultation.

4.5.4.3 City of Fresno

General Plan. Historic and Cultural Resources Element

Objective HCR-1: Maintain a comprehensive, citywide preservation program to identify, protect and assist in the preservation of Fresno's historic and cultural resources.

Policy HCR-1-c: Historic Preservation Ordinance. Maintain the provisions of the City's Historic Preservation Ordinance, as may be amended, and enforce the provisions as appropriate.

Objective HCR-2: Identify and preserve Fresno's historic and cultural resources that reflect important cultural, social, economic, and architectural features so that residents will have a foundation upon which to measure and direct physical change.

Policy HCR-2-a: Identification and Designation of Historic Properties. Work to identify and evaluate potential historic resources and districts and prepare nomination forms for Fresno's Local Register of Historic Resources and California and National registries, as appropriate.

Commentary: Historic resources include buildings, structures, objects, and sites, as well as cultural and historic landscapes and traditional cultural properties (as defined by State and federal law). Examples of the latter categories include farm complexes, canal systems, signage, gardens, landscaped boulevards, and infrastructure, such as lighting and street furniture. As appropriate, nominations may be forwarded to the State Historic Resources Commission for consideration for the California Register of Historical

Resources and/or the National Register of Historic Places. The Historic Preservation Commission is anticipated to play a key role in this process, including the evaluation of historic resources and districts.

Policy HCR-2-b: Historic Surveys. Prepare historic surveys according to California Office of Historic Preservation protocols and City priorities as funding is available.

Commentary: Early actions would be to survey historic resources located within the Bus Rapid Transit corridors slated for development and intensification and within the South Industrial District just south of Downtown. The results of these surveys would be posted on the City's website for use by the public and others interested in the City's historic resources.

Policy HCR-2-c: Project Development. Prior to project approval, continue to require a project site and its Area of Potential Effects (APE), without benefit of a prior historic survey, to be evaluated and reviewed for the potential for historic and/or cultural resources by a professional who meets the Secretary of Interior's Qualifications. Survey costs shall be the responsibility of the project developer. Council may, but is not required, to adopt an ordinance to implement this policy.

Policy HCR-2-d: Native American Sites. Work with local Native American tribes to protect recorded and unrecorded cultural and sacred sites, as required by State law, and educate developers and the community-at-large about the connections between Native American history and the environmental features that characterize the local landscape.

Commentary: Development on archaeologically sensitive sites requires on-site monitoring by appropriate Native American consultant(s) and a qualified archaeologist for all grading, excavation, and site preparation activities that involve earth-moving operations.

Policy HCR-2-f: Archaeological Resources. Consider State Office of Historic Preservation guidelines when establishing CEQA mitigation measures for archaeological resources.

Policy HCR-2-g: Demolition Review. Review all demolition permits to determine if the resource scheduled for demolition is potentially eligible for listing on the Local Register of Historic Resources. Consistent with the Historic Preservation Ordinance, refer potentially eligible resources to the Historic Preservation Commission and as appropriate to the City Council.

Policy HCR-2-i: Preservation Mitigation Fund. Consider creating a preservation mitigation fund to help support efforts to preserve and maintain historic and cultural resources.

Commentary: Preservation mitigation funds are intended to be used for the restoration of historic properties or cultural heritage programming, and may be generated through a plan or program or other qualifying mechanism to allow for payment of fees to reduce impacts from loss of historic resources.

Policy HCR-2-k: City-owned Resources. Maintain all City-owned historic and cultural resources in a manner that is consistent with the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties, as appropriate.

Policy HCR-2-l: City Historic Preservation Team. Establish an inter-departmental Historic Preservation team to coordinate on matters of importance to history and preservation.

Policy HCR-2-m: Local Register Listing. Recommend that property owners, who receive funds from the City of Fresno for rehabilitation of a property, consent to listing it on the Local Register of Historic Resources if the property meets the criteria for age, significance, and integrity. Publicly funded rehabilitation properties which may meet Local Register criteria will be presented to the City's Historic Preservation Commission for review.

Policy HCR-2-n: Property Database and Informational System. Identify all historic resources within the city designated on the Local, State, or National register, and potential significant resources (building, structure, object or site) in existence for at least 45 years, and provide this information on the City's website.

Commentary: This information will help notify City staff, applicants and the public regarding historic resources and potential historic resources, allowing it to be incorporated into development and other projects at an early stage. Due to the passage of time and the increasing number of sites involved, it is anticipated a significant number of additional potential historic resources may be continually added to the website, and the City will strive to keep the website up to date. Inclusion of potential historic resources on the website does not make them historic resources until formally designated as required by law, and the fact that a potential historic resource is listed or not identified on the website does not preclude the City from subsequently determining it may or may not be a historical resource for the purposes of CEQA.

Objective HCR-3: Promote a "New City Beautiful" ethos by linking historic preservation, public art, and planning principles for Complete Neighborhoods with green building and technology.

Policy HCR-3-c: Context Sensitive Design. Work with architects, developers, business owners, local residents and the historic preservation community to ensure that infill development is context-sensitive in its design, massing, setbacks, color, and architectural detailing.

Objective HCR-4: Foster an appreciation of Fresno's history and cultural resources.

Policy HCR-4-c: Training and Consultation. Provide training, consultation, and support in collaboration with Historic Preservation Commissioners to community members regarding Fresno's history, use of the U.S. Secretary of the Interior's Standards, and the California Historical Building Code, as time and resources allow.

> **Policy HCR-4-f: Context Sensitive Design.** Work with architects, developers, business owners, local residents and the historic preservation community to ensure that infill development is context-sensitive in its design, massing, setbacks, color, and architectural detailing.

Municipal Code

Historic Preservation Ordinance. The City of Fresno has established a Historic Preservation Commission and a Local Register of Historic Resources (Fresno Municipal Code, Chapter 12, Article 16). The Ordinance is used to provide local levels of control over the historical aesthetics of cultural resources within the city, and to ensure that the potential impact to locally significant historical resources that may be the subject of redevelopment are given reasonable consideration. The purpose of the Ordinance is to:

> […] continue to preserve, promote and improve the historic resources and districts of the City of Fresno for educational, cultural, economic and general welfare of the public; to continue to protect and review changes to these resources and districts which have a distinctive character or a special historic, architectural, aesthetic or cultural value to this city, state and nation; to continue to safeguard the heritage of this city by preserving and regulating its historic buildings, structures, objects, sites and districts which reflect elements of the city's historic, cultural, social, economic, political and architectural history; to continue to preserve and enhance the environmental quality and safety of these landmarks and districts; to continue to establish, stabilize and improve property values and to foster economic development. (Article 16 Section 12-1602(a).)

The Ordinance provides legislative mechanisms to protect certain historical resources. Local registers of identified historical resources are known, including:

1. **Heritage Properties.** These are defined as a resource which is worthy of preservation because of its historical, architectural or aesthetic merit but which is not proposed for and is not designated as an Historic Resource under the ordinance.

2. **Historic Resources.** These are defined as any building, structure, object or site that has been in existence more than fifty years and possesses integrity of location, design, setting, materials, workmanship, feeling and association, and is associated with events that have made a significant contribution to the broad patterns of city history, or is associated with the lives of persons significant in our past, or embodies the distinctive characteristics of a type, period or method of construction, or represents the work of a master or possesses high artistic values; or has yielded, or may be likely to yield, important information in prehistory or history; and has been designated as such by the Council pursuant to the provisions of the Ordinance.

3. **Local Historic Districts.** These are defined as any finite group of resources related to one another in a clearly distinguishable way or any geographically definable area which possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development. The Local Historic District must be

significant as well as identifiable and it must meet Local Register Criteria for listing on that Register. Contributors to Historic Districts are defined as any Historic Resource that contributes to the significance of the specific Local Historic District or a proposed National Register Historic District under the criteria set forth in the Ordinance.

4. **National Register Historic Districts**, which shall mean any finite group of resources related to one another in a clearly distinguishable way or any geographically definable area which possesses a significant concentration, linkage or continuity of sites, buildings, structures or objects united historically or aesthetically by plan or physical development. A National Register Historic District must be significant as well as identifiable and it must meet National Register Criteria for listing on that Register. Contributors to a National Register Historic District are defined as any individual Historic Resource which contributes to the significance of a National Register Historic District under the criteria set forth in the Ordinance.

Certified Local Government. The Certified Local Government (CLG) Program is administered by the State Historic Preservation Office (OHP). When a Lead Agency becomes a CLG it agrees to carry out the intent of and serve as a local steward of the National Historic Preservation Act and the Secretary of the Interior's Standards. In meeting those standards, OHP serves as an advisor. The use of the National Register/California Register criteria and the Secretary of the Interior Standards integrates local, state, and federal levels of review. It brings clarity to the question of what resources are significant when it comes to CEQA and Section 106 of the National Historic Preservation Act. Adopting the Secretary of the Interior's Standards will allow the use of categorical exemptions under CEQA, and likely result of findings of no adverse effect under Section 106. The use of these criteria and standards make environmental review faster, more efficient, and reduces costs and delays. The City has been certified as a CLG since September 1996.

4.5.5 Significance Criteria

Continued implementation of the approved General Plan would result in a significant impact related to cultural resources if it would:

CUL-1 Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;

CUL-2 Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;

CUL-3 Disturb any human remains, including those interred outside of formal cemeteries;

CUL-4 Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k);

Cause a substantial adverse change in the significance of a tribal cultural resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision© of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision© of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

4.5.6 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to cultural resources that could result from continued implementation of the approved General Plan. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with continued implementation of the approved General Plan and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less-than-significant level. Cumulative impacts are also addressed.

4.5.6.1 Project Impacts

The following discussion describes the potential impacts related to cultural resources that could result from continued implementation of the approved General Plan.

CUL-1 The project would cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.

Known historical resources are located primarily in Downtown Fresno because this is the area where development of the city began in the mid-1800s. These known resources meet the definition of historical resource under CEQA Section 15064.5(a). As discussed previously, there are 29 historical resources listed on the National Register of Historic Places, 31 historical resources listed on the California Register of Historic Resources, four State Historic Landmarks, and 240 existing structures that are on the Local Register of Historic Places. There are also 13 Heritage Properties, which are not Historic Resources for the purposes of the City's Historic Preservation Ordinance but could potentially be treated as historical resources for the purposes of CEQA at the City's discretion. In addition to the individual resources, there are three designated Local Historic Districts within the Planning Area. As additional surveys for potential historical resources are prepared, such as the surveys that were prepared for the Fulton Corridor Specific Plan in Downtown Fresno, additional resources may be added to the various lists. Many areas of Downtown, as well as other locations within the Planning Area, have not been surveyed. As a result, only a portion of the resources in the Planning Area are known.

As land uses are built out in accordance with the approved General Plan, the growth that would occur within the Planning Area would include infill development and buildout of rural, agricultural, and undeveloped areas. As the density and intensity increases in the existing urban areas, there is a possibility that the new development could result in demolition or substantial alterations of historical or potentially historical buildings and structures. In addition to land use development, infrastructure and other public works improvements could result in demolition or substantial alterations of historical resources.

To reduce the potential impacts on historical resources, there are federal, State, and local regulations. These regulations are discussed above in Section 4.5.4. The City of Fresno Historic Preservation Ordinance provides a process to preserve, promote, and improve the Historic Resources and Historic Districts within its jurisdiction. In addition to the Historic Preservation Ordinance, the approved General Plan includes the following objective HCR-1 and Policy HCR-1-c, Objective HCR-2 and Policies HCR-2-a through HCR-2-d, HCR-2-f, HCR-2-g, Objective HCR-3, and Policy HCR-3-c to preserve historic resources.

The City's Historic Preservation Ordinance and the above objectives and policies are aimed at preserving publicly and privately owned historic resources. These existing and proposed regulations provide the maintenance of the City's historic preservation program, the identification of resources, the evaluation of resources by qualified professionals, and the treatment of resources in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. The implementation of the Historic Preservation Ordinance and the above objectives and policies would reduce the potential impacts on historical resources by requiring site-specific evaluation. However, in some instances, historical resources may need to be demolished due to health and safety reasons. In addition, modifications to historical resources may be proposed and as discussed in the Historic Preservation Ordinance, the Secretary of the Interior's Standards for the Treatment of Historic Properties would need to be implemented. However, after the procedures identified in the Historic Preservation Ordinance are followed and all feasible mitigation measures are imposed, potential significant impacts to an historic resource could remain. Since the Historic Preservation Ordinance or the objectives or policies identified above do not prevent the City from approving a project posing a significant impact to an historical resource, the potential impact is considered significant.

In addition to known historical resources, development in accordance with the approved General Plan could result in potential impacts to unknown resources that are located below the ground surface. Therefore, during grading and construction activities associated with future developments in accordance with the approved General Plan, potential impacts to historic deposits could be significant.

Applicable Laws, Regulations, Relevant Land Use Policies

- Historic Preservation Ordinance
- General Plan HCR-1 and Policy HCR-1-c, Objective HCR-2 and Policies HCR-2-a through HCR-2-d, HCR-2-f, HCR-2-g, Objective HCR-3, and Policy HCR-3-c

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact CUL-1: The project could cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines.

Mitigation Measure CUL-1.1 If previously unknown resources are encountered before or during grading activities, construction shall stop in the immediate vicinity of the find and a qualified historical resources specialist shall be consulted to determine whether the resource requires further study. The qualified historical resources specialist 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 in accordance with Section 15064.5 of the CEQA Guidelines and the City's Historic Preservation Ordinance.

If the resources are determined to be unique historical resources as defined under Section 15064.5 of the CEQA Guidelines, measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate 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 historical artifacts 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.

Mitigation Measure CUL-1.2 Prior to approval of any discretionary project that could result in an adverse change to a potential historic and/or cultural resource, the City shall require a site-specific evaluation of historic and/or cultural resources by a professional who meets the Secretary of Interior's Qualifications. The evaluation shall provide recommendations to mitigate potential impacts to historic and/or cultural resources and shall be approved by the Directory of Planning and Development.

Level of Significance with Mitigation: Less Than Significant Impact.

CUL-2 The project could result in a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

Prehistoric archaeological resources are those cultural resources deposited before Europeans established a Franciscan Mission in California (1769). These resources include any deposits, features or isolated artifacts. Historical archaeological resources are discussed in Impact CUL-1 above. Under PRC 21083.2(h), prehistoric archaeological resources can be divided into two classes, unique and non-unique. Unique resources must be treated as if they are significant and avoidance of those resources is the first choice, while non-unique resources do not meet criteria in 21083.2(g) and therefore need not be avoided under CEQA Guidelines. Based on the data sources reviewed for the Planning Area and identified above in Section 4.5.3, there have been no prehistoric archaeological

resources found within the Planning Area. Since the banks of the San Joaquin River have yielded prehistoric archaeological resources upstream and downstream of the Planning Area, grading and construction activities within previously undisturbed soils within the vicinity of the San Joaquin River could result in significant impact to unknown resources. In addition, given the limited area within the Planning Area that has been surveyed by a professional archaeologist, the prehistoric archaeological sensitivity of the majority of the Planning Area is uncertain. Due to the nominal amount of prehistoric archaeological information within the majority of the Planning Area, the potential to impact prehistoric archaeological resources during grading and construction activities within previously undisturbed soils is considered significant.

Applicable Laws, Regulations, Relevant Land Use Policies

- Objective HCR-1, Policy HCR-1-c, Objective HCR-2, Policy HCR-2-b, Policy HCR-2-c, and HCR-2-d
- Historic Preservation Ordinance

Level of Significance without Mitigation: Potentially Significant Impact.

Impact CUL-2: The project could cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5 of the CEQA Guidelines.

Mitigation Measure CUL-2

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 prehistoric archaeological resources shall be conducted. The following procedures shall be followed.

If prehistoric resources are not found during either the field survey or literature search, excavation and/or construction activities can commence. In the event that buried prehistoric archaeological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archaeologist 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 in accordance with Section 15064.5 of the CEQA Guidelines. If the resources are determined to be unique prehistoric archaeological resources as defined under Section 15064.5 of the CEQA Guidelines, mitigation measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate 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 prehistoric archaeological artifacts 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 prehistoric resources are found during the field survey or literature review, the resources shall be inventoried using appropriate State record forms and submit the forms to the Southern San Joaquin Valley Information Center. The resources shall be evaluated for significance. If the resources are found to be significant, measures shall be identified by the qualified archaeologist. 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 an archaeological monitor. The monitoring period shall be determined by the qualified archaeologist. If additional prehistoric archaeological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.

Level of Significance With Mitigation: Less Than Significant Impact.

CUL-3 The project could disturb human remains, including those interred outside of formal cemeteries.

There is currently no evidence that the Planning Area contains prehistoric cemeteries or Native American cemeteries; however, various cemeteries are located throughout the Planning Area. The approved General Plan identifies these cemeteries as Public Facilities on the Land Use Map. Future development within the Planning Area would not impact existing cemeteries. Although there is no record of isolated human remains or unknown cemeteries, there is always a possibility that ground-disturbing activities associated with future development may uncover previously unknown buried human remains. In the event that human remains are encountered, the potential impact is considered significant.

Applicable Laws, Regulations, Relevant Land Use Policies

- California Health and Safety Code Section 7050.5
- California Government Code 65352.3-5: Local Government-Tribal Consultation

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact CUL-3: The project could disturb human remains, including those interred outside of formal cemeteries.

Mitigation Measure CUL-3 In the event that human remains are unearthed during excavation and grading activities of any future development project, all activity shall cease immediately. Pursuant to Health and Safety Code (HSC) Section 7050.5, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98(a). If the remains are determined to be of Native American descent, the coroner shall within 24 hours notify the Native American Heritage Commission (NAHC). The NAHC shall then contact the most likely descendent of the deceased Native American, who shall then serve as the consultant on how to proceed with the remains. Pursuant to PRC Section 5097.98(b), upon the discovery of Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.

Level of Significance With Mitigation: Less Than Significant Impact.

CUL-4 The project could result a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Sections, 21074, 5020.1(k), or 5024.1.

As previously described in Section 4.5.4.2, a TCR is defined as a site, feature, place, cultural landscape (must be geographically defined in terms of size and scope), sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register, or included in a local register of historical resources, or if the City of Fresno, acting as the lead agency, supported by substantial evidence, chooses at its discretion to treat the resources as a TCR.

On September 19, 2019, compliant with AB 52 and SB 18 the City provided formal notification to interested Native American tribes that may be culturally or traditionally affiliated with the project area and vicinity to conduct consultation. Two tribes were formally notified regarding AB 52 consultation, and 13 tribes were formally notified regarding SB 18 consultation. None of the 15 tribes contacted responded via letter or telephone and indicating that consultation would not be requested. No other requests for consultation were received within the 30-day period, and as a

result, AB 52 and SB 18 requirements have been fulfilled. Consultation letters are included in Appendix E of this PEIR.

As discussed under impact discussions CUL-1, CUL-2 and CUL-3, impacts from future development within the Planning Area could impact unknown archaeological resources including Native American artifacts and human remains. Impacts would be reduced to a less-than-significant level with implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3.

Therefore, compliance with existing federal, State, and local laws and regulations, and the General Plan policies (listed above), would protect unrecorded TCR's on the project site by providing for the early detection of potential conflicts between development and resource protection, and by preventing or minimizing the material impairment of the ability of archaeological deposits to convey their significance through excavation or preservation.

Applicable Laws, Regulations, Relevant Land Use Policies

- SB 18
- AB 52

Level of Significance Without Mitigation: Potentially significant impact.

Impact CUL-4: Implementation of the proposed project would have the potential to impact TCRs, the disturbance of which could result in a significant impact under CEQA.

Mitigation Measures: Refer to Mitigation Measures CUL-1, CUL-2 and CUL-3.

Level of Significance With Mitigation: Less Than Significant Impact.

4.5.6.2 Cumulative Impacts

CUL-5 The project, in combination with past, present, and reasonably foreseeable projects, could result in significant cumulative impacts with respect to cultural resources.

The proposed project would have a significant effect on the environment if it, in combination with other projects, would contribute to a significant cumulative impact related to cultural resources. The study area for the analysis of cumulative cultural resources includes the counties of Fresno and Madera, and the analysis is based on the summary of projections approach discussed in Section 15130(b)(1)(B) of the CEQA Guidelines.

Future development in areas outside the Planning Area as well as other cumulative development, such as the High Speed Rail, could result in impacts to known and unknown historical resources. These resources could be buildings in adjoining jurisdictions, such as the counties of Fresno and Madera, and the City of Clovis. Current regulations to preserve historical resources are expected to reduce potential impacts to known resources. Cities or counties could implement all feasible measures to reduce impacts to known historical resources; however, the impacts may remain significant. In addition, construction activities could result in potential significant impacts to

unknown buried historical resources. Development within the Planning Area as well as outside the Planning Area could result in significant impacts to historical resources. Since continued implementation of the approved General Plan could result in significant impacts to historical resources, the project's contribution to cumulative impacts would be cumulatively considerable and therefore cumulatively significant.

Due to the nominal amount of prehistoric archaeological information in the vicinity of the Planning Area, future development in areas outside the Planning Area as well as other cumulative development, such as the High Speed Rail, could result in impacts to unknown prehistoric archaeological resources during excavation and/or construction activities. These potential impacts from cumulative development could be significant. Since future development within the Planning Area could result in significant impacts to unknown prehistoric archaeological resources, the project's contribution to cumulative impacts would be cumulatively considerable and therefore cumulatively significant.

Although no known prehistoric or Native American human remains have been identified within or in the vicinity of the Planning Area, there is a possibility that ground-disturbing activities associated with cumulative development may uncover previously unknown buried human remains. The uncovering of human remains is considered a significant impact. Since there is a possibility for the project to uncover previously unknown buried human remains, the project's contribution to cumulative impacts on human remains would be cumulatively considerable and therefore cumulatively significant.

Applicable Laws, Regulations, Relevant Land Use Policies

- General Plan Objectives and Policies
- Historic Preservation Ordinance
- California Health and Safety Code Section 7050.5
- California Government Code 65352.3-5: Local Government-Tribal Consultation
- SB 18
- AB 52

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact CUL-5: Continued implementation of the approved General Plan could result in cumulative impacts to cultural resources.

Mitigation Measures: Refer to Mitigation Measures CUL-1.1 and CUL-1.2, Mitigation Measure CUL-2, and Mitigation Measure CUL-3.

Level of Significance with Mitigation: Less Than Significant Impact.

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4.6 ENERGY

4.6.1 Introduction

This section discusses energy use resulting from continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan (proposed project) and evaluates whether the proposed project would result in the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with any applicable plans for renewable energy and energy efficiency.

4.6.2 CEQA Baseline

The City of Fresno (City) is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Travelled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the approved General Plan, explains that the PEIR will evaluate the continued implementation of the approved General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of SB 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the approved General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the approved General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. The approved General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the City's approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.6.3 Existing Environmental Setting

4.6.3.1 Study Area for Project Impacts

The study area for project impacts regarding energy is the City of Fresno Planning Area.

4.6.3.2 Study Area for Cumulative Impacts

The study area for the analysis of cumulative energy impacts is the Pacific Gas and Electric's (PG&E) service area that spans approximately 70,000 square miles from Eureka in the north to Bakersfield in the south and from the Pacific Ocean in the west to the Sierra Nevada in the east.

4.6.3.3 Energy Resources

Electricity. Electricity is a man-made resource. The production of electricity requires the consumption or conversion of energy resources (including water, wind, oil, gas, coal, solar, geothermal, or nuclear resources) into energy. Electricity is used for a variety of purposes (e.g., lighting, heating, cooling, and refrigeration, and for operating appliances, computers, electronics, machinery, and public transportation systems).[1]

According to the most recent data available, in 2017, California's electricity was generated primarily by natural gas (33.67 percent), coal (4.13 percent), large hydroelectric (14.72 percent), nuclear (9.08 percent), and renewable sources (29 percent). Total electric generation in California in 2017 was 292,039 gigawatt-hours (GWh), up 0.5 percent from the 2016 total generation of 290,567 GWh. In 2017, California produced approximately 70.7 percent and imported 29.3 percent of the electricity it used.[2]

The city receives its electricity from PG&E. According to the California Energy Commission (CEC), total electricity consumption in the PG&E service area in 2018 was 80,368.7 gigawatt hours (GWh) (27,700.2 GWh for the residential sector and 52,668.4 GWh for the nonresidential sector).[3] Total electricity consumption in Fresno county in 2018 was 7,651.9 GWh (2,744.3 GWh for the residential sector and 4,907.6 for the nonresidential sector).[4]

Natural Gas. Natural gas is a non-renewable fossil fuel. Fossil fuels are formed when layers of decomposing plant and animal matter are exposed to intense heat and pressure under the surface of the Earth over many years. Natural gas is a combustible mixture of hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas is found in naturally occurring reservoirs in deep underground rock formations. Natural gas is used for a variety of uses (e.g.,

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1 United States Energy Information Administration (EIA). 2019a. Electricity Explained. Website: eia.gov/energyexplained/electricity/ (accessed January 2020).

2 California Energy Commission (CEC). 2019a Notice of Request for Public Comments on the Draft Scoping Order for the 2019 Integrated Energy Policy Report. Docket No. 19-IEPR-01.

3 CEC. 2019b. Electricity Consumption by Entity. Website: ecdms.energy.ca.gov/elecbyutil.aspx (accessed January 2020).

4 CEC. 2019c. Electricity Consumption by County. Website: ecdms.energy.ca.gov/elecbycounty.aspx (accessed January 2020).

heating buildings, generating electricity, and powering appliances such as stoves, washing machines and dryers, gas fireplaces, and gas grills).[5]

Natural gas consumed in California is used for electricity generation (35 percent), residential uses (17 percent), industrial uses (33 percent), commercial uses (12 percent), and transportation uses (3 percent). California continues to depend on out-of-state imports for nearly 90 percent of its natural gas supply.[6]

PG&E is the natural gas service provider for the city of Fresno. According to the CEC, total natural gas consumption in the PG&E service area in 2018 was 4,794.4 million therms (1,832.8 million therms for the residential sector and 2,961.6 million therms for the nonresidential sector).[7] Total natural gas consumption in Fresno county in 2018 was 346.8 million therms (100.8 million therms for the residential sector and 246.0 million therms for the nonresidential sector).[8]

Fuel. Petroleum is also a non-renewable fossil fuel. Petroleum is a thick, flammable, yellow-to-black mixture of gaseous, liquid, and solid hydrocarbons that occurs naturally beneath the earth's surface. Petroleum is primarily recovered by oil drilling. It is refined into a large number of consumer products, primarily fuel oil and gasoline.

The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 miles per gallon (mpg) in 1980 to 22.0 mpg in 2015.[9] Federal fuel economy standards have changed substantially since the Energy Independence and Security Act was passed in 2007. The Act, which originally mandated a national fuel economy standard of 35 mpg by year 2020, applies to cars and light trucks of Model Years 2011 through 2020.[10] In 2012, the federal government raised the fuel economy standard to 54.5 mpg for cars and light-duty trucks by Model Year 2025.[11]

Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles. According to the most recent

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5 EIA. 2019b Natural Gas Explained-Use of Natural Gas. Website: eia.gov/energyexplained/index.php?page=natural_gas_use (accessed January 2020).

6 CEC. 2019d. Supply and Demand of Natural Gas in California. Website: energy.ca.gov/almanac/naturalgas_data/overview.html (accessed January 2020).

7 CEC. 2019e. Gas Consumption by Entity. Website: ecdms.energy.ca.gov/gasbyutil.aspx (accessed January 2020).

8 CEC. 2019f Gas Consumption by County. Website: ecdms.energy.ca.gov/gasbycounty.aspx (accessed January 2020).

9 U.S. Department of Transportation (DOT). "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." Website: bts.gov/archive/publications/national_transportation_statistics/table_04_23/ (accessed January 2020).

10 U.S. Department of Energy. "Energy Independence & Security Act of 2007." Website: afdc.energy.gov/laws/eisa (accessed January 2020).

11 The White House. Office of the Press Secretary. "Obama Administration Finalizes Historic 54.5 MPG Fuel Efficiency Standards. Website: obamawhitehouse.archives.gov/the-press-office/2012/08/28/obama-administration-finalizes-historic-545-mpg-fuel-efficiency-standard (accessed January 2020).

data available, total gasoline consumption in California was 366,820 thousand barrels (15.4 billion gallons) or 1,853.5 trillion British Thermal Units (BTU) in 2017.[12] Of the total gasoline consumption, 350,604 thousand barrels (14.7 billion gallons) or 1,771.6 trillion BTU were consumed for transportation.[13] Based on fuel consumption obtained from EMFAC2017, 162.9 million gallons of diesel and 385.6 million gallons of gasoline were consumed from vehicle trips in Fresno county in 2018.

4.6.4 Methodology

CEQA requires an analysis of energy consumption because of environmental impacts associated with its production and usage. Such impacts include the depletion of non-renewable resources (e.g., oil, natural gas, and coal) and emissions of pollutants during both the production and consumption of energy use. The analysis focuses on the four sources of energy that would be associated with the continued implementation of the approved General Plan: electricity, natural gas, and vehicle fuel. The analysis also evaluates whether the continued implementation of the approved General Plan would include or foresee the construction of new energy generating facilities within the Planning Area.

4.6.5 Regulatory Setting

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding of energy related research and development projects, and through funding for transportation infrastructure improvements. On the state level, the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) are two agencies with authority over different aspects of energy.

The CPUC regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies and serves the public interest by protecting consumers and ensuring the provision of safe, reliable utility service and infrastructure at reasonable rates, with a commitment to environmental enhancement and a healthy California economy.

The CEC is the state's primary energy policy and planning agency. The CEC forecasts future energy needs, promotes energy efficiency, supports energy research, develops renewable energy resources

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12 A British Thermal Unit (BTU) is defined as the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit.

13 EIA. 2019c. California State Profile and Energy Estimates. Table F3: Motor gasoline consumption, price, and expenditure estimates, 2017. Website: eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_mg.html&sid=CA (accessed January 2020).

and plans for/directs state response to energy emergencies. Some of the more relevant federal and state energy-related laws and plans are discussed below.

4.6.5.1 Federal Policies and Regulations

Corporate Average Fuel Economy (CAFE). Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light-duty trucks. CAFE standards are federal regulations that are set to reduce energy consumed by on-road motor vehicles. The National Highway Traffic Safety Administration (NHTSA) regulates the standards and the United States Environmental Protection Agency (EPA) measures vehicle fuel efficiency. The standards specify minimum fuel consumption efficiency standards for new automobiles sold in the United States. The law has become more stringent over time. The current standard is 27.5 miles per gallon (mpg) for passenger cars and 20.7 mpg for light-duty trucks.

On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the United States Department of Transportation's (USDOT) NHTSA announced a joint final rule establishing a national program that would reduce greenhouse gas (GHG) emissions and improve fuel economy for new cars and trucks sold in the United States. The first phase of the national program applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2012 through 2016. This phase required these vehicles to meet a fuel economy standard of 35.5 mpg. The second phase applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 through 2025. This phase required these vehicles to meet an estimated fuel economy standard of 54.5 mpg.[14]

On September 15, 2011, the EPA and USDOT issued a final rule for the first national standards to improve fuel efficiency of medium- and heavy-duty trucks and buses, model years 2014 through 2018. For combination tractors, the agencies proposed engine and vehicle standards that would achieve up to a 20 percent reduction in fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies proposed separate gasoline and diesel truck standards, which would achieve up to a 10 percent reduction for gasoline vehicles and a 15 percent reduction for diesel vehicles (12 and 17 percent, respectively, if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10 percent reduction in fuel consumption (EPA 2019a). On October 25, 2016, the EPA and USDOT issued Phase 2 of the national standards to improve fuel efficiency standards for medium- and heavy-duty trucks and buses for model years 2021 through 2027 to achieve vehicle fuel savings as high as 25 percent, depending on the vehicle category (EPA 2019a).

Safer Affordable Fuel-Efficient Vehicles Rule. On August 2, 2018, the current Administration released a notice of proposed rulemaking, *The Safer Affordable Fuel-Efficient* (SAFE) *Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks* (SAFE Vehicles Rule) to amend the CAFE and GHG emission standards established in 2012 for model years 2021 through 2026. The SAFE

[14] National Highway Traffic Safety Administration (NHTSA). 2019a. Corporate Average Fuel Economy. Website: nhtsa.gov/laws-regulations/corporate-average-fuel-economy (accessed January 2020).

Vehicles Rule would decrease fuel economy and would withdraw the California Waiver for the California Advanced Clean Car program, Zero Emissions Vehicle mandate, and GHG emission standards for model years 2021 through 2026. Final rulemaking on the SAFE Vehicles Rule is pending.[15]

4.6.5.2 State Policies and Regulations

Assembly Bill 1575, Warren-Alquist Act. In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted Assembly Bill (AB) 1575 (also known as the Warren-Alquist Act), which created the CEC. The statutory mission of the CEC is to forecast future energy needs; license power plants of 50 megawatts (MW) or larger; develop energy technologies and renewable energy resources; plan for and direct State responses to energy emergencies; and, perhaps most importantly, promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code (PRC) Section 21100(b)(3) and *State CEQA Guidelines* Section 15126.4 to require EIRs to include, where relevant, mitigation measures proposed to minimize the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F to the *State CEQA Guidelines*. Appendix F assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the *State CEQA Guidelines* also states that the goal of conserving energy implies the wise and efficient use of energy and the means of achieving this goal, including (1) decreasing overall per capita energy consumption; (2) decreasing reliance on fossil fuels such as coal, natural gas, and oil; and (3) increasing reliance on renewable energy sources.

Senate Bill 1389, Energy: Planning and Forecasting. In 2002, the State Legislature passed Senate Bill (SB) 1389, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission vehicles (ZEVs) and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

In compliance with the requirements of SB 1389, the CEC adopts an *Integrated Energy Policy Report* every 2 years and an update every other year. The most recently adopted reports include the *2017 Integrated Energy Policy Report*[16] and the *2018 Integrated Energy Policy Report Update*[17]. The *2017 Integrated Energy Policy Report* provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate,

[15] NHTSA. 2019b. The Safer Affordable Fuel-Efficient 'SAFE' Vehicles Rule. Website: nhtsa.gov/corporate-average-fuel-economy/safe (accessed January 2020).

[16] CEC. 2018a. *2017 Integrated Energy Policy Report*. California Energy Commission. Publication Number: CEC-100-2017-001-CMF. February.

[17] CEC. 2018b. *2018 Integrated Energy Policy Report Update*. California Energy Commission. Publication Number: CEC-100-2018-001-VI. February.

energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The *2017 Integrated Energy Policy Report* covers a broad range of topics, including implementation of SB 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas, updates on Southern California electricity reliability, natural gas outlook, and climate adaptation and resiliency. The *2018 Integrated Energy Policy Report Update* included a review of the implementation of California's energy policies and updated the 2017 California energy demand forecasts that were adopted as part of the *2017 Integrated Energy Policy Report* proceedings.

The CEC circulated the 2019 Integrated Energy Policy Report for public review in February 2019 and is anticipated to approve the report in February 2020.[18]

Renewable Portfolio Standards. SB 1078 established the California Renewable Portfolio Standards program in 2002. SB 1078 initially required that 20 percent of electricity retail sales be served by renewable resources by 2017; however, this standard has become more stringent over time. In 2006, SB 107 accelerated the standard by requiring that the 20 percent mandate be met by 2010. In April 2011, SB 2 required that 33 percent of electricity retail sales be served by renewable resources by 2020. In 2015, SB 350 established tiered increases to the Renewable Portfolio Standards of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. In 2018, SB 100 increased the requirement to 60 percent by 2030 and required that all State's electricity to come from carbon-free resources by 2045. SB 100 took effect on January 1, 2019.[19]

California Energy Code (California Building Energy Efficiency Standards). Energy consumption by new buildings in California is regulated by the California Energy Code which is Part 6 under Title 24 of the California Code of Regulations (CCR Title 24). The 12 parts of the CCR Title 24 are known as the California Building Standards Code (CBSC). The California Energy Commission adopted its first energy code, titled the Energy Conservation Standards for New Residential and New Nonresidential Buildings, in 1978 in response to a legislative mandate to reduce energy consumption in the State. The CBSC is updated every 3 years, and the current 2019 California Energy Code went into effect on January 1, 2020. The California Energy Code applies to both new construction and rehabilitation of residential and non-residential buildings, and regulates energy consumed for heating, cooling, ventilation, water heating, and lighting. The California Energy Code is enforced through the local building permit process. Local government agencies may adopt an enforce energy standard for new buildings, provided these standards meet or exceed those provided in CCR Title 24.

California Green Building Standards Code (CALGreen Code). In 2008, the California Building Standards Commission adopted Part 11 of CCR Title 24, titled the California Green Building

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18 CEC. 2019g. Notice of Request for Public Comments on the Draft Scoping Order for the 2019 Integrated Energy Policy Report. Docket No. 19-IEPR-01.

19 California Public Utilities Commission (CPUC). 2019. Renewables Portfolio Standard (RPS) Program. Website: cpuc.ca.gov/rps/ (accessed January 2020).

Standards Code (CALGreen Code) which became effective on August 1, 2009 as a voluntary code. The 2010 CALGreen Code was the first mandatory edition, took effect on January 1, 2011, and is now a part of the CBSC 3-year update cycle. The 2019 CALGreen Code standards became effective on January 1, 2020. The CALGreen Code establishes mandatory measures for residential and non-residential building construction and encourages sustainable construction practices in the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. Although the CALGreen Code was adopted as part of the State's efforts to reduce GHG emissions, the CALGreen Code standards have co-benefits of reducing energy consumption from residential and non-residential buildings subject to the standard.

California Energy Efficiency Strategic Plan. On September 18, 2008, the California Public Utilities Commission (CPUC) adopted California's first Long-Term Energy Efficiency Strategic Plan, presenting a roadmap for energy efficiency in California.[20] The Plan articulates a long-term vision and goals for each economic sector and identifies specific near-term, mid-term, and long-term strategies to assist in achieving those goals. The Plan also reiterates the following four specific programmatic goals known as the "Big Bold Energy Efficiency Strategies" that were established by the CPUC in Decisions D.07-10-032 and D.07-12-051:

- All new residential construction will be zero net energy (ZNE) by 2020.
- All new commercial construction will be ZNE by 2030.
- 50 percent of commercial buildings will be retrofit to ZNE by 2030.
- 50 percent of new major renovations of State buildings will be ZNE by 2025.

4.6.5.3 Local Policies and Regulations

The following is a summary of the applicable policies included in the City's approved General Plan that are related to energy and applicable to the proposed project.

The approved General Plan is a set of policies and programs that form a blueprint for the physical development of the city. For a description of each of the elements within the approved General Plan, refer to Chapter 3.0, Project Description. To reduce the potential use of electricity, natural gas, and fuel, the city has the following objectives and policies related to energy as presented in the various elements of the approved General Plan:

Resource Conservation Element

Objective RC-2: Promote land uses that conserve resources.

[20] CPUC. 2008. *California Long-Term Energy Efficiency Strategic Plan*. September. Website: cpuc.ca.gov/General.aspx?id=4125 (accessed December January 2020).

Policy RC-2-a: Link Land Use to Transportation. Promote mixed-use, higher density infill development in multi-modal corridors. Support land use patterns that make more efficient use of the transportation system and plan future transportation investments in areas of higher-intensity development. Discourage investment in infrastructure that would not meet these criteria.

Policy RC-2-b: Provide Infrastructure for Mixed-Use and Infill. Promote investment in the public infrastructure needed to allow mixed-use and denser infill development to occur in targeted locations, such as expanded water and wastewater conveyance systems, complete streetscapes, parks and open space amenities, and trails. Discourage investment in infrastructure that would not meet these criteria.

Policy RC-4-a: Support Regional Efforts. Support and lead, where appropriate, regional, State and federal programs and actions for the improvement of air quality, especially the SJVAPCD's efforts to monitor and control air pollutants from both stationary and mobile sources and implement Reasonably Available Control Measures in the Ozone Attainment Plan.

Commentary: A list of Reasonably Available Control Measures was submitted by the SJVAPCD to the U.S. Environmental Protection Agency as part of the Ozone Attainment Plan designed to reduce ozone-forming emissions. The City is responsible for implementing measures related to operations and/or services that the City controls.

Policy RC-4-c: Evaluate Impacts with Models. Continue to require the use of computer models used by SJVAPCD to evaluate the air quality impacts of plans and projects that require such environmental review by the City.

Policy RC-4-d: Forward Information. Forward information regarding proposed General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals that require air quality evaluation, and amendments to development regulations to the SJVAPCD for their review of potential air quality and health impacts.

Policy RC-4-e: Support Employer-Based Efforts. Support and promote employer implementation of staggered work hours and employee incentives to use carpools, public transit, and other measures to reduce vehicular use and traffic congestion.

Policy RC-4-f: Municipal Operations and Fleet Actions. Continue to control and reduce air pollution emissions from vehicles owned by the City and municipal operations and facilities by undertaking the following:

- Expand the use of alternative fuel, electric, and hybrid vehicles in City fleets.
- Create preventive maintenance schedules that will ensure efficient engine operation.

- Include air conditioning recycling and charging stations in the City vehicle maintenance facilities, to reduce Freon gases being released into the atmosphere and electrostatic filtering systems in City maintenance shops, when feasible or when required by health regulations.

- Use satellite corporation yards for decentralized storage and vehicle maintenance.

- Convert City-owned emergency backup generators to natural gas fuels whenever possible, and create an advanced energy storage system.

Policy RC-4-g: FAX Actions. Continue to improve Fresno Area Express (FAX) bus transit system technical performance, reduce emission levels, streamline system operations, and implement BRT where supportive land uses are proposed by Figure LU-1: Land Use Diagram.

Policy RC-4-i: Methane Capture. Continue to pursue opportunities to reduce air pollution by using methane gas from the old City landfill and the City's wastewater treatment process.

Policy RC-4-j: All Departments. Continue to develop and implement in all City departments, operational policies to reduce air pollution.

Policy RC-5-b: Greenhouse Gas Reduction Plan. As is consistent with State law, prepare and adopt a Greenhouse Gas Reduction Plan as part of the Master Environmental Impact Report to be concurrently approved with the Fresno General Plan in order to achieve compliance with State mandates, assist development by streamlining the approval process, and focus on feasible actions the City can take to minimize the adverse impacts of growth and development on global climate change. The Greenhouse Gas Reduction Plan shall include, but not be limited to:

- A baseline inventory of all known or reasonably discoverable sources of GHGs that currently exist in the city and sources that existed in 1990.

- A projected inventory of the GHGs that can reasonably be expected to be emitted from those sources in the year 2035 with implementation of this General Plan and foreseeable communitywide and municipal operations.

- A target for the reduction of emissions from those identified sources.

- A list of feasible GHG reduction measures to meet the reduction target, including energy conservation and "green building" requirements in municipal buildings and private development.

- Periodically update municipal and community-wide GHG emissions inventories to determine the efficacy of adopted measures and to guide future policy formulation needed to achieve and maintain GHG emissions reduction targets.

Policy RC-5-c: GHG Reduction through Design and Operations. Increase efforts to incorporate requirements for GHG emission reductions in land use entitlement decisions, facility design, and operational measures subject to City regulation through the following measures and strategies:

- Promote the expansion of incentive-based programs that involve certification of projects for energy and water efficiency and resiliency. These certification programs and scoring systems may include public agency "Green" and conservation criteria, Energy Star™ certification, CALGreen Tier 1 or Tier 2, Leadership in Energy Efficient Design (LEED™) certification, etc.

- Promote appropriate energy and water conservation standards and facilitate mixed-use projects, new incentives for infill development, and the incorporation of mass transit, bicycle and pedestrian amenities into public and private projects.

- Require energy and water audits and upgrades for water conservation, energy efficiency, and mass transit, pedestrian, and bicycle amenities at the time of renovation, change in use, change in occupancy, and change in ownership for major projects meeting review thresholds specified in an implementing ordinance.

- Incorporate the City's "Guidelines for Ponding Basin/Pond Construction and Management to Control Mosquito Breeding" as conditions of approval for any project using an on-site stormwater basin to prevent possible increases in vector-borne illnesses associated with global climate change.

- Periodically evaluate the City's facility maintenance practices to determine whether there are additional opportunities to reduce GHGs through facility cleaning and painting, parks maintenance, road maintenance, and utility system maintenance.

- Periodically evaluate standards and mitigation strategies for highly vehicle-dependent land uses and facilities, such as drive-through facilities and auto-oriented development.

Policy RC-7-c: Best Practices for Conservation. Require all City facilities and all new private development to follow U.S. Bureau of Reclamation Best Management Practices for water conservation, as warranted and appropriate.

Policy RC-7-e: Retrofit City Facilities, and Consider Incentives Programs for to Encourage Retrofitting of Other Existing Public and Private Residential and Non-Residential Facilities and Sites. Reduce water use in municipal buildings and City operations by developing a schedule and budget for the retrofit of existing municipal buildings with water conservation features, such as auto shut-off faucets and water saving irrigation systems. Prepare a comprehensive incentive program for other existing public and private residential and non-residential buildings and irrigation systems.

***Objective RC-8*.** Reduce the consumption of non-renewable energy resources by requiring and encouraging conservation measures and the use of alternative energy sources.

Policy RC-8-a: Existing Standards and Programs. Continue existing beneficial energy conservation programs, including adhering to the California Energy Code in new construction and major renovations.

Policy RC-8-b: Energy Reduction Targets. Strive to reduce per capita residential electricity use to 1,800 kWh per year and non-residential electricity use to 2,700 kWh per year per capita by developing and implementing incentives, design and operation standards, promoting alternative energy sources, and cost-effective savings.

Commentary: These targets represent 28 and 30 percent reductions respectively, from the 2010 rate of consumption.

Policy RC-8-c: Energy Conservation in New Development. Consider providing an incentive program for new buildings that exceed California Energy Code requirements by fifteen percent.

Policy RC-8-d: Incentives. Establish an incentive program for residential developers who commit to building all of their homes to ENERGY STAR performance guidelines.

Commentary: See also Policy RC-7-j on PACE financing for energy efficient retrofits.

Policy RC-8-e: Energy Use Disclosure. Promote compliance with State law mandating disclosure of a building's energy data and rating of the previous year to prospective buyers and lessees of the entire building or lenders financing the entire building.

Policy RC-8-f: City Heating and Cooling. Reduce energy use at City facilities by updating heating and cooling equipment and installing "smart lighting" where feasible and economically viable.

Policy RC-8-g: Revolving Energy Fund. Create a City Energy Fund which uses first year savings and rebates from completed City-owned energy efficiency projects to provide resources for additional energy projects. Dedicate this revolving fund to the sole use of energy efficiency projects that will pay back into the fund.

Policy RC-8-h: Solar Assistance. Identify and publicize information about financial mechanisms for private solar installations and provide over-the-counter permitting for solar installations meeting specified standards, which may include maximum size (in kV) of units that can be so approved.

Policy RC-8-i: Renewable Target. Adopt and implement a program to increase the use of renewable energy to meet a given percentage of the city's peak electrical load within a given timeframe.

Policy RC-8-j: Alternative Fuel Network. Support the development of a network of integrated charging and alternate fuel station for both public and private vehicles, and if feasible, open up municipal stations to the public as part of network development.

Policy RC-8-k: Energy Efficiency Education. Provide long-term and on-going education of homeowners and businesses as to the value of energy efficiency and the need to upgrade existing structures on the regular basis as technology improves and structures age.

Urban Form, Land Use, and Design Element

Policy UF-1-c: Identifiable City Structure. Focus integrated and ongoing planning efforts to achieve an identifiable city structure, comprised of a concentration of buildings, people, and pedestrian-oriented activity in Downtown; along a small number of transit-oriented, mixed-use corridors and strategically located Activity Centers; and in existing and new neighborhoods augmented with parks and connected by multi-purpose trails and tree lined bike lanes and streets.

Objective UF-12: Locate roughly one-half of future residential development in infill areas—defined as being within the City on December 31, 2012—including the Downtown core area and surrounding neighborhoods, mixed-use centers and transit-oriented development along major BRT corridors, and other non-corridor infill areas, and vacant land.

Commentary: The Planning Director will provide an annual report describing the City's compliance with the Plan and progress toward meeting the goals and objectives to City Council, and prepare, every five years, an updated plan for achieving this goal, with recommended appropriate policy amendments and also new implementation strategies necessary to meet this goal by 2035. The rate of progress toward meeting this goal is not expected to occur in a linear or "one-to-one" pattern. Development in infill areas versus growth areas may progress in an uneven pattern, depending upon the schedule of relevant key incentive programs (such as those related to BRT) and the impact of market forces. However, the City expects to make steady progress toward all the goals and objectives and anticipates meeting them at or near the close of General Plan Horizon in 2035. See the Implementation Element for additional implementation strategies for this objective.

Policy UF-12-a: BRT Corridors. Design land uses and integrate development site plans along BRT corridors, with transit-oriented development that supports transit ridership and convenient pedestrian access to bus stops and BRT station stops.

Commentary: Developments close to major streets encourages walking and can be connected with the adjacent neighborhoods through a network of pedestrian ways. Parking will be concealed from the street, and predominant residential uses will be considered an acceptable use in all mixed-use areas.

Policy UF-12-b: Activity Centers. Mixed-use designated areas along BRT and/or transit corridors are appropriate for more intensive concentrations of urban uses. Typical uses could include commercial areas; employment centers; schools; compact residential development; religious institutions; parks; and other gathering points where residents may interact, work, and obtain goods and services in the same place.

Policy UF-12-d: Appropriate Mixed-Use. Facilitate the development of vertical and horizontal mixed-uses to blend residential, commercial, and public land uses on one or adjacent sites. Ensure land use compatibility between mixed-use districts in Activity Centers and the surrounding residential neighborhoods.

Commentary: Vertical mixed-use may be achieved within the same building with multiple compatible uses in multiple stories, and horizontal mixed use may be achieved across an integrated development site with a mix of compatible and complementary uses housed in different buildings.

Policy UF-12-e: Access to Activity Centers. Promote adoption and implementation of standards supporting pedestrian activities and bicycle linkages from surrounding land uses and neighborhoods into Activity Centers and to transit stops. Provide for priority transit routes and facilities to serve the Activity Centers.

Policy UF-12-f: Mixed-Use in Activity Centers. Adopt a new Development Code which includes use regulations and standards to allow for mixed-uses and shared parking facilities.

Policy UF-12-g: Impacts on Surrounding Uses. Establish design standards and buffering requirements for high-intensity Activity Centers to protect surrounding residential uses from increased impacts from traffic noise and vehicle emissions, visual intrusion, interruption of view and air movement, and encroachment upon solar access.

Policy UF-13-a: Future Planning to Require Design Principles. Require future planning, such as Specific Plans, neighborhood plans or Concept Plans, for Development Areas and BRT Corridors designated by the General Plan to include urban design principles and standards consistent with the Urban Form, Land Use, and Design Element.

Commentary: The General Plan requirements and regulations will be further defined through Specific Plans, neighborhood plans and Concept Plans to coordinate more discreet land use and transportation design integration and intensity with necessary public facilities, maintenance, and services financing for Development Areas following General Plan adoption and the subsequent adoption of a new Development Code.

Objective UF-14: Create an urban form that facilitates multi-modal connectivity.

Commentary: Multi-modal connectivity creates the opportunity for people to travel through a variety of modes of transportation, including biking, walking, driving, and using public transit.

Policy UF-14-a: Design Guidelines for Walkability. Develop and use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.

Commentary: These guidelines will highlight how to achieve these design ideas and avoid barriers to access, such as:

- *Walls and fences that separate related uses or isolate neighborhoods;*
- *Over reliance on cul-de-sacs and dead end streets that cut off access within neighborhoods;*
- *Disconnected bike and pedestrian paths;*
- *Wide streets that lack pedestrian support, such as sidewalks, median strips, and a landscaped strip that separates pedestrians from the street;*
- *Street front parking lots that separate pedestrian from commercial operations;*
- *Retail centers that are exclusively auto-oriented;*
- *Transit stops that are not easily accessible from an individual's starting point and destination; and*
- *Long blocks that discourage walking.*

Policy UF-14-b: Local Street Connectivity. Design local roadways to connect throughout neighborhoods and large private developments with adjacent major roadways and pathways of existing adjacent development. Create access for pedestrians and bicycles where a local street must dead end or be designed as a cul-de-sac to adjoining uses that provide services, shopping, and connecting pathways for access to the greater community area.

Policy UF-14-c: Block Length. Create development standards that provide desired and maximum block lengths in residential, retail, and mixed-use districts in order to enhance walkability.

Commentary: When preparing such standards the City should assess the desirability of varying maximum block length requirements between single family residential, multi-family residential, mixed use, and commercial districts.

Objective LU-2: Plan for infill development that includes a range of housing types, building forms, and land uses to meet the needs of both current and future residents.

Policy LU-2-a: Infill Development and Redevelopment. Promote development of vacant, underdeveloped, and re-developable land within the City Limits where urban services are available by considering the establishment and implementation of supportive regulations and programs.

Policy LU-2-b: Infill Development for Affordable Housing. Establish a priority infill incentive program for residential infill development of existing vacant lots and underutilized sites within the City as a strategy to help to meet the affordable housing needs of the community.

Policy LU-2-c: Infill Design Toolkit. Develop and distribute an infill design toolkit, consistent with the City's Infill Development Act to support and encourage infill development.

Commentary: The toolkit will use photos and diagrams to:

- *Explain design and permit requirements and priority infill development incentives;*
- *Illustrate context-responsive best practices for prototype development; and*
- *Address detailed issues such as parking, scale, privacy, outdoor spaces, housing types, transitions, building design, siting and street orientation, setbacks, windows, and general material guidelines and buffering for adjacent uses.*

Policy LU-2-d: Infrastructure Upgrades. Facilitate urban infill by building and upgrading community and neighborhood public infrastructure and services to enhance public health and convenience, and improve the overall experience and quality of city living.

Policy LU-3-b: Mixed-Use Urban Corridors that Connect the Downtown Planning Area. Support the development of mixed-use urban corridors that connect the Downtown Planning Area with the greater Fresno-Clovis Metropolitan Area with functional, enduring, and desirable urban qualities along the Blackstone Avenue, Shaw Avenue, California Avenue, and Ventura Avenue/Kings Canyon Road corridors, as shown on Figure LU-1: General Plan Land Use Diagram.

Policy LU-3-c: Zoning for High Density on Major BRT Corridors. Encourage adoption of supportive zoning regulations for compact development along BRT corridors leading to the Downtown Core that will not diminish the long-term growth and development potential for Downtown.

Policy LU-5-f: High Density Residential Uses. Promote high-density residential uses to support Activity Centers and BRT Corridors, and walkable access to transit stops.

Policy LU-6-b: Commercial Development Guidelines. Consider adopting commercial development guidelines to assure high quality design and site planning for large commercial developments, consistent with the Urban Form policies of this Plan.

Commentary: The guidelines should address:

- *Architectural finishes, coordinated color palette, massing, and hierarchy in scale;*
- *Pedestrian-scaled amenities, signage, and lighting;*
- *Site improvements, including parking lot landscaping, perimeter landscaping, foundation landscaping, walkways, and passageways;*
- *Ground floor transparency requirements along shopping streets and limitations on blank walls in these areas;*
- *Anti-theft glass on windows, rather than bars or roll-down metal screens, that are architecturally compatible with building design;*
- *Screening of truck loading, parking, mechanical equipment, transformers, ventilation systems, storage containers, and refuse collection areas from the street;*
- *Shading and its relationship and effects on surrounding buildings;*
- *Building entries; and*

- *Design standards for perimeter walls and fencing.*

Policy LU-6-g: Lodging Facilities Location. Site lodging facilities and related accommodations near major transportation facilities.

Policy LU-8-b: Access to Public Facilities. Ensure that major public facilities and institutions have adequate multi-modal access and can be easily reached by public transit.

Policy D-1-g: Reducing Surface Parking. Consider adopting and implementing incentives to replace existing large surface parking lots in centers with parking structures, and to incorporate them into high-density mixed-use developments.

Objective D-3: Create unified plans for Green Streets, using distinctive features reflecting Fresno's landscape heritage.

Policy D-3-a: Green Street Tree Planting. Create a Green Street Tree Planting Program, with a well-balanced variety and spacing of trees to establish continuous shading and visual continuity for each streetscape. Strive to achieve coherent linkages between public and private spaces, prioritizing tree planting along tree-deficient Arterial Roadways in neighborhoods characterized by lower per capita rates of vehicle ownership.

Policy D-3-b: Funding for Green Street Tree Planting Program. Pursue funding for the Green Street Tree Planting Program, including landscaping of median islands.

Policy D-3-c: Local Streets as Urban Parkways. Develop local streets as "urban parkways," where appropriate, with landscaping and pedestrian spaces.

Policy D-4-b: Incentives for Pedestrian-Oriented Anchor Retail. Consider adopting and implementing incentives for new pedestrian-friendly anchor retail at intersections within Activity Centers and along corridors to attract retail clientele and maximize foot traffic.

Commentary: Examples of incentives include increased floor area ratios, deferred impact fees, and priority processing.

Policy D-4-g: Development Code Update for Design Concepts. Ensure that standards in the Development Code implement General Plan design concepts for each land use type.

Commentary: The following will be considered in the new Development Code:

- *Appropriate space is provided for activities proposed (e.g., indoor area for display of merchandise, as opposed to sidewalk/parking lot display);*
- *Sufficient space and access is provided for support functions, (e.g., storage, loading, parking, waste disposal/recycling);*
- *Location of customer parking areas does not discourage pedestrian and bicycle access;*
- *Access for the disabled is incorporated into project designs as required;*

- *Buildings in shopping centers are linked by pedestrian walkways;*
- *Business and industrial parks have campus-like settings, with uniformity of improvements and shared facilities for parking, loading, mass transit, and with internal and external bicycle and pedestrian access; and*
- *Structural conversions and changes of occupancy demonstrate compliance with building and zoning codes.*

Mobility and Transportation Element

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-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-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.

Implementation actions will include:

- Meeting the needs of all users within the street system as a whole; each individual street does not need to provide all modes of travel, but travel by all modes must be accommodated throughout the Planning Area;

- Continuing to adopt refined street cross-section standards as appropriate in response to needs identified;

- Encouraging conversion of one-way streets to two-way streets to improve location circulation, access, and safety;

- Considering the impact of streets on public health by addressing storm water runoff quality, air quality, and water conservation among other factors; and

- Adhering to the water efficient landscape standards adopted by the City for median and streetscape plantings and irrigation methods.

Policy MT-1-h: Update Standards for Complete Streets. Update the City's Engineering and Street Design Standards to ensure that roadway and streetscape design specifications reflect the Complete Streets concept, while also addressing the needs of through traffic, transit stops, bus turnouts, passenger loading needs, bike lanes, pedestrian accommodation, and short- and long-term parking.

Commentary: For instance, transit stops and bus turnouts may have higher priority than through traffic on important transit corridors; through traffic may have higher priority than parking on Arterials; and pedestrian and bicycle movement may have high priority in areas with high pedestrian interest and activity such as the Downtown Planning Area.

Policy MT-1-i: Local Street Standards. Establish and implement local roadway standards addressing characteristics such as alignment, width, continuity and traffic calming, to provide efficient neighborhood circulation; to allow convenient access by residents, visitors, and public service and safety providers; and to promote neighborhood integrity and desired quality of life by limiting intrusive pass-through traffic.

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.

- In implementing this policy, the City will design improvements to:
- Facilitate provision of multi-modal transportation opportunities;
- Provide added safety, including appropriate traffic calming measures;
- Promote achievement of air quality standards;
- Provide capacity in a cost effective manner; and
- Create improved and equitable access with increased efficiency and connectivity.

Policy MT-1-l: Level of Service in the Downtown Area. Within the Downtown Planning Area accept vehicle LOS F conditions during peak hours for street segments and intersections specified in community and Specific Plans as may be adopted by the City. Where there is an overlap in policies regarding LOS in the Downtown Planning Area, this policy shall supersede.

Policy MT-1-o: LOS Deviations Outside of Activity Centers and Areas Designated for Mixed-Use. Accept vehicle LOS E or F conditions outside of identified multi-modal districts only if provisions commensurate with the level of impact and approved by the City Traffic Engineer are made to sufficiently improve the overall transportation system and/or promote non-vehicular transportation as part of a development project or City-initiated project.

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 multi-modal transportations corridors in order to reduce citywide vehicle miles travelled (VMT).

Commentary: This policy is intended to reduce regional trips and citywide congestion. Even if local congestion increases due to an increase in population from infill, this will eventually improve air quality by reducing per capita vehicle emissions and VMT through shorter commutes and increase in transit and non-motorized modes of travel. This will also reduce the need for regional travel demand transportation improvements.

Policy MT-2-d: Street Redesign where Excess Capacity Exists. Evaluate opportunities to reduce right of way and/or redesign streets to support non-automobile travel modes along streets with excess roadway capacity where adjacent land use is not expected to change over the planning period.

Commentary: Such strategies could include narrowing roads (road diets), adding landscape medians, adding street parking, and adding bike lanes.

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. In order to facilitate roadway optimization and as a potential revenue source for the optimization, the following strategies need to be implemented:

- Dig Once Policy. Install conduit for telecommunications use when trenching or construction occurs.

- Telecommunications Strategy. Develop a costing mechanism for allowing the use of excess conduit within the City for use by communication carriers. The Policy shall follow regulations of the California Public Utilities Commission.

- Grant Funding. Pursue grant funding to assist in construction and/or implementation of fiber-optic or other telecommunication infrastructure for additional public services such as education, economic development, reaching underserved populations, and public safety communications.

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.

Commentary: The City anticipates these strategies will reduce demand on the regional transportation system, limiting the need for major capital investments in those systems.

Policy MT-3-b: Preserve street trees lining designated scenic corridors or boulevards. Replace trees of the predominant type and in a comparable pattern to existing plantings if there is no detriment to public safety.

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-a: Active Transportation Plan. To the extent consistent with this General Plan, continue to implement and periodically update the Active Transportation Plan to meet State standards and requirements for recommended improvements and funding proposals as determined appropriate and feasible.

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-d: Prioritization of Bikeway Improvements. Prioritize bikeway components that link existing separated sections of the system, or that are likely to serve the highest concentration of existing or potential cyclists, particularly in those neighborhoods with low vehicle ownership rates, or that are likely to serve destination areas with the highest demand such as schools, shopping areas, recreational and park areas, and employment centers.

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.

Policy MT-4-j: Street Maintenance for Bicycle Safety. Provide regular sweeping and other necessary maintenance to clear bikeways of dirt, glass, gravel, and other debris and maintain the integrity of the bicycling network.

Policy MT-4-k: Bicycle Safety, Awareness, and Education. Promote bicycle ridership by providing secure bicycle facilities, promoting traffic safety awareness for both bicyclists and motorists, promoting the air quality benefits, promoting non-renewable energy savings, and promoting the public health benefits of physical activity.

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.

Objective MT-6: Establish a network of multi-purpose pedestrian and bicycle paths, as well as limited access trails, to link residential areas to local and regional open spaces and recreation areas and urban Activity Centers in order to enhance Fresno's recreational amenities and alternative transportation options.

Policy MT-6-a: Link Residences to Destinations. Design a pedestrian and bicycle path network that links residential areas with Activity Centers, such as parks and recreational facilities, educational institutions, employment centers, cultural sites, and other focal points of the city environment.

Policy MT-6-g: Path and Trail Development. Require all projects to incorporate planned multi-purpose path and trail development standards and corridor linkages consistent with the General Plan, applicable law and case-by-case determinations as a condition of project approval.

Commentary: This should be done pursuant to Figure MT-2: Paths and Trails, and the adopted ATP, as may amended.

Policy MT-6-l: Environmentally Sensitive Path and Trail Design. Develop paths and trails with minimum environmental impact by taking the following actions:

- Surface paths and trails with materials that are conducive to maintenance and safe travel, choosing materials that blend in with the surrounding area;

- Design paths and trails to follow contour lines where the least amount of grading (fewest cuts and fills) and least disturbance of the surrounding habitat will occur;
- Beautify path and trail rights-of-way in a manner consistent with intended use, safety, and maintenance;
- Use landscaping to stabilize slopes, create physical or visual barriers, and provide shaded areas; and
- Preserve and incorporate native plant species into the landscaping.

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.

Commentary: Public transit services must meet accessibility standards for individuals with disabilities as required by applicable state and federal regulations.

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.

Commentary: Neighborhoods with circuitous and discontinuous streets are more difficult for public transit to serve efficiently than those with consistently spaced linear or semi-grid patterns.

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-e: Regional Coordination. Continue to work with local and regional governmental institutions to promote efficient transportation policies and coordinated programs.

Policy MT-8-g: High Speed Train. If the State moves forward with HST, ensure it is constructed through Fresno in a manner that minimizes impacts to surrounding property owners and creates the most opportunity for redevelopment around the HST station.

Policy MT-8-h: Move Forward with High Speed Train Station Area Planning. Work with local residents, property and business owners, and other stakeholders to develop a station area plan to provide the most opportunity for growth and prosperity in concert with development of the Fresno HST station.

Policy MT-8-i: Legislative Support. Monitor State and federal legislation that creates incentives to reduce auto dependency and support the use of alternatives to the single occupant vehicle and support legislation that is consistent with the General Plan.

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.

Policy MT-9-b: Transit Service Productivity Evaluation. Continue to evaluate transit service productivity and cost efficiency indicators in the City's Short-Range Transit Plan, and make necessary and appropriate service adjustments when operationally and financially feasible.

Commentary: Short-range transportation planning is a federal requirement for continued funding.

Policy MT-9-c: Addressing Unmet Transit Needs. Continue to participate in the Council of Fresno County Governments' annual unmet transit needs evaluation process, particularly with respect to identifying need for access to medical and educational services; perform market analysis to identify potential transit choice riders; and pursue public education and information programs to identify changes in demand characteristics and opportunities to increase ridership.

Policy MT-9-d: Long-Range Transit Options. Advocate and participate in regional transportation analyses and identify appropriate long-range measures to support incorporation of light rail transit and other advanced transit service within major transportation corridors, freeway and railroad alignments.

Policy MT-9-e: Area Specific Transit Improvements. Continue to evaluate and pursue the planning and implementation of area specific transit improvements, such as street car facilities.

Policy MT-9-f: Encourage Telecommuting. Support measures that will facilitate expanded use of telecommunications technologies to reduce congestion, expansion of regional transportation facilities consistent with this General Plan, energy use, and air emissions (i.e., work at home, dispersed telecommute work centers, teleconferencing).

Policy MT-10-a: Updating Parking Standards. Update off-street parking standards to reflect the context and location within activity areas of multiple uses and reductions appropriate for mixed residential and non-residential uses and proximity to existing or planned transit service.

Policy MT-10-b: Shared Parking. Establish a strategy to promote the sharing of excess parking between uses within Activity Centers and BRT corridors, including specific provisions for this in the Development Code.

Policy MT-10-c: Transportation Demand Management Guidelines. Establish transportation demand management guidelines to allow for reduced off-street parking requirements.

Policy MT-10-d: Parking Maximums. Explore maximum off-street parking limits within Activity Centers proximate to BRT corridors, if such an Activity Center is determined compatible with promotion of a healthy and vigorous business environment.

Policy MT-10-f: Parking Benefit Districts. Establish parking benefit districts to fund consolidated public parking where supported by local businesses.

Commentary: Net revenues collected from on-street parking pricing and permit revenues can be dedicated to funding public improvements within designated Parking Benefit Districts, ensuring that revenue is used to benefit the blocks where the money is collected. State laws provide for public parking facility construction, operation and maintenance.

Policy MT-11-b: Railroad Improvements. Continue to participate in and advocate for collaborative efforts to improve railroad transportation facilities and reduce conflicts with the street system, including relocation and/or consolidation of the BNSF and UP mainline railroad track facilities.

Parks, Open Space, and Schools Element

Policy POSS-1-g: Regional Urban Forest. Maintain and implement incrementally, through new development projects, additions to Fresno's urban forest to delineate corridors and the boundaries of urban areas, and to provide tree canopy for bike lanes, sidewalks, parking lots, and trails.

Policy POSS-3-c: Link Parks with Walkways. Link public open space to adjacent, schools, and residential uses and Activity Centers through a series of landscaped linear walkways and bikeways that enhance and encourage pedestrian use.

Policy POSS-3-f: Park Design Guidelines. Create, maintain, and apply park design guidelines, with provisions for appropriate amenities for each park type, which may include:

- Minimum and maximum shade.
- Protections from shading by adjacent buildings.
- Accessibility to persons with disabilities.
- Street trees and landscaped median strips in adjacent arterial roads.

- Art and points of attraction.
- Landscape and hardscape features.
- Street furniture, signage, and lighting.
- Food sales and entertainment.
- Restroom facilities, play structures, and picnic shelters.
- Landscape design synthesis with input from civil engineers and hydrologists, educators and daycare providers, fitness trainers and coaches, police officers and experts in crime prevention through environmental design, as appropriate.
- Solar panels, new LED lighting, and water efficiency improvements. Sports field areas designed to allow periodic changes in field locations to minimize wear areas and provide sufficient fields to host regional, state, or national tournaments.
- Using topography to create interesting and visually appealing spaces and forms.
- Use of waterways as a key design influence, a focus of restoration, and an opportunity to provide for public enjoyment of views.
- Reflecting the agricultural and horticultural heritage of the site or area.
- Connecting with surrounding areas in a way that encourages expanded pedestrian activity.
- Creating individual places within a park that respond to the needs of a broad range of park users, from youth to the elderly.
- Creating places of delight that engage the senses.
- Creating places that engage the mind, by treating park features as opportunities for interpretation and questioning.
- Using sustainable design practices, and highlighting these as opportunities for learning.

Objective POSS-5: Provide for long-term preservation, enhancement, and enjoyment of plant, wildlife, and aquatic habitat.

Policy POSS-5-a: Habitat Area Acquisition. Support federal, State, and local programs to acquire significant habitat areas for permanent protection and/or conjunctive educational and recreational use.

Policy POSS-5-c: Buffers for Natural Areas. Require development projects, where appropriate and warranted, to incorporate natural features (such as ponds, hedgerows, and wooded strips) to serve as buffers for adjacent natural areas with high ecological value.

Policy POSS-5-d: Guidelines for Habitat Conservation. Establish guidelines for habitat conservation and mitigation programs, including:

- Protocols for the evaluation of a site's environmental setting and proposed design and operating parameters of proposed mitigation measures.
- Methodology for the analysis depiction of land to be acquired or set aside for mitigation activities.
- Parameters for specification of the types and sources of plant material used for any re-vegetation, irrigation requirements, and post-planting maintenance and other operational measures to ensure successful mitigation.
- Monitoring at an appropriate frequency by qualified personnel and reporting of data collected to permitting agencies.

Policy POSS-7-h: Interlink City and San Joaquin River Parkway Trail Networks. Strive to connect the parkway trail network to other trails in the vicinity, in order to create a community and regional trail system that offers a variety of different route combinations and enhances public access to the parkway.

Healthy Communities Element

Policy HC-3-d: Green Standards for Affordable Housing. Provide appropriate incentives for affordable housing providers, agencies, non-profit, and market rate developers to use LEED and CALGreen Tier 1 or Tier 2 standards or third-party equivalents.

Commentary: The City will publicize the health, environmental, and long term economic and maintenance benefits of applying LEED, CALGreen for third-party equivalents to projects in Fresno.

General Plan Policy Revisions

The following General Plan policies are proposed to be revised as a part of this project. Specific text changes are shown below; double-underlined text represents language that will be added to the General Plan, and text with ~~strikethrough~~ represents language that will be deleted from the General Plan.

Policy MT-1-k: Multi-Modal Level of Service Standards. Develop and use a tiered system of flexible, multi-modal 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.

Policy MT-1-m: Standards for Planned Bus Rapid Transit Corridors and Activity Centers. Independent of the Traffic Impact Zones identified in MT-2-i and Figure MT-4, strive to maintain the following vehicle LOS standards on major roadway segments and intersections along Bus Rapid Transit Corridors and in Activity Centers:

- LOS E or better at all times, including peak travel times, unless the City Traffic Engineer determines that ~~mitigation to~~ maintaining this LOS would be infeasible and/or conflict with the achievement of other General Plan policies.

- Accept LOS F conditions in Activity Centers and Bus Rapid Transit Corridors only if provisions are made to improve the overall system and/or promote non-vehicular transportation and transit as part of a development project or a City-initiated project. In accepting LOS F conditions, the City Traffic Engineer may request limited analyses of operational issues at locations near Activity Centers and along Bus Rapid Transit Corridors, such as queuing or left-turn movements.

- Give priority to maintaining pedestrian service first, followed by transit service and then by vehicle LOS, where conflicts between objectives for service capacity between different transportation modes occur.

Identify pedestrian-priority and transit-priority streets where these modes would have priority in order to apply a multi-modal priority system, as part of the General Plan implementation.

4.6.6 Significance Criteria

The thresholds for energy impacts used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. The proposed project may be deemed to have a significant impact with respect to energy if it would:

EN-1 Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

EN-2 Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.6.7 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to energy that could result from the continued implementation of the approved General Plan. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with implementation of the approved General Plan and the recommended mitigation measures, if required. Mitigation measures are recommended, as

appropriate, for significant impacts to eliminate or reduce them to a less-than-significant level. Cumulative impacts are also addressed.

4.6.7.1 Project Impacts

The following discussion describes the potential impacts related to energy that could result from continued implementation of the approved General Plan, implementation of the text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan. This programmatic EIR contemplates continued implementation of the approved General Plan; future discretionary projects facilitated by the proposed project will be evaluated for project-specific energy impacts at the time they are proposed.

EN-1 The proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element related to VMT analysis would not result in any physical improvements that would require the construction of new energy generating facilities within the Planning Area. Similarly, updates to the Greenhouse Gas Reduction Plan do not change the distribution or intensity of land uses and, therefore, would not result in any physical impacts that would affect energy. However, impacts associated with the continued implementation of the approved General Plan are identified below.

Continued implementation of the approved General Plan would not include any changes to the current land use diagram and would allow for the construction of new residential units and nonresidential development (commercial, mixed use, and employment uses). The projected population estimate under buildout conditions within the Planning Area is 970,000 persons by year 2056. In addition, based on data from the traffic model prepared for the approved General Plan, there are approximately 410,794 jobs that are projected to occur within the Planning Area by the buildout year of 2056.

Energy would be consumed throughout the construction and operation of such new development, in addition to energy consumption associated with existing development. Energy would be required during construction for the transportation of building materials, manufacturing of building materials, and the actual construction of buildings and infrastructure. During the operation, energy would be associated with building heating and cooling, use of consumer products, lighting, and vehicular traffic.

Buildout assumed under continued implementation of the approved General Plan would result in additional electricity use and natural gas use. While the amount of energy required for construction and operation of development associated with continued implementation of the approved General Plan would be considerable, General Plan policies and implementation programs would ensure that new development is constructed and operated in a manner that does not use fuel or energy in a wasteful manner. As discussed in Section 4.6.5.2, the CPUC adopted California's first Long-Term

Energy Efficiency Strategic Plan, which reiterates the following four specific programmatic goals known as the "Big Bold Energy Efficiency Strategies" that were established by the CPUC in Decisions D.07-10-032 and D.07-12-051:

- All new residential construction will be ZNE by 2020.
- All new commercial construction will be ZNE by 2030.
- 50 percent of commercial buildings will be retrofit to ZNE by 2030.
- 50 percent of new major renovations of State buildings will be ZNE by 2025.

In addition, as discussed in Section 4.6.5.3, the approved General Plan includes numerous policies and implementation programs that are focused on improving the sustainability of the city, including reducing the consumption of non-renewable energy resources by requiring and encouraging conservation measures and the use of alternative energy sources (Policies RC-8-a through RC-8-k) and incentives for affordable housing providers, agencies, non-profit and market rate developers to use LEED and CalGreen Tier 1 or Tier 2 standards or third party equivalents (Policy HC-3-d). Moreover, the energy efficiency of buildings is expected to continue to increase and improve throughout the life of the project as new energy efficiency standards are established.

In addition to complying with federal, State, and local standards regulating energy consumption, the project is also required to comply with Appendix F, Energy Conservation, of the *State CEQA Guidelines*. Specifically, Appendix F requires that EIRs include a discussion of potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Table 4.6-1 includes a project-specific consistency analysis with applicable Appendix F considerations.

Table 4.6-1: Proposed Project Comparison to *State CEQA Guidelines* Appendix F

Appendix F Items for Consideration	Proposed Project
1. The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed.	**Consistent.** Energy use during construction of future development facilitated by the approved General Plan would primarily involve gasoline and diesel fuel and would represent a short-term use of readily available resources. Potential construction impacts would be less than significant, and no mitigation is required. Operational energy demand includes natural gas and electricity. Buildout assumed under continued implementation of the approved General Plan would result in additional electricity use and natural gas use. As discussed in Section 4.6.5.3, the approved General Plan includes numerous policies and implementation programs that are focused on improving the sustainability of the city, including reducing the consumption of non-renewable energy resources by requiring and encouraging conservation measures and the use of alternative energy sources (Policies RC-8-a through RC-8-k) and incentives for affordable housing providers, agencies, non-profit and market rate developers to use LEED and CalGreen Tier 1 or Tier 2 standards or third party equivalents (Policy HC-3-d).

Table 4.6-1: Proposed Project Comparison to *State CEQA Guidelines* Appendix F

Appendix F Items for Consideration	Proposed Project
	Future development under the proposed project would be required to meet or exceed the provisions included in the California Energy Code Building Energy Efficiency Standards (CCR Title 24, Part 6) and the CALGreen Code (CCR Title 24, Part 11). Additionally, because developments that would be considered under the proposed project have not been designed or proposed at this time, potential improvements to the current energy and natural gas facilities would be identified at the time such projects are considered. Therefore, with adherence to Title 24 regulations and the objectives and policies included in the approved General Plan, continued implementation of the approved General Plan is considered consistent with this item.
2. The effects of the project on local and regional energy supplies and on requirements for additional capacity.	**Consistent.** The proposed project does not include physical improvements, but future development facilitated by continued implementation of the approved General Plan would be required to meet or exceed the provisions included in the California Energy Code Building Energy Efficiency Standards (CCR Title 24, Part 6) and the CALGreen Code (CCR Title 24, Part 11) and would be required to comply with objectives and policies included in the approved General Plan that are aimed at reducing energy consumption. The demand for energy supplies under the approved General Plan build out scenario would be greater than existing conditions, but would not result in the construction of new electric or natural gas infrastructure beyond what has already been assumed and will be included in PG&E's regional forecasts. In the event that new energy facilities are needed at a later date, such discretionary projects would be required to undergo a separate CEQA review process and their impacts would be assessed at that time. The proposed project is therefore considered consistent with this item.
3. The effects of the project on peak and base period demands for electricity and other forms of energy.	**Consistent.** Future projects would implement a variety of energy conservation measures that would be consistent with objectives and policies included in the approved General Plan that are aimed at reducing energy consumption and would also be required to meet the California Energy Code Building Energy Efficiency Standards contained in CCR Title 24, Part 6. Additionally, because developments that would be considered under the proposed project have not been designed or proposed at this time, potential improvements to the current energy and natural gas facilities would be identified at the time such discretionary projects are proposed and under review. In the event that new energy facilities are needed, such projects would be required to undergo a separate CEQA review process and their impacts would be assessed at that time. Therefore, the proposed project is considered consistent with this item.
4. The degree to which the project complies with existing energy standards.	**Consistent.** Future development under the proposed project would be required to be consistent with objectives and policies included in the approved General Plan that are aimed at reducing energy consumption and would also be required to meet or exceed the provisions included in the California Energy Code Building Energy Efficiency Standards (CCR Title 24, Part 6) and the CALGreen Code (CCR Title 24, Part 11). For example, new projects associated with the continued implementation of the approved General Plan would be required to comply with the Building Energy Efficiency Standards for Residential and Non-Residential Buildings that are in place at the time new development is proposed. These standards are updated every 3 years, with the latest update (2019) having gone into effect on January 1, 2020. Therefore, the proposed project is considered consistent with this item.

Table 4.6-1: Proposed Project Comparison to *State CEQA Guidelines* Appendix F

Appendix F Items for Consideration	Proposed Project
5. The effects of the project on energy resources.	**Consistent.** Energy use during construction of future development facilitated by the approved General Plan would primarily involve gasoline and diesel fuel and would represent a short-term use of readily available resources. Potential construction impacts would be less than significant, and no mitigation is required. Operational energy demand includes natural gas and electricity. Operational energy demand includes natural gas and electricity. As discussed in Section 4.6.5.3, the approved General Plan includes numerous policies and implementation programs that are focused on improving the sustainability of the city, including reducing the consumption of non-renewable energy resources by requiring and encouraging conservation measures and the use of alternative energy sources (Policies RC-8-a through RC-8-k) and incentives for affordable housing providers, agencies, non-profit and market rate developers to use LEED and CalGreen Tier 1 or Tier 2 standards or third party equivalents (Policy HC-3-d). Future development under the proposed project would be required to meet or exceed the provisions included in the California Energy Code Building Energy Efficiency Standards (CCR Title 24, Part 6) and the CALGreen Code (CCR Title 24, Part 11). Additionally, because developments that would be considered under the proposed project have not been designed or proposed at this time, potential improvements to the current energy and natural gas facilities would be identified at the time such projects are considered. Therefore, with adherence to CCR Title 24 regulations and the objectives and policies included in the approved General Plan, continued implementation of the approved General Plan is considered consistent with this item.
6. The project's anticipated transportation energy use requirements and its overall use of efficient transportation alternatives.	**Consistent.** Transit service is now available in Fresno and long-term development trends for increasing density and mixes of uses can lead to improved transit service in areas of the city over time. Higher densities when combined with pedestrian orientation encourage transit use. A key factor is that both ends of the transit trip must be walkable and have the potential to serve reasonably large numbers of transit riders. The City's BRT system combined with plans to increase development densities at BRT stations and along the corridor are critical elements of the City's transit oriented development strategy. The approved General Plan also encourages alternative transit options through the creation of bicycle and pedestrian paths to improve the bikeability and walkability in the Planning Area. Therefore, the proposed project is considered consistent with this item.

CEQA = California Environmental Quality Act
PG&E = Pacific Gas and Electric Company
VMT = vehicle miles traveled
kWh = Kilowatt hour
LEED = Leadership in Energy and Environmental Design
CCR = California Code of Regulations
BRT = Bus Rapid Transit

Therefore, continued implementation of the General Plan would not result in the use of fuel or energy in a wasteful, inefficient, or unnecessarily consumptive manner. With adherence to and implementation of approved General Plan policies and implementation programs, impacts related to electricity and natural gas use would be less than significant. No additional mitigation is required.

The increase in population, housing, and jobs generated by new development associated with the continued implementation of the approved General Plan would have the potential to increase the demand on energy resources. The increase in population would lead to an increased demand on energy resources because of additional buildings and infrastructure required to support the growing population's demand for energy-dependent heating, cooling, lighting, electronics, and appliances powered by electricity and natural gas.

The private utility supplying the city with electricity and natural gas services, PG&E, periodically updates its load forecasts to ensure the reliability of its electricity and gas services. As continued implementation of the approved General Plan would occur over a 36-year period, the projected incremental electric and gas demand would be incorporated into PG&E's forecasts.

Therefore, continued implementation of the approved General Plan would not result in the construction of new electric or natural gas infrastructure beyond what has already been assumed and will be included in PG&E's regional forecasts. Impacts related to the possible need for new electrical or gas generation or transmission facilities as a result of the continued implementation of the approved General Plan would be considered less than significant. No mitigation is required.

In addition to increasing the demand for electricity and natural gas, the project would result in energy usage associated with gasoline to fuel project-related trips (i.e., the use of motor vehicles). When evaluating a long-range planning project, forecasting future travel methods and gasoline use is too speculative and not appropriate or feasible. Rather, the more appropriate measure of estimating energy use is to consider the distance traveled by vehicles associated with the proposed project. Therefore, this analysis is centered on the overall VMT associated with the new development allowed by the proposed project and its associated transportation energy use.

As shown in Table 4.6-2 and discussed further in Section 4.16, Transportation, average VMT per capita under existing conditions for the city is 13.1 miles compared to 16.2 miles for the county (approximately 19 percent less than the county average). In 2035, the VMT per capita for the city is forecast to be 16.5 miles (approximately 2 percent higher than the existing county average). Similarly, average VMT per employee for the city under existing conditions is 23.8 miles, compared to 27.9 miles for the county (approximately 15 percent lower), and is forecast to increase to 31.4 miles (approximately 12 percent greater than the existing county average).

With continued implementation of the approved General Plan, in 2035, the city VMT per capita (16.5 miles) is forecast to be 17 percent less than the county VMT per capita (19.9 miles). Corresponding numbers for VMT per employee indicates that the city average is forecast to be 13 percent lower than the approved General Plan (2035) county average. This is a greater reduction in VMT than forecast by the Fresno Council of Governments (Fresno COG) in the RTP, a 12 percent reduction in VMT for the RTP project.

Table 4.6-2: Vehicle Miles Traveled

VMT Category	Existing (2019)	General Plan (2035)
Fresno County Total Household VMT	16,089,070	21,549,479
Fresno County Total Employment VMT	10,513,749	15,966,357
Fresno City Total Household VMT	7,404,806	10,620,261
Fresno City Total Employment VMT	5,533,473	8,911,472
Fresno County VMT per Capita	16.2	19.9
Fresno City VMT per Capita	13.1	16.5
Fresno County VMT per Employee	27.9	36.2
Fresno City VMT per Employee	23.8	31.4

Source: LSA (January 2020).

Although the measures of VMT in per capita terms increase from existing conditions with the City's General Plan Update, the city's VMT is below that of the regional average and the proposed project would not result in a significant impact on gasoline demand. Moreover, the fuel efficiency of vehicles is expected to continue to increase and improve throughout the life of the project as new fuel economy standards are established.

In addition, continued implementation of the approved General Plan aims to promote mixed-use development and encourage alternative modes of transportation to reduce vehicle trip lengths and reliance on the automobile, which in turn, would reduce the transportation energy demand in the Planning Area. Continued implementation of the approved General Plan also encourages development of housing near employment and transportation, which would lead to a potential decrease in VMT. Continued implementation of the approved General Plan would also promote land use patterns that would improve walking and bicycling facilities to be more prominent, comfortable, and safe throughout the city. In addition, the continued implementation of the approved General Plan would support the development of a network of integrated charging and alternate fuel station for both public and private vehicles, and if feasible, open up municipal stations to the public as part of network development (Policy RC-8-j) that would also serve to reduce the overall transportation energy demand.

Therefore, implementation of the proposed project would not result in a substantial increase in transportation-related energy uses, such that it would result in a wasteful, inefficient, or unnecessary consumption of energy resources. Impacts related to the project energy usage associated with gasoline to fuel project-related trips as a result of the continued implementation of the approved General Plan would be considered less than significant. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.6.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

EN-2 The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Future projects facilitated by continued implementation of the approved General Plan would be required to comply with the CALGreen Code (CCR Title 24, Part 11) and the California Energy Code (CCR Title 24, Part 6), which includes provisions related to insulation and design aimed at minimizing energy consumption. Future projects associated with the continued implementation of the approved General Plan would also be required to comply with objectives and policies included in the approved General Plan that are aimed at reducing energy consumption in the Planning Area.

In addition, continued implementation of the approved General Plan aims to promote mixed-use development and encourage alternative modes of transportation to reduce vehicle trip lengths and reliance on the automobile, which in turn, would reduce the transportation energy demand in the Planning Area. Continued implementation of the approved General Plan also encourages development of housing near employment and transportation, which would lead to a potential decrease in VMT. Continued implementation of the approved General Plan would also promote land use patterns that would improve walking and bicycling facilities to be more prominent, comfortable, and safe throughout the City. In addition, the continued implementation of the approved General Plan would support the development of a network of integrated charging and alternate fuel station for both public and private vehicles, and if feasible, open up municipal stations to the public as part of network development (Policy RC-8-j) that would also serve to reduce the overall transportation energy demand.

As discussed above, PG&E is the private utility supplying the city with electricity and natural gas services. A total of 33 percent of PG&E's delivered electricity comes from renewable sources, including solar, wind, geothermal, small hydroelectric and various forms of bioenergy. PG&E reached California's 2020 renewable energy goal in 2017, and is positioned to meet the State's 60 percent by 2030 renewable energy mandate set forth in SB 100. In addition, PG&E plans to continue to provide reliable service to their customers and upgrade their distribution systems as necessary to meet future demand.

Future projects facilitated by continued implementation of the approved General Plan would be required to comply with federal, State, and local regulations aimed at reducing energy consumption. In addition, the approved General Plan includes several objectives and policies aimed at reducing energy consumption specifically within the Planning Area. These objectives and policies have been developed in accordance with federal and State energy regulations, such as the California Energy Code Building Energy Efficiency Standards (CCR Title 24, Part 6), the CALGreen Code (CCR Title 24, Part 11), and SB 743, which are also aimed at reducing energy consumption. Therefore, the implementation of the proposed project would be consistent with applicable State and local plans related to renewable energy and energy efficiency, and no mitigation would be required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.6.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.6.7.2 Cumulative Impacts

EN-3 The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to energy.

The proposed project would have a significant effect on the environment if it – in combination with other projects – would contribute to a significant cumulative impact related to energy.

Development of cumulative projects within the PG&E service area which encompasses 70,000 square miles would result in a substantial increase in electricity and natural gas demand as well as an increase in the consumption of fuel for vehicles. The jurisdictions throughout the PG&E service area are working with the state to reduce the consumption of energy. Given that development within the Planning Area would be required to adhere to the policies identified in the approved General Plan, future development in the Planning Area would not contribute to potential cumulative impacts associated with the potential inefficient, wasteful and unnecessary consumption of energy within other parts of the PG&E service area. In addition, compliance with the objectives and policies identified above would not result in the inefficient, wasteful and unnecessary consumption of energy. As an example, Policy RC-8-b includes targets for reducing residential and non-residential electricity use. In addition, there are various other policies to reduce the demand for electricity and natural gas. Furthermore, continued implementation of the approved General Plan includes intensive land uses and transit opportunities to reduce fuel consumption. The continued implementation of the approved General Plan would result in a less-than-significant cumulative impact related to the inefficient, wasteful and unnecessary consumption of energy.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.6.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.7 GEOLOGY AND SOILS

4.7.1 Introduction

This section provides a discussion of the potential impacts related to geology and soils from the continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan (proposed project).

4.7.2 CEQA Baseline

The City of Fresno is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Travelled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the approved General Plan, explains that the PEIR will evaluate the continued implementation of the approved General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of Senate Bill (SB) 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. The General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.7.3 Existing Environment Setting

This section describes the regional setting, setting of the Planning Area, and the regulatory context.

4.7.3.1 Regional Setting

The City of Fresno Planning Area is located along the eastern margin of the southern San Joaquin Valley portion of the Great Valley Geomorphic Province of California. The San Joaquin Valley is bordered to the north by the Sacramento Valley portion of the Great Valley, to the east by the Sierra Nevada, to the west by the Coast Ranges, and to the south by the Transverse Ranges. The San Joaquin sedimentary basin is separated from the Sacramento basin to the north by the buried Stockton arch and associated Stockton Fault. The 450-mile long Great Valley is an asymmetric structural trough that has been filled with a prism of Mesozoic and Cenozoic sediments up to 5 miles thick.

The Sierra Nevada, located east of the San Joaquin Valley, is a gently southwesterly tilted fault block comprised of igneous and metamorphic rocks of pre-Tertiary age that comprise the basement beneath the San Joaquin Valley. The Coast Ranges, located west of the San Joaquin Valley, are comprised of folded and faulted sedimentary and metasedimentary rocks of Mesozoic and Cenozoic age.

The San Joaquin River and the Kings River are the principal rivers in the Planning Area, with the alluvial fans formed by these rivers serving as the predominant geomorphic features in the area. The Planning Area 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. Recent alluvial fan deposits from streams emerging from highlands surrounding the Great Valley and Pleistocene non-marine sedimentary deposits (Riverbank Formation) composed of older alluvium and dissected fan deposits underlain the subject site area.

Lithology. The thick accumulation of deposits within the San Joaquin Valley range in age from Jurassic to Holocene and include both marine and continental rocks and deposits. The 1965 Geologic Map of California, Fresno Sheet, indicates that the near-surface deposits in the City of Fresno Planning Area consist of Quaternary recent fan deposits and Quaternary Older alluvium (Pleistocene Nonmarine Sedimentary deposits).

The subsurface information available for the Planning Area indicates that the surface and near-surface deposits generally consist of sandy silts, silty sands, sands, clayey sands, sandy clays, and clayey silts. These observed deposits are consistent with those mapped in the Planning Area.

Structures and Faults. The City of Fresno Planning Area is underlain by a homoclinal series of Cenozoic deposits dipping four to six degrees to the southwest toward the center of the San Joaquin Valley. The contact between the Cenozoic and basement rocks dips nearly eight degrees southwest, or at a slightly greater inclination than does the on-lapping homoclinal Cenozoic sequence. No active faults are mapped within the Planning Area.

Adjacent to the San Joaquin Valley, the Sierra Nevada and Coast Ranges are geologically young mountain ranges that possess active and potentially active fault zones. Major active faults and fault zones occur at some distance to the east, west, and south of the Planning Area.

Numerous active faults are present within the central Coast Ranges west of the Planning Area including the San Andreas Fault located approximately 61 miles west of the area. The fault is considered active and serves as a primary concern in evaluating seismic hazards throughout western Fresno county. The 684-mile-long San Andreas Fault Zone is the principal element of the San Andreas Fault system, a network of faults with predominately dextral strike-slip displacement that collectively accommodates the majority of relative north-south motion between the North America and Pacific plates. The creeping section of the San Andreas Fault is approximately 61 miles from the Planning Area at its closest point. The San Andreas Fault Zone is considered to be the Holocene and historically active dextral strike-slip fault that extends along most of coastal California from its complex junction with the Mendocino Fault Zone to the north, southwest to the northern Transverse Range, and inland to the Salton Sea, where a well-defined zone of seismicity transfers the slip to the Imperial Fault along a right-releasing step.

Two major surface-rupturing earthquakes have occurred on the San Andreas Fault in historic time: the 1857 Forth Tejon and 1906 San Francisco earthquakes. Additional historic surface rupturing earthquakes include the unnamed 1812 earthquake along the Mojave section and the northern part of the San Bernardino Mountains section, and a large earthquake in the San Francisco Bay area that occurred in 1838 that was probably on the Peninsula section. Historic fault creep rates are as high as 32 millimeters per year for the 82-mile-long creeping section in central California, with creep rates gradually tapering to zero at the northwestern and southeastern ends of the section.

One of the nearest seismotectonic sources is the Great Valley Fault Zone (Coast Ranges-Central Valley boundary zone), located approximately 34 miles west of the Planning Area. The Great Valley Fault Zone is the geomorphic boundary of the Coast Ranges and the Central Valley and is underlain by a 300-mile long seismically active fold and thrust belt that has been the source of recent earthquakes, such as the 1983 magnitude 6.5 Coalinga and the 1985 magnitude 6.1 Kettleman Hills earthquakes. Nearly the entire thrust system is concealed or “blind.” The basal detachment of this thrust system dips at a shallow angle to the west. East-directed thrusting over ramps in the detachment and west-directed thrusting on backthrusts are responsible for the uplift along the eastern range front of the Coast Ranges. Based on earthquake focal mechanisms, movement on the thrust zone is generally perpendicular to the strike of the geomorphic boundary and trend of the San Andreas Fault system. Shortening along the geomorphic boundary is driven by a component of the Pacific-North American Plate motion that is normal to the plate boundary. The Great Valley Fault Zone is considered the dominant seismic feature with potential for affecting the Planning Area.

The Ortigalita Fault Zone is a major Holocene dextral strike-slip fault in the central Coast Ranges that is an eastern part of the larger San Andreas Fault system. The Ortigalita Fault Zone is approximately 54 miles west of the Planning Area. The Ortigalita Fault Zone extends from roughly 12.4 miles northwest of San Luis Reservoir southeast to the vicinity of Panoche Valley. The Ortigalita Fault Zone is characterized by echelon fault traces separated by pull-apart basins. The fault zone is divided into four sections. The Little Panoche Valley section is the southernmost section and is closest to the Planning Area. The Little Panoche Valley section is late Holocene active. Late Quaternary slip rates and recurrence intervals are unknown, although the recurrence interval for the entire Ortigalita Fault Zone is about 2,000 to 5,000 years.

Regional structure within the western Sierra Nevada north of the Planning Area is complex and generally consists of blocks separated by steeply eastward-dipping, north, and northwest striking reverse faults of the Foothills Fault system. The Foothills Fault system is located within approximately 32 miles north of the Planning Area. Based on mapping and historical seismicity, the seismicity of the Sierra Nevada foothills has been generally considered low by the scientific community. However, on August 1, 1975, a 5.7 Richter magnitude earthquake occurred near Oroville within the northern Sierra Nevada. Surface rupture along the Cleveland Hill Fault (part of the Foothills Fault System) was associated with the 1975 Oroville earthquake. As a result of this event, numerous studies were undertaken to evaluate further the seismicity of the Sierra Nevada foothills. Of particular note are the geologic and seismicity studies conducted by Woodward-Clyde Consultants (WCC) to evaluate the proposed Auburn Dam site. Based on these studies, WCC concluded that seismic events in the Sierra Nevada foothills are associated with very small, geologically infrequent, incremental displacements having minor geomorphic surface expression.

In addition, the eastern border of the southern San Joaquin Valley is cut by a series of en-eschelon range-front faults. These faults are mainly northwest trending normal faults, down dropped to the west and with a near vertical dip. One of the range-front faults, the Clovis Fault, is mapped extending from an area just south of the San Joaquin River to a few miles south of Francher Creek approximately six miles northeast of the Planning Area. No evidence has been found of historic ground movement along this feature. These range-front faults have generally been considered inactive, with no recognized Quaternary displacement. However, a September 1973 magnitude 4.4 earthquake that occurred approximately 4.3 miles north of the Planning Area may be related to this fault system.

The Nunez Fault is located approximately six to seven miles northwest of Coalinga and is roughly 48 miles southwest of the Planning Area. The fault is about 2.6 miles long and is considered active based on surface rupture associated with the 1983 Coalinga earthquake. The fault is divided into two north and south trending segments. Approximately 2.1 miles of right-reverse surface rupture occurred on the segments. Total displacement and timing of past fault movements are poorly constrained.

Tensional forces resulting in normal faults are reported to be related to crustal stress relief in the southeast portion of the San Joaquin Valley. Numerous relatively short, normal faults traverse this region. Creep activity is the prominent mode of slip on those faults in this region that are active. These movements have continued on an intermittent basis from the early Miocene to recent times.

This faulting is directly related to and controls the accumulation of oil in several oil fields within the westerly portion of the valley. Most authors agree that current creep movements can be ascribed to subsidence promoted by extensive withdrawal of petroleum, and in some cases, groundwater. Those faults considered to be active in the southern valley are Kern Front and Pond Faults located at least 70 miles south of the Planning Area.

The Sierra Nevada and Owens Valley Fault Zones bound the eastern edge of the Sierra Nevada block more than 90 miles east of the Planning Area. The Owens Valley Fault Zone branches to the east of the Sierra Nevada Fault Zone approximately 2 miles south of the Alabama Hills. The Owens Valley Fault Zone is roughly 75 miles long and extends to the west side of Owens Lake to a few miles north

of Big Pine. The maximum width of the fault zone is about 2 miles. The Owens Valley Fault generated one of California's greatest historical earthquakes (Owens Valley Earthquake of 1872) and poses a significant hazard to the communities on the eastern side of the Sierra Nevada Mountains. The White Wolf Fault, responsible for a 1952 earthquake that caused extensive damage in the greater Bakersfield area, is located in the tectonically active Tehachapi Mountains at the southerly terminus of the valley, over 100 miles south of the Planning Area.

4.7.3.2 Planning Area Setting

General Setting and Surface Features. The City of Fresno Planning Area encompasses an approximate 166 square miles, just south of the San Joaquin River, in the central portion of Fresno county, California. The natural topography within the Planning Area generally trends from the northeast towards the southwest. The historically natural, agricultural, and manmade flow for drainage channels predominately follows the northeast to southwest trend. However, because the Planning Area was historically developed for agricultural use, there are also many subchannels designed to transport water in a northwest-southeast direction.

Surface faulting is absent within the Planning Area and the majority of the area is relatively flat. However, slopes associated with the San Joaquin River bluff are on the order five feet to greater than 100 feet high. The bluff slopes in the vicinity of existing developments were generally well maintained and appeared to be relatively stable. However, the bluff slopes in predominately undeveloped and/or agricultural areas are in relatively good to poor condition with varying degrees of instability and disrepair.

Subsurface Conditions. Subsurface soil conditions in the Planning Area have been previously explored by drilling hundreds of geotechnical borings to depths ranging from approximately 5 to 150 feet below existing site grade, using a truck-mounted drill rig. Over time, penetration tests were performed throughout the Planning Area to evaluate soil consistency and to obtain information regarding the engineering properties of the subsoils, and soil samples were retained for laboratory testing. The soils encountered were continuously examined and visually classified in accordance with the Unified Soil Classification System.

The subsurface conditions encountered appear typical of those found in the geologic region of the Planning Area. Generally, the upper soils consisted of approximately 6 to 12 inches of 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.

Below the loose surface soils, approximately two to four feet of loose/soft to very dense/hard clays, silts, sands, and gravels are typically encountered. Previous field and laboratory tests associated with various projects throughout the Planning Area suggest that these soils are typically moderately strong and slightly to moderately compressible. The clayey soils had a low to high expansion potential. Penetration resistance ranged from less than 5 to greater than 100 blows per foot. Dry densities ranged from 80 to 120 per cubic foot (pcf). Representative soil samples typically consolidate approximately 0.5 to 12 percent under 2 kilos per square foot (ksf) load when saturated. Representative soil samples had angles of internal friction ranging from 11 to 40 degrees. Representative samples of the clayey soils had expansion indices ranging from 0 to l00+.

Below 3 to 5 feet, predominately clays, silts, sands, and gravels are usually encountered. Previous field and laboratory tests associated with various project throughout the Planning Area suggest that these soils are typically moderately strong and slightly compressible. Penetration resistance ranges from 10 to greater than 100+ blows per foot. Dry densities ranged from 90 to 140 pcf. Representative soil samples typically consolidate approximately two to three percent under a 2 ksf load when saturated. These soils usually have slightly stronger strength characteristics than the upper soils and extend to the termination depth of the borings.

Test boring locations for various project throughout the Planning Area were checked for the presence of groundwater during and immediately following the drilling operations. Groundwater was encountered near the surface in the vicinity of existing ponds, lakes, ditches, and canals, to depths greater than 100 feet below site grade during the field investigations. Review of groundwater elevation data provided by the California Department of Water Resources dating from the 1950's to 2019 indicates that depth to free groundwater in the vicinity of the Planning Area ranged from 0 feet to greater than 100 feet below the existing grade within the Planning Area.[1]

Geological Subgrade. The general soil profile within the City of Fresno Planning Area consists predominately of silty sands, sandy silts, clayey sands, sandy clayey silts, and sands. With the exception of a limited occurrence of near-surface loose soils, penetration resistance and laboratory testing indicate that these materials are typically at least medium dense. Based on the soil properties of specific sites, each site will be classified as a Site Class. The Site Class, per Section 1613.2.2 of the 2019 California Building Code, is assigned to a site based upon the types of soils present and their engineering properties. Site Class D, characterized as stiff soil, is most consistent with the soil conditions in the Planning Area. However, within isolated locations through the Planning Area, and in close proximity to water features, Site Class E conditions (soft soil profile) may be encountered.

Liquefaction. Liquefaction is a seismic phenomenon in which loose, saturated, fine-grained granular soils behave similarly to a fluid when subjected to high-intensity ground shaking. Liquefaction occurs when shallow groundwater; low density, fine, clean sandy soils; and high intensity motion occurs. Effects of liquefaction can include sand boils, settlement, and bearing capacity failures below foundations.

The predominant soils anticipated to be encountered within the Planning Area consist of varying combinations of very loose/very soft to very dense/hard silts, clays, sands, and gravels. Moderate cohesion strength is associated with the clayey soils. Groundwater has been encountered near the surface during exploratory drilling, in close proximity to water filled features such as canals, ditches, ponds, and lakes. Historically, groundwater in the Planning Area has been encountered at depths as shallow as 0 feet to greater than 100 feet below the ground surface.

Seismic Settlement and Lateral Spreading. Subsidence of the land surface can be induced by both natural and human phenomena. Natural phenomena that can cause subsidence can result from tectonic deformations and seismically induced settlements; from consolidation, hydrocompaction,

[1] California Department of Water Resources. Water Data Library. Website: wdl.water.ca.gov/waterdatalibrary/index.cfm (accessed February 28, 2020).

or rapid sedimentation; from oxidation or dewatering of organic-rich soils; and from subsurface cavities. Subsidence related to human activity can result from withdrawal of subsurface fluids or sediment, such as pumping of groundwater.

Lateral spreading is the horizontal movement or spreading of soil toward an open face, such as a stream bank, the open side of fill embankments, or the sides of levees. The potential for failure from subsidence and lateral spreading is highest in areas where the groundwater table is high, where relatively soft and recent alluvial deposits exist, and where creek banks are relatively high. One of the most common phenomena during seismic shaking accompanying any earthquake is the induced settlement of loose unconsolidated soils. Due to the subsurface conditions within the Planning Area, and the relatively low to moderate seismicity of the region, the City of Fresno Planning Area is not located in an area within a seismic settlement or lateral spread hazard area.

Land Subsidence. Portions of the San Joaquin Valley have been subject to land subsidence due to fluid withdrawal (groundwater and petroleum). Land subsidence affects 3,500 square miles of productive farm land in the San Joaquin Valley as intense pumping of groundwater continues. Over 20 feet of subsidence has occurred in western Fresno county. Subsidence was first recognized in the valley in 1935, when surveys discovered differential settlements in areas of intensive pumping. With the accelerated use of groundwater for agriculture, subsidence has continued to the present. Today, one-third of the entire San Joaquin Valley is subsiding and damage costs and remedial expenditures represent many millions of dollars. Damage caused by subsidence has been restricted principally to significant changes in gradients of canals, aqueducts, and drainage systems, and breakage of deep water-well casings.

Within the San Joaquin Valley, subsidence is concentrated in the southern part and west side of the valley where rainfall is sparse and groundwater recharge is minimal. The subsidence has been greatest in three areas: an elongated trough close to the mountains west of Fresno, where more than 20 feet of subsidence occurred between 1920 and 1963 and total subsidence is approximately 28 feet; a location 30 miles south of Tulare, where more than 12 feet of subsidence has occurred; and an area located south of Bakersfield, where more than 8 feet of subsidence has occurred. These three areas are not located within the Planning Area. Subsidence rates vary greatly from year to year, and subsidence continues in all areas except south of Tulare where surface water imports have reversed the downward trends of water levels.

Expansive Soils. Expansive soils are composed largely of clays, which greatly increase in volume when saturated with water and shrink when dried. Because of this effect, building foundations may rise during the rainy season and fall during the dry season. If this expansive movement varies underneath different parts of a single building, foundations may crack, structural portions of the building may be distorted, and doors and windows may become warped so that they no longer function properly. The potential for soil to undergo shrink and swell is greatly enhanced by the presence of a fluctuating, shallow groundwater table. Volume changes of expansive soils can result in the consolidation of soft clays following the lowering of the water table or the placement of fill. The surface and near-surface soils observed throughout the City of Fresno Planning Area consist of varying combinations of clays, silts, sands, gravels, and cobbles. The clayey soils are considered to be slightly to moderately expansive.

Slope Stability, Slope Failure, and Landslides. Landslides are the release of rock, soil, or other debris and its subsequent movement down a slope or hillside. They are generally caused or controlled by a combination of geology, topography, weather, and hydrology, and can be influenced by development practices. Landslides vary greatly in size and composition, ranging from a thin mass of soil a few yards wide to deep-seated bedrock slides miles across. The travel rate of a landslide can range from a few inches per month to many feet per second depending on the slope, type of materials, and moisture content.

Any slope of 15 degrees or greater is susceptible to mud or landslides. Landslides and other ground failures occur during earthquakes, triggered by the strain induced in soil and rock by ground shaking vibrations, and during non-earthquake conditions, most frequently during the rainy season. Both natural and man-made factors contribute to these slope failures.

Ground failure occurs when stresses in the ground exceed the resistance of earth materials to deformation or rupture. This instability can be triggered by earthquake shaking, which instantaneously places high stresses on earth materials by loss of soil strength due to saturation or seismic shaking. Ground failure can also be triggered by manmade changes, such as loading a steep slope or unstable soils.

Landslides are perhaps the most common form of ground failure that is not caused by earthquakes. In areas where a severe slope stability problem exists, landslide damage can best be avoided by not building on the unstable ground. In some landslide-prone areas, landslides can be totally removed or stabilized. Through good planning and careful controlled design, landslide losses can be all but eliminated.

Although slope failures are not expected to produce a regional disaster, there is a persistent risk of damage to public and private property, including individual residences, roads, canals, reservoirs, and other facilities. The two most important factors influencing the performance of slopes are the nature of the bedrock or surficial deposits and the slope angle. However, there are a number of other factors that have a profound effect on the stability of a particular hillside. These include the presence or absence of deep-rooted vegetation; surface and subsurface drainage conditions; thickness and engineering characteristics of soils and underlying weathered, partially decomposed rock; orientation of bedding; or locally high rainfall can exert a controlling effect on the intensity of natural processes occurring on a particular hillside.

City and County General Plans historically have recognized that major slope areas in excess of 26 percent are "not readily available" and "undevelopable," recognizing the cost and engineering difficulties of grading steep slopes as well as their inherent unsuitability. This development limit generally agrees with customary limits throughout the State, and varies only slightly from the 30 percent standard reference developed by the State Division of Mines and Geology as the maximum developable slope. This is a statewide reference that does not reflect special conditions such as clayey soils.

Whether a landslide will or will not occur at any specific, presently stable slope usually cannot be predicted under "natural conditions" because of the range of natural conditions and changes which occur with time. However, land that has experienced land sliding in the past is believed to be

generally more slide-prone and is also more sensitive to man-induced changes, such as grading, watering, removing or changing the type of vegetation, and changing drainage patterns, among many possible factors.

Paleontologic/Geologic Context. The general structure of the central San Joaquin Basin had begun to take shape in the Late Cretaceous (65 to 75 million years ago [MYA]) as the effects of subductive North American and Pacific Plates collision lifted once extremely deep ocean sediments above sea level. During the Paleocene (65 to 53 MYA) and Eocene (53 to 35 MYA) Epochs, regional changes in the structure of the Earth's crust caused the Basin to rise and fall below sea level numerous times. During periods when the area was above sea level, large deltas brought sediment out of the Sierras to the east with smaller amounts out of the Diablos to the west. During periods when the Basin was below sea level, sedimentation within a shallow sea environment at maximum several hundred feet deep would occur. The deeper rocks and strata in the Basin, as encountered by petroleum geologists, reflect the fresh and saltwater layer-cake nature of geological time, and many of the deeper petroleum and natural gas deposits trapped by oceanic sedimentation are under extremely high pressure.

By the Miocene Epoch, the relationship between the North American and Pacific Plates had changed from subduction to transpression, and the Pacific Plate began sliding northwest. Tremendous volumes of sediment ran into the Basin, filling it by the end of the Pliocene Epoch (5 to 2 MYA) as the seaways were cut off, and raising the land level above the sea. The surrounding mountains were uplifted by tectonic pressure at the same time erosion filled the valleys below. The San Joaquin quickly became a major trap for freshwater and as the water table rose, and the massive Lake Corcoran formed filling the southern and middle San Joaquin Valley with a deltaic outlet to the sea west of Sacramento. Finally, during the Pleistocene Epoch, the deeper areas became individual freshwater lakes that filled and shrank as each season progressed. The low nature of the Valley produced large swamps and meandering stream and river channels. Pleistocene-era and earlier rock strata will exhibit freshwater and marine fossils within slow-moving lithological environments, only to be hidden by the non-fossiliferous Holocene strata that has formed within the last 10,000 years. Krazan performed a geological analysis of the Planning Area. Based on a review of geological information, the geological subgrade of the Planning Area is entirely alluvial consisting of gravels, sands and clays.

Paleontologic/Geologic Research Results. Based on a review of the University of California Museum paleontology vertebrate paleontology database (Appendix F), geological maps indicate that the Planning Area consists of Quaternary alluvium with two primary surficial deposits: 1) Pleistocene non-marine and, 2) Quaternary non-marine fan deposits. The Pleistocene non-marine deposits have been more recently referred to as the Riverbank Formation, and are considered to have high potential sensitivity. The Quaternary non-marine terrace deposits consist of undifferentiated Pleistocene-Holocene alluvial sediments and is also considered to have high potential sensitivity.

Based on a database records search at the University of California Museum of Paleontology (UCMP), three Pleistocene Riverbank Formation localities (#V4401, #V65100, and #V81121) were found in surrounding Fresno county, all of which yielded elements of the Rancholabrean (late Pleistocene) vertebrate fauna. Locality #V81121 is referred to the Riverbank Formation, whereas the other two units are unnamed. Locality #V4401 (Tranquility) accounts for 149 of the 151 specimens listed.

Numerous specimens have been have been published, several of which are types for their species. The recovered faunal assemblage includes pond turtle (*Clemmys marmorata*), rattlesnake (*Crotalus*), loon (*Gavia*), broad-footed mole (*Scapanus latimanus*), jackrabbit (*Lepus*), vole (*Microtus*), wood rat (*Neotoma*), pocket gopher (*Thomomys*), badger (*Taxidea*), grey fox (*Urocyon*), true fox (*Vulpes*), coyote (*Canis latrans*), horse (*Equus*), bison (*Bison*), elk (*Cervus*), and mule deer (*Odocoileus*). Among these are type specimens of *Clemmys marmorata*, *Scapanus latimanus*, and *Canis latrans* that have been documented in scientific publication. The UCMP database also records 12 plant localities in Fresno county, in the Pleistocene alluvial deposits of the Modesto, Riverbank, and Turlock Lake formations.

4.7.4 Regulatory Setting

4.7.4.1 Federal

Earthquake Hazards Reduction Act. The Earthquake Hazards Reduction Act was enacted in 1997 to "reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program." To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by the National Earthquake Hazards Reduction Program Act (NEHRPA), which refined the description of agency responsibilities, program goals, and objectives.

NEHRP's mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRPA designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities.

4.7.4.2 State

Alquist-Priolo Earthquake Fault Zoning Act. In response to the severe fault rupture damage of structures by the 1971 San Fernando earthquake, the State of California enacted the Alquist-Priolo Earthquake Fault Zoning Act in 1972. This act required the State Geologist to delineate Earthquake Fault Zones (EFZs) along known active faults that have a relatively high potential for ground rupture. Faults that are zoned under the Alquist-Priolo Act must meet the strict definition of being "sufficiently active" and "well-defined" for inclusion as an EFZ. The EFZs are revised periodically, and extend 200 to 500 feet on either side of identified fault traces. No structures for human occupancy may be built across an identified active fault trace. An area of 50 feet on either side of an active fault trace is assumed to be underlain by the fault, unless proven otherwise. Proposed construction in an EFZ is permitted only following the completion of a fault location report prepared by a California Registered Geologist. This Act does not apply to areas within the Planning Area because no active faults cross the Planning Area.

California Building Code. Title 24, Part 2, of the California Code of Regulations, also known as the California Building Code (CBC), sets forth minimum requirements for building design and construction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. The CBC is reviewed every three years by the California Building Standards Commission. The Commission makes certain State modifications, and adopts the new code edition for use throughout the State. Once the Commission votes to adopt the new code edition, it will become effective on the first of January of the upcoming year, regardless of whether local cities or counties formally adopt it. The current version, the 2019 California Buildings Standard Code, became effective on July 1, 2019.

The California Building Standards Code is a compilation of three types of building standards from three different origins:

- Building standards that have been adopted by state agencies without change from building standards contained in national model codes.
- Building standards that have been adopted and adapted from the national model code standards to meet California conditions.
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns.

In the context of earthquake hazards, the California Building Standards Code's design standards have a primary objective of assuring public safety and a secondary goal of minimizing property damage and maintaining function during and following a seismic event. Recognizing that the risk of severe seismic ground motion varies from place to place, the California Building Standards Code seismic code provisions will vary depending on location (Seismic Zones 0, 1, 2, 3, and 4; with 0 being the least stringent and 4 being the most stringent). The earthquake design requirements take into account the occupancy category of the structure, Site Class, soil classifications, and various seismic coefficients, which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E/F (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC.

Counties and cities may modify their adoption of the California Buildings Standard Code to address local conditions. Most California cities and counties modify the State adopted version of the Building Standards Code to address local circumstances related to the local climate, topography, or geology. Since modifications cannot be less restrictive, California Building Standards Code provides a minimum standard for protecting public health, safety and welfare that is applicable throughout the Planning Area and study area for cumulative impacts.

4.7.4.3 Local

City of Fresno General Plan

Noise and Safety Element

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; and

- 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.

City of Fresno Municipal Code

Section 11-101. California Building Code. The California Building Code, 2016 Edition, which may be referred to in this Code as the CBC, as promulgated by the California Building Standards Commission, which incorporates the adoption of the 2015 edition of the of the International

Building Code as amended with necessary California amendments and the 2015 International Building Code of the International Code Council, with the exception of Appendix B, are adopted and incorporated by reference into the Code and shall be referred to, along with the City's amendments to the CBC provided in Section 11-102, as the Fresno Building Code. One copy of the CBC is on file and available for use by the public in the Development and Resource Management Department, Building and Safety Services Division.

Section 15-1603. Bluff Protection (BL) Overlay District

Purpose. The Bluff Protection (BL) Overlay District is intended to provide special land development standards that will preserve the integrity of the natural landscape of the southerly San Joaquin River Bluffs, adjacent properties, and adjacent open spaces as areas of special quality by reason of the topography, geologic substratum, and environment of the area. Regulations for the BL Overlay District are deemed necessary for the preservation of the special qualities of the southerly San Joaquin River Bluffs, and for the protection of the health, safety, and general welfare of owners and users of property within the River Bluff Influence Area.

Applicability. The provisions of this article apply to areas within 300 feet of the toe of the San Joaquin River bluff.

Use Regulations. Those uses permitted in the Base District, subject to the limitations and conditions set forth therein.

Development Standards. Development Standards shall be as required by the Base District, except as follows:

- **Bluff Setback:** Development, including buildings, structures, decks, pools, spas, and steps, shall be setback a minimum of 20 feet from the bluff edge or as identified as necessary for the preservation of the existing state of the bluffs in the soils report prepared pursuant to Section 15-1603-F, Soils Report, whichever is greater. Buildings, structures, decks, pools, spas, and steps include all objects that may be below grade, at grade, or above grade.

- **Lighting and Illumination:** Streetlights and all exterior lighting shall be directed away from the river bottom.

- **Design and Orientation:** The design and orientation of structures, walls and fences shall be in keeping with the natural character of the Bluffs. Fences must be open a minimum of 80 percent (i.e., no more than 20 percent opaque) to allow for the passage of light and air.

- **Colors and Materials:** Construction shall be permitted only on lots subject to recorded deed restrictions or covenants restricting exterior colors and construction materials to those which are compatible with the natural bluff environment and with surrounding development.

Geologic Impact Standards. To minimize potential geologic and soil hazards, the following provisions shall apply to all subdivisions and development within Bluff Zones I, II, and III of the San Joaquin River Bluffs environs:

General Provisions. General provisions for grading, drainage, and erosion:

- Locations of streets, utilities and other facilities shall be approved by the Director and the City Engineer.
- Requirements for the location, design, construction, and maintenance of surface and subsurface drainage facilities shall be as determined by the Fresno Metropolitan Flood Control District.
- All development within Bluff Zones I, II, and III shall comply with the applicable provisions of the Building Code as adopted and amended by the City.
- Drainage of storm and irrigation water shall be directed away from the Bluff Face to public rights-of-way or to drainage facilities approved by the Fresno Metropolitan Flood Control District. A drainage plan shall be provided and approved by the Director for each separate lot within the Bluff Influence Area, establishing methods for conveying surface water from roofs and landscaping, and drain water from all swimming pools or decorative pools to approved locations away from the Bluff Face.
- To minimize erosion, the following shall apply to all graded, altered, or unstable bluff areas:
    - Landscaping with drought-tolerant, low-fuel plants, compatible with the bluff environs, from a list prepared by the City.
    - Landscape irrigation shall utilize drip irrigation or low precipitation systems, and must be approved by the civil engineer prior to installation.
    - Hydroseeding, netting and mulch shall be utilized to re-establish plant life, to control erosion and to discourage rodent burrowing.

Soils Investigation. The following types of soil evaluations shall be performed and reported:

- **Bluff Zone I:** A civil engineer or soils engineer registered in the State of California shall investigate and report on soil and geologic conditions, utilizing methods consistent with accepted practices. The report shall evaluate soils and geologic conditions for development proposals located outside Bluff Zone II and shall be similar in scope to the soils investigation required under Subparagraph ii, below. The investigation and report shall identify potential surface and subsurface drainage problems that may ultimately affect the stability of the bluffs and any measures to mitigate such effects.

- **Bluff Zone II:** A civil engineer or soils engineer registered in the State of California shall provide a detailed Soils Investigation and Evaluation Report using methods consistent with accepted practice and shall include the following:
    - Evaluation of existing stability;
    - Evaluation of post-development slope stability;
    - Documentation of existing conditions for rock falls, block caving, creep failures, shear failures, excessive erosion and sloughing;
    - Evaluation of slope angles, subsurface drainage, proposed grading, structures, utility trenches, potential rodent population, storm drain disposal, surface irrigation and drainage, erosion, traffic vibration, potential seismic hazards, and on-site sewage disposal approximate to the bluffs;
    - Evaluation of the influence of future development and grading along the Bluff Toe for its effect on slope stability;
    - Evaluation of the adverse effect of increased surface and subsurface drainage;
    - Coordination, review, and approval of site grading and drainage plans prepared by the project civil engineer for conformance to soils and geologic reports;
    - Laboratory tests to evaluate the soil parameters to be used in determination of slope stability;
    - Determination and establishment of the location of the Bluff Toe, Bluff Edge and of any building setbacks.
- **Bluff Zone III:** A civil engineer or soils engineer registered in the State of California shall complete a Soils Investigation and Evaluation Report, involving detailed study of individual lots within the River Bluff Influence Area, as follows:
    - Zone III soils investigations will address the details of the configuration, location, type, and loading of the proposed structures and drainage plan;
    - The report shall provide detailed recommendations for foundations, drainage, and other items critical to bluff stability.

<u>Filing.</u> Filing of Soils Investigation and Evaluation Reports shall be required as follows:

- A Zone I, Zone II or Zone III Soils Investigation and Evaluation Report and a grading plan shall be filed at the time of filing any tentative tract map or parcel map providing for lots or portions of lots within Zone I, Zone II or Zone III, or at the time of filing any

application for rezoning or for special permits for parcels of land within Zone I, Zone II or Zone III;

- For parcels of land within Zone I, Zone II or Zone III, that are not the subject of the filing of a tentative map or tentative parcel map, or that are not the subject of any application for rezoning or a special permit, a Zone I, Zone II or Zone III Soils Investigation and Evaluation Report and a grading plan shall be filed with any request for a building permit.

Certification. The Soils Investigation and Evaluation Reports shall be certified as follows:

- The engineer responsible for the soils investigation and evaluation report and for the grading plan shall certify that the proposed project will not cause any significant increase in the risk of damage to the bluff from erosion, slippage, subsidence, or other movement when grading, drainage, and other slope protection measures have been done in accordance with the Soils Investigation and Evaluation Report and the grading plan. The certificate may be executed on the face of the subdivision map or parcel map or may be contained in a separate instrument delivered to the Director.

- The engineer responsible for the soils investigation and evaluation report and for the grading plan for parcels of land for which certification is not provided above shall file written certification with any request for a building permit that the proposed project will not cause any significant increase in the risk of damage to the bluff from erosion, slippage, subsidence or other movement, when grading, drainage and other slope protection have been done in accordance with the soils investigation and evaluation report and the grading plan.

Completion of Erosion Controls. All erosion control measures shall be completed before the issuance of occupancy permits for residences constructed on lots within or partially within Zone II, and shall be completed before the issuance of building permits for structures constructed on lots within or partially within Zone III.

Article 33, Section 15-3302. Tentative Parcel and Tentative Map Filing and Processing

A. **Application Requirements.** Tentative Parcel Map and Tentative Map application submittals shall include:

1. Application forms as required by the City.

2. Maps shall be prepared in compliance with all applicable City standards and specifications and the Map Act.

3. Maps shall be clearly and legibly drawn, printed, or reproduced and shall contain the information specified by the City Engineer and Director and shall be prepared pursuant to the Map Act (Sections 66434 et. seq. and 66444 et. seq.).

4. If the subdivider plans to develop the site in phases such that multiple Final Maps will be filed following the approval of a single Tentative Map in compliance with the Map Act (Section 66456.1).

B. Accompanying Data and Reports. Applications for Tentative Maps and Tentative Parcel Maps shall be accompanied by the following data or reports:

1. *Title Report.* A preliminary title report, showing the legal owners at the time of filing the Tentative Map.

2. *Environmental Assessment.* The subdivider shall provide data and information as may be required for the preparation and processing of environmental documents pursuant to the California Environmental Quality Act.

3. *Soils Report.* The City Engineer may require the preparation of a preliminary soils report. If a preliminary soils report indicates the presence of critically expansive soils or other soil problems which, if not corrected, could lead to structural defects, the soils report accompanying the final map shall contain an investigation of each lot within the subdivision. The City Engineer may require additional information or reject the report if it is found to be incomplete, inaccurate, or unsatisfactory. The preliminary soils report may be waived if the City Engineer determines that, due to knowledge of the soil qualities in the subdivision, no preliminary analysis is necessary.

4. *Geotechnical Report.* For subdivisions within the Alquist-Priolo Fault Zone or other area with geologic or seismic hazards per State Hazard Mapping Act or the General Plan, a preliminary geotechnical report that evaluates seismic hazards and recommends appropriate mitigation measures, prepared in compliance with the requirements of the State Seismic Hazard Mapping Act, shall be submitted with the Tentative Map. The report shall identify mitigation measures that will be incorporated in design of the subdivision to mitigate hazards from liquefaction and other seismic hazards. If this preliminary report identifies hazards, an engineering report on each lot in subdivision must be submitted with Final Map.

5. *Other Reports.* Any other data or reports deemed necessary by the City (refer to Section 15-3305, Application Filing and Completeness Review).

County of Fresno General Plan. The County of Fresno General Plan contains goals and policies that address geology and soils. The following General Plan goal and policies are applicable to the proposed project, and is currently being updated. The policies listed below are from the existing County of Fresno General Plan, adopted in 2000.

Public Facilities Element

Policy PF-D.6. The County shall permit individual on-site sewage disposal systems on parcels that have the area, soils, and other characteristics that permit installation of such disposal

facilities without threatening surface or groundwater quality or posing any other health hazards and where community sewer service is not available and cannot be provided.

Health and Safety Element

Goal HS-D. To minimize the loss of life, injury, and property damage due to seismic and geologic hazards.

Policy HS-D.2. The County shall ensure that the General Plan and/or County Ordinance Code is revised, as necessary, to incorporate geologic hazard areas formally designated by the State Geologist (e.g., Earthquake Fault Zones and Seismic Hazard Zones). Development in such areas, including public infrastructure projects, shall not be allowed until compliance with the investigation and mitigation requirements established by the State Geologist can be demonstrated.

Policy HS-D.3. The County shall require that a soils engineering and geologic-seismic analysis be prepared by a California-registered engineer or engineering geologist prior to permitting development, including public infrastructure projects, in areas prone to geologic or seismic hazards (i.e., fault rupture, groundshaking, lateral spreading, lurchcracking, fault creep, liquefaction, subsidence, settlement, landslides, mudslides, unstable slopes, or avalanche).

Policy HS-D.4. The County shall require all proposed structures, additions to structures, utilities, or public facilities situated within areas subject to geologic-seismic hazards as identified in the soils engineering and geologic-seismic analysis to be sited, designed, and constructed in accordance with applicable provisions of the Uniform Building Code (Title 24 of the California Code of Regulations) and other relevant professional standards to minimize or prevent damage or loss and to minimize the risk to public safety.

Policy HS-D.8. The County shall require a soils report by a California-registered engineer or engineering geologist for any proposed development, including public infrastructure projects, that requires a County permit and is located in an area containing soils with high “expansive” or “shrinkswell” properties. Development in such areas shall be prohibited unless suitable design and construction measures are incorporated to reduce the potential risks associated with these conditions.

Policy HS-D.9. The County shall seek to minimize soil erosion by maintaining compatible land uses, suitable building designs, and appropriate construction techniques. Contour grading, where feasible, and revegetation shall be required to mitigate the appearance of engineered slopes and to control erosion.

Policy HS-D.11. The County shall not approve a County permit for new development, including public infrastructure projects where slopes are over thirty (30) percent unless it can be demonstrated by a California-registered civil engineer or engineering geologist that hazards to public safety will be reduced to acceptable levels.

Policy HS-D.12. In known or potential landslide hazard areas, the County shall prohibit avoidable alteration of land in a manner that could increase the hazard, including concentration of water through drainage, irrigation, or septic systems, undercutting the bases of slopes, removal of vegetative cover, and steepening of slopes.

County of Fresno Code of Ordinances

Section 15.28.010. Chapter 18, Chapter 33 and Appendix J of the 2013 California Building Code and Section R300 of the California Residential Code are adopted by reference and except as herein otherwise provided are applicable to and shall cover all grading and excavation within the unincorporated area of the County of Fresno.

County of Madera Code of Ordinances

Title 17 – Subdivisions. Section 17.08.090 defines "Soils Report" data regarding the nature, distribution and strength of existing soils and their suitability to adequately accommodate a proposed subdivision. Such report also contains conclusions and recommendations and is prepared by a person authorized to prepare such a report in the state of California. Soils reports are identified throughout Title 17 as a requirement for development, depending on site conditions.

City of Clovis Municipal Code

Section 9.114, Soils Report. If the City Engineer determines that conditions warrant, a geologic investigation and report may also be required.

4.7.5 Significance Criteria

Continued implementation of the approved General Plan would result in a significant impact related to geology and soils if it would:

GEO-1 Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

a. 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 California Geological Survey Special Publication 42.);

b. Strong seismic ground shaking;

c. Seismic-related ground failure, including liquefaction;

d. Landslides.

GEO-2 Result in substantial soil erosion or the loss of topsoil;

GEO-3 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;

GEO-4 Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property;

GEO-5 Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water;

GEO-6 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.7.6 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to geology and soils that could result from continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and the updates to the Greenhouse Gas Reduction Plan. Future discretionary projects facilitated by the proposed project will be evaluated for project-specific impacts to geology and soils at the time they are proposed. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with continued implementation of the approved General Plan and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less than significant level. Cumulative impacts are also addressed.

4.7.6.1 Project Impacts

The following discussion describes the potential impacts related to geology and soils that could result from continued implementation of the approved General Plan, implementation of the text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan. This programmatic EIR contemplates continued implementation of the General Plan; future discretionary projects facilitated by the proposed project will be evaluated for project-specific geology and soils impacts at the time they are proposed.

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

a. 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 California Geological Survey Special Publication 42.);

According to the Fault Rupture Zones Map prepared by the California Department of Conservation in 2018, the Planning Area is not located within a Fault-Rupture Hazard Area. Moreover, no active faults have been identified within the Planning Area. The nearest zoned fault to the Planning Area is a portion of the Nunez Fault, located approximately 48 miles southwest of the Planning Area. Therefore, because no active faults occur within the Planning Area, impacts associated with fault rupture would be less than significant. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies:

- N/A

Level of Significance Without Mitigation: Less Than Significant Impact.

b. Strong seismic ground shaking:

As with most areas within the State of California, the Planning Area would be exposed to ground shaking from seismic events on local and regional faults. However, the Fresno area has historically experienced a low to moderate degree of seismicity.

A review of geological literature indicates that groundshaking of VII intensity (Modified Mercalli Scale) was felt in the Planning Area from the 1872 Owens Valley Earthquake, which is the largest known earthquake to have historically affected the Planning Area. A VII intensity represents negligible damage in buildings of good design and construction, and slight to moderate damage in well-built ordinary structures. The most recent significant earthquake to affect the Fresno area is the 1983 Coalinga earthquake, a magnitude 6.3 event that occurred in the Coastal Range, west of the city. The Coalinga earthquake had a Modified Mercalli Intensity of VII in the Planning Area. In addition, in 2019 a magnitude 7.1 event occurred in Ridgecrest, located in northeast Kern County east off the Sierra Nevada. This event had a Modified Mercalli Intensity of IX, but no significant damage was reported in the Planning Area.

Although the Planning Area occurs in an area with historically low to moderate level of seismicity, strong ground shaking could occur within the Planning Area during seismic events and occurrences have the possibility to result in significant impacts. Major seismic activity along the nearby Great Valley Fault Zone or the Nunez Fault, or other associated faults, could affect the Planning Area through strong seismic ground shaking. Strong seismic ground shaking could potentially cause structural damage to existing or proposed projects in the Planning Area, possibly resulting in damage to facilities and interruption of service.

Proposed projects in the Planning Area would be designed to withstand strong ground shaking, because all built projects are required to comply with the CBC to minimize the potential effects of ground shaking and other seismic activity. To reduce ground shaking impacts, the approved General Plan also includes Objective NS-2 and policies NS-2-a through NS-2-d, and the City of Fresno Municipal Code includes Section 11-101, which is discussed in Section 4.7.4.3 above.

With the implementation of the objective and policies as well as adherence to Municipal Code and other applicable regulations, development in accordance with the approved General Plan would reduce potential seismic ground shaking impacts to a less-than-significant level. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.7.4.3, above.
- Refer to City of Fresno Municipal Code Sections 11-1010 in Section 4.7.4.3, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

c. Seismic-related ground failure, including liquefaction:

The predominant soils within the Planning Area consist of varying combinations of loose/very soft to very dense/hard silts, clays, sands, and gravels. Groundwater has been encountered near the ground surface in close proximity to water-filled features such as canals, ditches, ponds, and lakes. Based on these characteristics, the potential for soil liquefaction within the Planning Area ranges from very low to moderate due to the variable density of the subsurface soils and the presence of shallow groundwater. Continued implementation of the approved General Plan could result in the exposure of people or structures to liquefaction impacts that would be considered significant. However, the approved General Plan includes an objective and policies and the Fresno Municipal Code includes standards to reduce potential liquefaction impacts that would result from continued implementation of the General Plan. The objective and policies include Objective NS-2 and Policies NS-2-a through NS-2-d which require the City to minimize risks by implementing a series of measures to reduce impacts to new development associated with continued implementation of the approved General Plan. The policies include requiring seismic protection into new and existing construction, conducting soil analyses on new development projects, and enforcing development setbacks in the Bluff Preservation Overlay Zone. With the implementation of the objective, policies, and standards, potential soil liquefaction impacts would be less than significant. No mitigation is required.

In addition to liquefaction, the Planning Area could be susceptible to induced settlement of loose unconsolidated soils or lateral spread during seismic shaking events. Based on the nature of the subsurface materials and the relatively low to moderate seismicity of the region, seismic settlement and/or lateral spread are not anticipated to represent a substantial hazard within the Planning Area during seismic events. If induced settlement or lateral spread does occur, development projects could experience significant impacts. However, as each development project is proposed, continued implementation of Objective NS-2 and Policies NS-2-a through NS-2-d of the approved General Plan and the Fresno Municipal Code, including Section 11-101 (which requires compliance with the CBC), would reduce potential settlement and lateral spread impacts to less than significant levels. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.7.4.3, above.
- Refer to City of Fresno Municipal Code Sections 11-1010 in Section 4.7.4.3, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

d. Landslides:

The Planning Area is located within an area that consists of mostly flat topography within the Central Valley. Accordingly, there is no risk of large landslides in the majority of the Planning Area. However, there is the potential for landslides and slumping 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 Planning Area.

The City of Fresno Municipal Code Section 15-1603 requires a soils investigations and assessments of geologic impact standards to be prepared for every subdivision to be performed in the vicinity of the San Joaquin River bluff prior to any new developments or modifications to the bluff area. These soil investigations are identified as Bluff Zone I, II, and III investigations, which have specific requirements for evaluation of existing slope stability; post-development slope stability; documentation of existing conditions for rock falls, block carving, creep failures, sheer failures, excessive erosion and sloughing; evaluation of slope angles, subsurface drainage, proposed grading, structures, utility trenches, potential rodent population, storm drain disposal, surface irrigation, and drainage, erosion, traffic vibration, potential seismic hazards, on-site sewage disposal approximate to the bluffs, influence of future development and grading along the bluff toe for its effect on slope stability; and the adverse effect of increased surface and subsurface drainage. Compliance with these and other provisions of the City's Municipal Code would ensure that continued implementation of the approved General Plan would not expose people or structures to potential substantial adverse impacts associated with landslides by requiring future development to be compliant with applicable building practices that reduce potential impacts. Therefore, the project would result in less-than-significant impacts related to landslides. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.7.4.3, above.
- Refer to City of Fresno Municipal Code Sections 11-1010 and 15-1603 in Section 4.7.4.3, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

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

Natural forces, both chemical and physical, are continually at work breaking down soils. Erosion poses two hazards: 1) it removes soils, thereby undermining roads and buildings and producing unstable slopes, and 2) it deposits eroded soil in reservoirs, lakes, and drainage structures, and on roads as mudslides. Natural erosion is frequently accelerated by human activities such as site preparation for construction and alteration of topographic features. The following analysis focuses on the potential geotechnical effects of erosion related to project development. For a discussion of potential effects on water quality due to erosion and sedimentation caused by construction activities or urban runoff, please see Section 4.10, Hydrology and Water Quality.

Continued implementation of the approved General Plan would result in site preparation activities, such as grading and trenching, at future project sites located throughout the Planning Area. The

development of any onsite or offsite storm drainage facilities (e.g., new or expanded channels or peak attenuation facilities such as swales or basins) would permanently alter existing topography. As discussed in Impact GEO-4, side slopes of channels or excavations during construction can be eroded by natural forces if proper slope angles are not maintained. Future projects would also result in the addition of impervious surfaces within the Planning Area, and depending on the location of the project, could possibly result in the alteration of topographic features at the project site. The alteration of topographic features could lead to increased erosion by creating unstable rock or soil surfaces, by changing the permeability or runoff characteristics of the soil, or by modifying or creating new pathways for drainage. Because much of the Planning Area is relatively flat and the locations of projects that would substantially alter topography are limited, there would be minimal geotechnical effects related to erosion. Since the Fresno Municipal Code Section 15-1603 requires the preparation of a preliminary soils report that would identify any potential site-specific soil issues, foundation support and grading parameters would be incorporated into the design as required by the Code. Further, Fresno Municipal Code Section 15-3302 requires every approved map to be conditioned on compliance with the requirements for grading and erosion control, including the prevention of sedimentation or damage to off-site property. Compliance with these policies and with other pertinent regulations will ensure that potential soil erosion impacts, or the potential loss of topsoil, would be less than significant. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to City of Fresno Municipal Code Sections 15-1603 and 15-3302 in Section 4.7.4.3, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

GEO-3 The 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.

Issues associated with liquefaction and lateral spreading and landslides are discussed under threshold GEO-1 above. As previously discussed, impacts associated with liquefaction, lateral spreading, and landslides would be less than significant. Portions of the San Joaquin Valley have been subject to land subsidence or collapse due to groundwater and petroleum extraction. Damage caused by subsidence or collapse has been restricted principally to significant changes in gradients of canals and aqueducts, and breakage of deep-water well casings. Within the San Joaquin Valley, subsidence or collapse is concentrated in the southern part and the west side of the valley where rainfall is sparse and groundwater recharge is minimal. Although subsidence or collapse is a significant concern in western Fresno county, as well as other portions of the San Joaquin Valley, the Planning Area is not known to be subject to such subsidence or collapse hazards. Accordingly, as each development project is proposed, continued implementation of Objective NS-2 and Policies NS-2-a through NS-2-d of the approved General Plan and the Fresno Municipal Code, including Section 11-101, and 15-1603 would reduce potential settlement and lateral spread impacts to less than significant levels. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- N/A
- Refer to the approved General Plan policies and objectives identified in Section 4.7.4.3, above.
- Refer to City of Fresno Municipal Code Sections 11-1010 and 15-1603 in Section 4.7.4.3, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

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

The surface and near-surface soils observed throughout the Planning Area consist of varying combinations of clays, silts, sands, gravels, and cobbles. The clayey soils are considered to be slightly to moderately expansive. Previously developed areas within the Planning Area contained expansive clayey soils, and it is anticipated that there are localized areas within the Planning Area that contain expansive soils. However, the specific locations are not known at this time. As future projects are developed in accordance with the approved General Plan, preliminary soil reports in compliance with the City of Fresno Municipal Code Ordinance Section 12-1022 are required to be prepared to identify potential site-specific soil issues such as expansive soils, and to include foundation support and grading parameters in the project design to address site-specific soil conditions. Preliminary soil reports may include measures that should be incorporated into project plans that reduce potential impacts related to expansive soil or other potentially-hazardous soil conditions. Further, grading and erosion control measures are required under Section 15-1603 of the City of Fresno Municipal Code. The implementation of the requirements in the City of Fresno Municipal Code would reduce potential expansive soil impacts to less than significant levels. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to City of Fresno Municipal Code Sections 11-1010 and 15-1603 in Section 4.7.4.3, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

GEO-5 The project does not contain soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Although septic tanks are allowed within the portion of the Planning Area that is currently under the jurisdiction of the county of Fresno, the continued implementation of the approved General Plan would require mandatory abatement of existing septic systems. As development is proposed in compliance with the approved General Plan, septic systems would be removed and public sewage collection and disposal systems would be installed. Potential soil impacts associated with septic tanks would not occur because no new septic tanks would be installed. Therefore, continued

implementation of the approved General Plan would result in no impacts associated with soils that are incapable of supporting septic tanks. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- N/A

Level of Significance Without Mitigation: No Impact.

GEO-6 The project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Based on a review of geologic maps of the Planning Area, there are two primary surficial deposits: (1) Pleistocene non-marine; and (2) Quaternary non-marine fan deposits. The Pleistocene non-marine deposits are considered to have a high potential sensitivity. The Quaternary non-marine deposits consist of Pleistocene-Holocene alluvial sediments. Since these deposits include Pleistocene sediments, they are also considered to have a high potential for sensitivity. Therefore, excavation and/or construction activities within the Planning Area that are associated with continued implementation of the approved General Plan has the potential to impact paleontological/geological resources during excavation and construction activities within previously undisturbed soils. Although many areas have been previously disturbed by farming activities or previous structural development, the project could include future development that will require excavations or construction within previously undisturbed soils. The potential to impact paleontological/geological resources is considered potentially significant.

Applicable Laws, Regulations, Relevant Land Use Policies

- N/A

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact GEO-6: Implementation of the project may directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Mitigation Measure 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.

Level of Significance With Mitigation: Less Than Significant Impact.

4.7.6.2 Cumulative Impacts

GEO-7 The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to geology and soils.

The proposed project would have a significant effect on the environment if it – in combination with other projects – would contribute to a significant cumulative impact related to geology and soils.

Since the nearest zoned fault is located approximately 48 miles from the Planning Area, cumulative development within one mile of the Planning Area would experience less than significant fault rupture impacts. With future development within the Planning Area not being exposed to a zoned fault and fault ruptures are site specific, the implementation of the proposed project would not contribute to cumulative impacts associated with a fault rupture. Therefore, the project's contribution to fault rupture impacts would be less than cumulatively considerable and thus less than cumulatively significant.

The implementation of cumulative projects in the Planning Area and immediately adjacent areas would not increase the potential for impacts associated with seismic ground shaking to occur. Cumulative projects would be exposed to similar ground shaking during seismic events, but would not increase the potential for impacts to occur within the Planning Area. Cumulative projects would also be required to comply with state and federal regulations, including the CBC, which would reduce potential seismic ground shaking impacts to less than significant levels. Since continued implementation of the approved General Plan would not contribute to or increase the potential for cumulative seismic ground shaking impacts, the project's contribution to cumulative impacts would be less than cumulatively considerable, and therefore, less than cumulatively significant.

Development of cumulative projects in areas immediately adjacent to the Planning Area (i.e., within one mile) could expose people or structures to seismic-related ground failures such as liquefaction and lateral spread; however, cumulative projects would also be required to comply with the same Federal and State regulations, and to similar local regulations, as proposed development projects under the approved General Plan. Adherence to these standards would reduce potential seismic-related ground failure impacts associated with site-specific cumulative development to less than significant levels. Since the proposed project would also result in less than significant impacts, the project's contribution to effects associated with seismic-related ground failure would be less than cumulatively considerable and thus less than cumulatively significant.

Cumulative projects in areas immediately adjacent to the Planning Area (i.e., within one mile) would result in similar construction and operational erosion impacts and impacts to topsoil. However, individual cumulative projects would also be required to comply with mandatory regulations during construction and operation. The jurisdictions in areas immediately adjacent to the Planning Area, such as the County of Fresno, City of Clovis, and the County of Madera, have implemented regulations to ensure the identification of potential soils impacts and the implementation of corrective actions. These regulations include County of Fresno Ordinance Code Section 15.28, City of Clovis Municipal Code Section 9.114, and County of Madera County Code, Title 17. The implementation of these regulations would reduce potential site-specific soil erosion and minimize the loss of

topsoil associated with cumulative projects, thus ensuring that impacts to such resources remain less than significant. Since future development in accordance with the approved General Plan would also result in less-than-significant soil erosion and loss of topsoil impacts, the project's contribution to cumulative soil impacts would be less than cumulatively considerable, and thus less than cumulatively significant.

As discussed above in Impact Discussions GEO-3 and GEO-4, the project's contribution to cumulative liquefaction, lateral spreading, and landslides is less than cumulatively considerable. As discussed above, subsidence or collapse occurs in the southern part and west side of the San Joaquin Valley, where rainfall is sparse and groundwater recharge is minimal. Neither the Planning Area nor the areas within one mile of the Planning Area are subject to such subsidence or collapse. Since all future projects must comply with the federal, State, and pertinent local regulations regarding structural stability, as cumulative development occurs, less than significant subsidence or collapse impacts would occur. Since the proposed project would experience less than significant impacts associated with subsidence or collapse impacts and these potential impacts are site-specific, the project's contribution to cumulative subsidence or collapse is less than cumulatively considerable, and thus less than cumulatively significant.

Cumulative projects proposed for the areas within one mile of the Planning Area could be associated with expansive soils. However, individual cumulative projects would be required to comply with the same mandatory federal and state regulations. In addition, the jurisdictions that abut the Planning Area, such as the County of Fresno, City of Clovis, and the County of Madera, have implemented local regulations to ensure that potential expansive soils impacts are identified and corrective actions are taken. These regulations include County of Fresno Ordinance Code Section 15.28, City of Clovis Municipal Code Section 9.114, and County of Madera County Code, Title 17. Compliance with these regulations would reduce potential expansive soil impacts associated with cumulative projects to less than significant. Continued implementation of the approved General Plan would result in less-than-significant expansive soil impacts, the project's contribution to cumulative soil impacts would be less than cumulatively considerable, and thus less than cumulatively significant.

Cumulative development within one mile of the Planning Area could propose to install septic tank systems in the future, particularly within areas under the jurisdiction of the County of Fresno, County of Madera, and City of Clovis. While it is possible that soils in the vicinity of future cumulative projects that use septic systems could be incapable of adequately supporting the use of septic tanks, development under the approved General Plan would not contribute to potential impacts on the soils related to septic tanks. Since the proposed project would not involve the installation of new septic tanks, the implementation of the proposed project would not contribute to potential cumulative impacts related to soils supporting septic systems. Therefore, the proposed project would result in no cumulative impacts related to soils that are incapable of supporting septic systems.

Future development in areas outside the Planning Area as well as other cumulative development, such as the High Speed Rail, could result in impacts to paleontological/geological resources during excavation and/or construction activities within previously undisturbed soils. These potential impacts from cumulative development could be significant. Since future development within the Planning Area could result in significant impacts to paleontological/geological resources, the

project's contribution to cumulative impacts would be cumulatively considerable and therefore cumulatively significant.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.7.4.3, above.
- Refer to City of Fresno Municipal Code Sections 11-1010 and 15-1603 in Section 4.7.4.3, above.
- Refer to City of Clovis Municipal Code Section 9.114 in Section 4.7.4.3, above.
- Refer to County of Madera Code of Ordinance Title 17, in Section 4.7.4.3, above.

Level of Significance Without Mitigation: Significant Unless Mitigation Measures Incorporated.

Impact GEO-7: Continued implementation of the approved General Plan, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to paleontological resources.

Mitigation Measures: Refer to Mitigation Measures GEO-6.1.

Level of Significance With Mitigation: Less Than Significant Impact.

4.8 GREENHOUSE GAS EMISSIONS

4.8.1 Introduction

This section provides a discussion of greenhouse gas emissions (GHG), existing regulations pertaining to GHGs, and an analysis of GHG emissions impacts associated with the construction and operation of continued implementation of the approved General Plan. This analysis examines the short-term construction and long-term operational impacts within the Planning Area and evaluates the effectiveness of measures incorporated as part of the approved General Plan.

4.8.2 CEQA Baseline

The City of Fresno (City) is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Travelled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the approved General Plan, explains that the PEIR will evaluate the continued implementation of the approved General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of SB 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the approved General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the approved General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. The approved General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the City's approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.8.3 Existing Environmental Setting

The following discussion describes existing GHG emissions in the city of Fresno and the San Joaquin Valley Air Basin (SJVAB), beginning with a discussion of typical GHG types and sources, impacts of global climate changes, the regulatory framework surrounding these issues, and current emission levels.

The study area for project impacts regarding GHG is the City of Fresno Planning Area because potential development under the continued implementation of the City of Fresno General Plan is limited to areas within the Planning Area where the emissions are generated. It should be noted that GHG impacts are inherently cumulative impacts.

The study area for the analysis of cumulative GHG impacts is the State of California. This analysis will be based on a summary of projections approach as provided in Section 15130(b)(1)(B) of the CEQA Guidelines. The applicable projections include those provided by the State pursuant to AB 32 and the California Air Resources Board (CARB) Scoping Plan prepared to address AB 32 requirements.

4.8.4 Methodology

The city of Fresno is located in the county of Fresno in the SJVAB. The SJVAB consists of Kings, Madera, San Joaquin, Merced, Stanislaus, and Fresno counties; as well as a portion of Kern county. The local agency with jurisdiction over air quality in the SJVAB is the San Joaquin Valley Air Pollution Control District (SJVAPCD).

Global climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. The Earth's average near-surface atmospheric temperature rose 0.6 ± 0.2° Celsius (°C) or 1.1 ± 0.4° Fahrenheit (°F) in the 20th century. The prevailing scientific opinion on climate change is that most of the warming observed over the last 50 years is attributable to human activities. The increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-induced component of warming. GHGs are released by the burning of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect.[1]

GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are:

[1] The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse lets heat from sunlight in and reduces the heat escaping, greenhouse gases like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of greenhouse gas results in global warming, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur Hexafluoride (SF_6)

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade GHGs include naturally-occurring GHGs such as CO_2, methane, and N_2O, some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this air quality analysis, the term "GHGs" will refer collectively to the six gases listed above only.

The following discussion summarizes the characteristics of the six GHGs and black carbon.

4.8.4.1 Carbon Dioxide

In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals and plants, volcanic out gassing, decomposition of organic matter and evaporation from the oceans. Human caused sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Natural sources release approximately 150 billion tons of CO_2 each year, far outweighing the 7 billion tons of man-made emissions of CO_2 each year. Nevertheless, natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of man-made CO_2, and consequently, the gas is building up in the atmosphere.

In 2017, CO_2 emissions accounted for approximately 83 percent of California's overall GHG emissions.[2] The transportation sector accounted for California's largest portion of CO_2 emissions, approximately 47 percent, with gasoline consumption making up the greatest portion of these emissions. Industrial sources were California's second largest category of GHG emissions.

[2] California Air Resources Board. 2019. *California Greenhouse Gas Emission Inventory – 2019 Edition*. July 11. Website: www.arb.ca.gov/cc/inventory/data/data.htm (accessed February 17, 2020).

4.8.4.2 Methane

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands and oceans. Decomposition occurring in landfills accounts for the majority of human-generated CH_4 emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation in dairy cows, manure management, and rice cultivation are also significant sources of CH_4 in California. Methane accounted for approximately 9.0 percent of GHG emissions in California in 2017.[3]

Total annual emissions of methane in California are approximately 39.9 million tons, with manmade emissions accounting for the majority. As with CO_2, the major removal process of atmospheric methane—a natural chemical breakdown in the atmosphere—cannot keep pace with source emissions, and methane concentrations in the atmosphere are increasing.

4.8.4.3 Nitrous Oxide

Nitrous oxide is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. Nitrous oxide is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N_2O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in California. Nitrous oxide emissions accounted for approximately 3.1 percent of GHG emissions in California in 2017.[4]

4.8.4.4 Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

HFCs are primarily used as substitutes for ozone-depleting substances regulated under the Montreal Protocol.[5] PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry leads to greater use of PFCs. HFCs, PFCs, and SF_6 accounted for about 4.7 percent of GHG emissions (CO_2e) in California in 2017.[6]

4.8.4.5 Black Carbon

Black carbon is the most strongly light-absorbing component of particulate matter (PM) formed by burning fossil fuels such as coal, diesel, and biomass. Black carbon is emitted directly into the atmosphere in the form of $PM_{2.5}$ and is the most effective form of PM, by mass, at absorbing solar energy. Per unit of mass in the atmosphere, black carbon can absorb a million times more energy

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3 Ibid.

4 Ibid.

5 The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion.

6 Ibid.

than CO_2.[7] Black carbon contributes to climate change both directly, such as absorbing sunlight, and indirectly, such as affecting cloud formation. However, because black carbon is short-lived in the atmosphere, it can be difficult to quantify its effect on global-warming.

Most U.S. emissions of black carbon come from mobile sources (52 percent), particularly from diesel fueled vehicles. The other major source of black carbon is open biomass burning, including wildfires, although residential heating and industry also contribute. The CARB estimates that the annual black carbon emissions in California have decreased approximately 70 percent between 1990 and 2010 and are expected to continue to decline significantly due to controls on mobile diesel emissions.

4.8.4.6 Global Warming Potential

GHGs have varying global warming potential (GWP) and atmospheric lifetimes. Carbon dioxide, the reference gas for global warming potential, has a global warming potential of 1. The calculation of the carbon dioxide equivalent (CO_2e) is a consistent methodology for comparing emissions, since it normalizes various emissions to a consistent metric. Methane's warming potential of 21 indicates that methane has a 21 times greater warming effect than carbon dioxide on a molecule per molecule basis. A carbon dioxide equivalent is the mass emissions of an individual GHG multiplied by its global warming potential. Emissions are typically shown in MT CO_2e or a million times that, million metric tons of carbon dioxide equivalents (MMT CO_2e). Global warming potentials are shown in Table 4.8-1.

Table 4.8-1: Global Warming Potentials

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-Year Time Horizon)
Carbon Dioxide	50-200	1
Methane	12	21
Nitrous Oxide	114	310
HFC-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1.4	124
PFC: Tetrafluoromethane (CF_4)	50,000	7,390
PFC: Hexafluoromethane (C_2F_6)	10,000	12,200
Sulfur Hexafluoride (SF_6)	3,200	22,800

Source: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC* (Intergovernmental Panel on Climate Change, 2007a).

4.8.4.7 Effects of Climate Change on Fresno

Scientific research indicates that an increase in global average temperature of 2 degrees Centigrade (°C) (3.6° Fahrenheit [F]) above pre-industrial levels poses risks to natural systems and human health and well-being. This is only 1.1°C (2.0°F) above present levels. In order to avoid temperatures above those levels, studies indicate that a concentration at or below 450 ppm CO_2e must be achieved.

[7] U.S. Environmental Protection Agency. 2017. *Black Carbon*. September. Website: 19january2017 snapshot.epa.gov/www3/airquality/blackcarbon/basic.html (accessed February 2020).

Other studies indicate a stable concentration of about 400 ppm CO_2e will be needed to prevent the 2.0°C (3.6°F) increase. Readings at the Mauna Loa monitoring station have already exceeded 410 ppm CO_2e and the international average is likely to exceed 400 ppm in a few years. The existing trend is likely to cause substantial harm to future generations and nature.[8]

Despite efforts to reduce GHG emissions, these gases can remain in the atmosphere for hundreds of years and emissions are expected to continue to increase globally for some time. Therefore, it is probable that climate change impacts will be observed. The impacts are predicted to vary by region. In California, climate change may result in a decreased water supply, sea level rise, and increased wildfires, to name a few. In order to manage these impacts, the city's vulnerability to these impacts is assessed and strategies have been developed to adapt to the projected changes.

Determining potential future impacts from climate change is an evolving process. The 2009 California Climate Adaptation Strategy provides a proactive foundation for an ongoing adaptation process within California for the sectors with the greatest risks. The document provides strategies for state and local governments to adapt to climate change.[9] By incorporating applicable strategies as Implementation Strategies, the City is taking a proactive approach to ensure that impacts to the city are minimized.

The following discussion describes the main risks from climate change that could be experienced in the city of Fresno. The sections of the approved General Plan related to safety, public utilities, hydrology, and resource conservation contain policies that would decrease the risks to residents of the city. In general, City programs and policies to respond to existing levels of risk may need to be implemented more frequently or expanded to protect city residents and resources from potential impacts from climate change. Response to more or bigger events can be expected to demand more city resources.

Wildfire. The city of Fresno is surrounded by irrigated agricultural lands, rural residential development, and the city of Clovis that are not subject to wildfire to any great extent. Fallow farmland and vacant land with weedy growth can become a fire hazard if not maintained. The San Joaquin River bluff area along the city's northern boundary could experience longer dry seasons and greater threats from wildfire.

Water. One of the potential impacts of climate change is a loss of natural snowpack, particularly the Sierra Nevada snowpack. Snowmelt provides an annual average of 15 million acre-feet of water, released between April and July each year.[10] The California Department of Water Resources projects that the Sierra snowpack will experience at least a 25 percent reduction from its historic average by

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8 California Air Resources Board (CARB). 2014. California Greenhouse Gas Emission Inventory: 2000-2012. Available online at: ww3.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_00-12_report.pdf.

9 California Natural Resources Agency (CNRA). 2009. California Climate Adaptation Strategy. Available online at: resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf.

10 California Department of Water Resources (DWR). 2008. Managing an Uncertain Future: Climate Change Adaptation Strategies for California Water.

2050.[11] Climate change is also anticipated to bring warmer storms that result in less snowfall at lower elevations, reducing the total snowpack.

Changes in precipitation patterns are expected to cause increased flooding. For the purposes of federal flood insurance, the Federal Emergency Management Agency (FEMA) has traditionally used the 100-year flood event, which refers to the level of flood flows that has a 1 percent chance of being exceeded in any single year. As California's hydrology changes, what is currently considered a 100-year flood may strike more often, leaving many communities at greater risk. Moreover, as peak flows and precipitation change over time, climate change calls into question assumptions of "stationarity" that are used in flood-related statistical analyses such as the 100-year flood. That is, the probable area of inundation does not change from year to year.

The California Department of Water Resources recommends that local governments implement land use policies that decrease flood risk.[12] These following recommendations are included as GHG Plan implementation policies where applicable and feasible.

- Local land use agencies should update General Plans to address increased flood risks posed by climate change. General Plans should consider an appropriate risk tolerance and planning horizon for each locality.
- Local governments should site new development outside of undeveloped floodplains unless the floodplain has at least a sustainable, 200-year level of flood protection.
- Local governments should use low-impact development techniques to infiltrate and store runoff.
- Local governments should include flood-resistant design requirements in local building codes. State, federal, and local agencies should develop conjunctive use management plans that integrate floodplain management, groundwater banking, and surface storage. Such plans could help facilitate system reoperation and provide a framework for the development of local projects that are beneficial across regions.
- Local land use agencies should adopt ordinances that protect the natural functioning of groundwater recharge areas.

As precipitation falls in the form of rain rather than snow with greater storm intensity, high-frequency flood events are projected to increase. There is currently no known literature that suggests an increase in flooding from climate change in the Fresno area; however, it is possible that there could be changing weather patterns that would result in heavy downpours of rain in the area, which could cause street flooding. In addition, the potential for increased wildfires in foothill and

[11] California Department of Water Resources (DWR). 2014. *Final Report of the Flood Emergency Action Team*.

[12] California Department of Water Resources (DWR). 2008. *Managing an Uncertain Future: Climate Change Adaptation Strategies for California Water*.

mountain areas upstream from Fresno resulting from climate change could increase floods following fire if reservoirs had insufficient capacity to capture the runoff at that time.

4.8.4.8 Emission Inventories

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, United States, and California GHG emission inventories.

Global Emissions. Worldwide emissions of GHGs in 2017 totaled approximately 49,900 million metric tons of CO_2e.

United States Emissions. In 2017, the United States emitted about 6,457 million metric tons of CO_2e. The percentage of emissions for the United States is 12.2 percent of the global total yet accounts for only 4.4 percent of the world's population. This places extra responsibility for the United States to take a leadership role and to act as a model for other nations to follow. Although previous international efforts have not made substantial progress in slowing the growth in GHG emissions, the United States has many reasons to change to lower carbon economy. For example, reducing energy imports results in increased energy security, cost savings from efficiency, and creates employment in renewable energy.

State of California Emissions. According to CARB emission inventory estimates, the State emitted approximately 424.1 million metric tons of CO_2e (million metric tons CO_2e) emissions in 2017.

City of Fresno Emissions. The city of Fresno baseline inventory year was 2010. The City has prepared an updated inventory for 2016 that accounts for regulations adopted to that point in time. Therefore, 2016 provides the best available baseline for the GHG Plan and can be compared directly with State progress to date and targets. Table 4.8-2 shows the baseline inventory.

Table 4.8-2: City of Fresno GHG Emissions by Sector for 2016

Sector	2016 (MT CO_2e)	Percent of Total Emissions
Motor Vehicles	1,520,052	52
Residential Energy	479,371	16
Commercial Energy	524,838	18
Fugitive Emissions	270,130	9
Solid Waste	119,167	4
Industrial Energy	10,055	<1
Agriculture Energy	20	<1
Total	**2,923,633**	**100**

Source: ICLEI Local Governments for Sustainability, City of Fresno 2016 Inventory Update, 2018.

As shown in Table 4.8-2, motor vehicles were the largest source at approximately 52 percent of the city's GHG emissions in 2016, followed by commercial and residential energy at 18 and 16 percent respectively. The remaining sources included fugitive emissions at 9 percent and solid waste sources

at 4 percent. Agriculture and industrial energy emissions each account for less than 1 percent of total emissions.

4.8.5 Regulatory Setting

4.8.5.1 Federal Policies and Regulations

The United States Environmental Protection Agency (EPA) is responsible for implementing federal policy to address global climate change. The federal government's early efforts have focused on public-private partnerships to reduce GHG intensity through energy efficiency, renewable energy, methane and other non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions.

The EPA is required to regulate carbon dioxide and other GHGs as pollutants under Section 202(a)(1) of the federal Clean Air Act. The first step in implementing its authority was the Mandatory Reporting Rule that required inventory data collection commencing on January 1, 2010 with first reports due March 2011. Effective January 2, 2011, the EPA requires new and existing sources of GHG emissions of 75,000 tons per year to obtain a permit under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit Program.

The main federal regulatory program for automobiles is the Corporate Average Fuel Economy (CAFE) program, which has been in place since 1975. Under previous administrations, CAFE was the primary means of limiting mobile source carbon emissions. Rules finalized in 2012 put in place binding standards through Model Year 2021 and offered estimated standards through 2024. The federal light-duty vehicle standards were developed in two phases that harmonized with California standards through 2016 (Phase 1) and 2025 (Phase 2) and developed the first ever federal GHG standards for medium-duty and heavy-duty vehicles. At the time, the EPA estimated that the new standards in this rule would reduce CO_2 emissions by approximately 270 MMT and save 530 million barrels of oil over the life of vehicles sold during the 2014 through 2018 model years.

In 2018, however, the EPA proposed a new, less-stringent set of standards called the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks. The SAFE Vehicles Rule would amend certain existing CAFE and tailpipe CO_2 emissions standards for passenger cars and light trucks and establish new standards, all covering model years 2021 through 2026. The standards have yet to be finalized.

4.8.5.2 State Policies and Regulations

In June 2013, President Obama approved the nation's first Climate Action Plan that lays out a series of executive actions to reduce carbon pollution, prepare the nation for the impacts of climate change, and lead international efforts to address global climate change. The Plan reiterates the President's 2009 pledge to reduce United States GHG emissions by 17 percent below 2005 levels by 2020. Under the President Trump administration, the nation's stance on climate change has shifted from being a part of global action, to policy stagnation and deregulation. In June 2017, the U.S. decided to withdraw from the Paris Climate Agreement, which was an agreement among countries to reduce global GHG emissions resulting from the 2015 United Nations Climate Change Conference. Currently, the EPA has been engaged in research into approaches to reduce the U.S. contribution to

climate change. Areas of climate research include economic analyses of regulatory policy instruments (e.g., emissions trading, estimation of GHG reduction benefits, the role of uncertainty, and modeling the economic impacts of ocean acidification). In the meantime, many U.S. States and companies are putting in place their own commitments to reduce global climate change by enacting local climate action plans, policies, and standards.

California has adopted a variety of regulations aimed at reducing the State's GHG emissions. While State actions alone cannot stop climate change, the adoption and implementation of this legislation demonstrates California's leadership in addressing climate change. Key legislation and Executive Orders pertaining to the State's reduction targets are described below.

Executive Order S-3-05. California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S 3-05, the following reduction targets for GHG emissions:

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

The State achieved the first goal of reducing emissions to 2000 levels by 2010. Total GHG emissions were reduced by 2.9 percent during that period even though population increased by 10.9 percent in the same period.[13] The State also appears to be on track for achieving the 2020 target.

Executive Order B-30-15. On April 29, 2015, California Governor Jerry Brown announced through EO B-30-15 the following GHG emissions target:

- By 2030, California shall reduce GHG emissions to 40 percent below 1990 levels.

The emissions reduction target of 40 percent below 1990 levels by 2030 is an interim-year goal to make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. The order directs CARB to provide a plan with specific regulations to reduce Statewide sources of GHG emissions. EO B-30-15 does not include a specific guideline for local governments.

Assembly Bill 32 (AB 32) and Senate Bill 32 (SB 32), California Global Warming Solutions Act. AB 32 requires CARB to reduce Statewide GHG emissions to 1990 levels by 2020. As part of this legislation, CARB was required to prepare a "Scoping Plan" that demonstrates how the State will achieve this goal. The Scoping Plan was adopted in 2011, and in it, local governments were described as "essential partners" in meeting the Statewide goal, recommending a GHG reduction level of 15 percent below 2005 to 2008 levels (depending on when a full emissions inventory is available) by 2020.

[13] California Air Resources Board (CARB). 2014. California Greenhouse Gas Emissions Inventory: 2000-2012. Available online at: ww3.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_00-12_report.pdf (accessed February 17, 2020).

CARB released the 2017 Scoping Plan in November 2017. The 2017 Scoping Plan provides strategies for achieving the 2030 target established by EO B-30-15 and codified in SB 32 (40 percent below 1990 levels by 2030). The 2017 Scoping Plan recommends local plan-level GHG emissions reduction goals.

SB 375. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy, which allocates land uses in the Metropolitan Planning Organization's Regional Transportation Plan. Qualified projects consistent with an approved Sustainable Communities Strategy or Alternative Planning Strategy and categorized as "transit priority projects" would receive incentives under new provisions of CEQA. SB 375 requires regional reduction targets for light duty passenger vehicle CO_2 emissions for each MPO.

AB 1493 (Pavley). The Pavley Bill enacted in 2002 requires the maximum feasible and cost-effective reduction of GHGs from automobiles and light-duty trucks. In 2004, CARB approved the "Pavley I" regulations that applied to new passenger vehicles beginning with model year 2009 through 2016. Pavley I is expected to reduce GHG emissions from regulated vehicles by 30 percent from 2002 levels by 2016. Pavley II was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III. The amendments, effective August 7, 2012, apply to vehicles for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025.[14]

California Energy Code (California Building Energy Efficiency Standards). Energy consumption by new buildings in California is regulated by the California Energy Code which is Part 6 under Title 24 of the California Code of Regulations (CCR Title 24). The 12 parts of the CCR Title 24 are known as the California Building Standards Code (CBSC). The California Energy Commission adopted its first energy code, titled the Energy Conservation Standards for New Residential and New Nonresidential Buildings, in 1978 in response to a legislative mandate to reduce energy consumption in the State. The CBSC is updated every 3 years, and the current 2019 California Energy Code went into effect on January 1, 2020. The California Energy Code applies to both new construction and rehabilitation of residential and non-residential buildings, and regulates energy consumed for heating, cooling, ventilation, water heating, and lighting. The California Energy Code is enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings, provided these standards meet or exceed those provided in CCR Title 24. The 2019 Title 24 standards include the requirement by the California Public Utilities Commission (CPUC) Energy Efficiency Strategic Plan for net zero energy consumption for new residential development starting in 2020 and will ultimately incorporate requirements for net zero in new non-residential development by 2030.

California Green Building Standards Code (CALGreen Code). In 2008, the California Building Standards Commission adopted Part 11 of CCR Title 24, titled the California Green Building Standards Code (CALGreen Code) which became effective on August 1, 2009 as a voluntary code.

[14] California Air Resources Board (CARB). 2011. *LEV III Staff Report and Initial Statement of Reasons*. December 7.

The 2010 CALGreen Code was the first mandatory edition, took effect on January 1, 2011, and is now a part of the CBSC 3-year update cycle. The 2019 CALGreen Code standards became effective on January 1, 2020. The CALGreen Code establishes mandatory measures for residential and non-residential building construction and encourages sustainable construction practices in the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. Although the CALGreen Code was adopted as part of the State's efforts to reduce GHG emissions, the CALGreen Code standards have co-benefits of reducing energy consumption from residential and non-residential buildings subject to the standard.

Senate Bill 97. SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. The legislation directed the California Office of Planning and Research to develop draft CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" and directed the California Natural Resources Agency to certify and adopt the State CEQA Guidelines. CEQA Guidelines Section 15183.5, Tiering and Streamlining the Analysis of GHG Emissions, was added as part of the CEQA Guideline amendments that became effective in 2010 and describes the criteria needed in a GHG reduction plan that would allow for the tiering and streamlining of CEQA analysis for development projects.

Senate Bill x7-7. SB x7-7 requires water suppliers to reduce urban per capita water consumption 20 percent from a baseline level by 2020.

Renewable Portfolio Standard. The Renewable Portfolio Standard (RPS) requires energy providers to derive 33 percent of their electricity from qualified renewable sources by 2020. In 2018, the State Assembly passed and Governor Jerry Brown signed SB 100, which requires energy providers to derive 60 percent of their electricity from qualified renewable sources by 2030 and 100 percent by 2045. The RPS is anticipated to lower emission factors (i.e., fewer GHG emissions per kilowatt-hour used) from utilities across the State, including Pacific Gas and Electric (PG&E).

Innovative Clean Transit (ICT) Regulation. The ICT regulation was adopted in December 2018 and requires all public transit agencies to gradually transition to a 100 percent zero-emission bus (ZEB) fleet. Beginning in 2029, 100 percent of new purchases by transit agencies must be ZEBs, with a goal for full transition by 2040. It applies to all transit agencies that own, operate, or lease buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. It includes standard, articulated, over-the-road, double-decker, and cutaway buses.

Other Regulations. The CARB has adopted numerous regulations on sources of GHGs since the approval of the Climate Change Scoping Plan. Some of the more notable regulations include the Low Carbon Fuel Standard (LCFS) and regulations affecting vehicle efficiency such as the Tire Pressure Program, Low Friction Oil, and Heavy Duty Vehicle Aerodynamic Efficiency Standards. Also important are CARB regulations that apply to high global warming potential consumer products and refrigerants. SB 734, which requires the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to level of service (LOS) for evaluating transportation impacts. The law requires that those alternative criteria promote the reduction of GHG, the development of multimodal transportation networks, and a diversity of land uses.

Regional Policies and Regulations

SB 375 Regional Targets and Sustainable Community Strategy (SCS). SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPO) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the Metropolitan Planning Organization Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy and categorized as "transit priority projects" would receive incentives under new provisions of CEQA.

In 2010, as part of its mandate under SB 375, the CARB set specific GHG emission reduction targets for cars and light trucks for each of the State's 18 metropolitan planning organizations from a 2005 base year. The GHG targets set for the Fresno region in 2010 called for a 5 percent per capita reduction by 2020 and a 10 percent per capita reduction by 2035. SB 375 requires that Fresno Council of Governments (COG) demonstrate in its SCS that GHG emission reduction targets will be met for 2020 and 2035. If not, then an Alternative Planning Strategy (APS) shall be prepared to demonstrate how the targets can be met through the alternative strategies in the APS. These numbers are subject to changes due to model validation, calibration, and ongoing local coordination efforts. The MPO growth scenario focuses on existing core areas without expansion of the City of Fresno sphere of influence.[15] Under the approved General Plan, growth would be distributed along major corridors and activity centers supported by a new Bus Rapid Transit (BRT) system, and has a theme of complete neighborhoods to provide convenient access to different uses at the neighborhood level. The strategy relies on a combination of increasing density, mixed uses, and infill.

The Fresno COG developed an SCS to implement SB 375 requirements. The SCS, adopted by the Fresno COG on June 26, 2014 demonstrated that Fresno County will be able to achieve the GHG targets for light-duty vehicle travel adopted by the CARB for this area. In July 2018, the Fresno COG adopted second SCS based on the previous SCS adopted in 2014. The Fresno COG would be able to meet the CARB GHG targets through 2018 RTP/SCS.[16]

San Joaquin Valley Blueprint. The San Joaquin Valley Blueprint Planning Process is an effort by agencies, organizations, and individuals, including the Fresno COG, to identify visions, values, guiding principles, and alternative growth scenarios for development over a 20-year planning horizon. The 2018 RTP/SCS continues the blueprint development process that started in 2006.

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15 California Air Resources Board (CARB). 2010. Proposed Regional Greenhouse Gas Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375. Website: ww3.arb.ca.gov/cc/sb375/staffreport_sb375080910.pdf?_ga=2.89934491.1048265486.1571767987-1056020676.1542733892.

16 Fresno COG. 2017. Fresno County 2050 Growth Projections. Prepared for Fresno County Council of Governments. Available online at: www.fresnocog.org/wp-content/uploads/publications/Demographics/Fresno_COG_2050_Projections_Final_Report_050417.pdf (accessed March 4, 2019).

The adopted 12 Blueprint Smart Growth Principles from this process are:

1. Create a range of housing opportunities and choices.
2. Create walkable neighborhoods.
3. Encourage community and stakeholder collaboration.
4. Foster distinctive, attractive communities with a strong sense of place.
5. Make development decisions predictable, fair, and cost-effective.
6. Mix land uses.
7. Preserve open space, farmland, natural beauty, and critical environmental areas.
8. Provide a variety of transportation choices.
9. Strengthen and direct development towards existing communities.
10. Take advantage of compact building design.
11. Enhance the economic vitality of the region.
12. Support actions that encourage environmental resource management.

Fresno County's Blueprint Vision is as follows:

- Fresno county will be composed of unique cities, communities and a diverse population in a connected high quality environment that accommodates anticipated population growth and is supported by:
    - A vibrant economy built on competitive strength and world class education;
    - A healthy and sustainable environment where air, aquifers, surface waters, forests, soil, agriculture, open space and wildlife resources are enhanced and protected; and
    - A focus on cultural and community stewardship where all people enjoy fundamental rights as members of a free society, and where the community takes ownership of problems and their solutions.

The form of the Fresno region blueprint recognizes its economic, environmental, and cultural connectedness while maintaining a system of high-capacity multimodal transportation corridors that link the metro area to the rural areas and the State while preserving and maintaining the

character of individual communities and the vital agricultural and natural resources between and around them.[17]

The Blueprint preferred scenario would result in countywide average residential density of 8.0 dwelling units/acre for new growth between now and 2050. The density of new growth in the Fresno Clovis Metropolitan Areas (FCMA) will be 9.0 units/acre, while the average density of new development in the non-FCMA areas will be around 5.7 units/acre. This is comparable with the current trend density for Fresno county of 3.8 dwelling units/acre.[18]

San Joaquin Valley Air Pollution Control District. The city of Fresno is located within the San Joaquin Valley Air Basin, which is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (District). The District has regulatory authority over certain stationary and industrial GHG emission sources and provides voluntary technical guidance on addressing GHGs for other emission sources in a CEQA context. District initiatives related to GHGs are described below.

Climate Change Action Plan. The District Governing Board approved the San Joaquin Valley Air Pollution Control District Climate Change Action Plan (CCAP) on August 21, 2008. The CCAP began a public process to bring together stakeholders, land use agencies, environmental groups, and business groups, and to conduct public workshops to develop comprehensive policies for CEQA Guidelines, a carbon exchange bank, and voluntary GHG emissions mitigation agreements for the Governing Board's consideration. The CCAP contains the following goals and actions:

Goals

1. Assist local land-use agencies with California Environmental Quality Act (CEQA) issues relative to projects with GHG emissions increases.

2. Assist Valley businesses in complying with mandates of AB 32 (Global Warming Solutions Act of 2006).

3. Ensure that climate protection measures do not cause increases in toxic or criteria pollutants that adversely impact public health or environmental justice communities.

Actions

1. Develop GHG significance threshold(s) or other mechanisms to address CEQA projects with GHG emissions increases.

2. Develop necessary regulations and instruments for establishment and administration of the San Joaquin Valley Carbon Exchange Bank for voluntary GHG reductions created in the Valley.

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17 Fresno COG. 2009. San Joaquin Valley Blueprint. Council of Fresno County of Governments. Available online at: www.fresnocog.org/wp-content/uploads/files/Blueprint/ProgressReport/Fresno%20County%20BP%20Document%20Revised%20Final%2007_27_09.pdf.

18 Ibid.

3. Enhance the District's existing criteria pollutant emissions inventory reporting system to allow businesses subject to AB 32 emission reporting requirements to submit simultaneous streamlined reports to the District and the state of California with minimal duplication.

4. Develop and administer voluntary GHG emission reduction agreements to mitigate proposed GHG increases from new projects.

CEQA Greenhouse Gas Guidance. The District developed several resource documents that were used as guidance for developing the GHG Plan. The most important is the Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA, which is intended to assist local agencies in complying with CEQA and which contains a GHG threshold approach that has been widely accepted for use in the San Joaquin Valley and in other parts of the State. The District concluded that the existing science is inadequate to support quantification of the impacts that project-specific GHG emissions have on global climatic change. The District found the effects of project-specific emissions to be cumulative, and without mitigation, their incremental contribution to global climatic change could be considered cumulatively considerable. The District found that this cumulative impact is best addressed by requiring all projects to reduce their GHG emissions, whether through project design elements or mitigation. Many San Joaquin Valley local jurisdictions, including Fresno, have used the District guidance for CEQA compliance.

The primary features of the District's approach include:

- Projects exempt from the requirements of CEQA, and projects complying with an approved plan or mitigation program would be determined to have a less than significant cumulative impact. The GHG Plan is intended to meet the criteria as an approved plan or mitigation program.

- Projects for which there is no applicable approved plan or program, or those projects not complying with an approved plan or program, the lead agency would evaluate the project against a performance-based standards and would require the adoption of design elements, known as a Best Performance Standard, to reduce GHG emissions.

- Projects incorporating Best Performance Standards would not require specific quantification of GHG emissions, and automatically would be determined to have a less than significant cumulative impact for GHG emissions.

San Joaquin Valley Carbon Exchange and Rule 2301. The District initiated work on the San Joaquin Valley Carbon Exchange in November 2008. The Exchange was implemented with the adoption of Amendments to Rule 2301 Emission Reduction Credit Banking on January 19, 2012. The purpose of the carbon exchange is to quantify, verify, and track voluntary GHG emissions reductions generated within the San Joaquin Valley.

The District incorporated a method to register voluntary GHG emission reductions with amendments to Rule 2301. The purposes of the amendments to the rule include the following:

- Provide an administrative mechanism for sources to bank voluntary GHG emission reductions for later use.
- Provide an administrative mechanism for sources to transfer banked GHG emission reductions to others for any use.
- Define eligibility standards, quantitative procedures, and administrative practices to ensure that banked GHG emission reductions are real, permanent, quantifiable, surplus, and enforceable.

The District is participating in a new program developed by the California Air Pollution Control Officers Association (CAPCOA) to encourage banking and use of GHG reduction credits referred to as the CAPCOA Greenhouse Gas Reduction Exchange (GHGRx). The GHGRx provides information on GHG credit projects within participating air districts. The District is one of the first to have offsets available for trading on the Exchange.

Community Emissions Reductions Program: Assembly Bill 617. AB 617 requires the CARB and air districts to develop and implement a Community Emission Reduction Plan (CERP) with additional emissions reporting, monitoring, and reduction plans and measures in an effort to reduce air pollution exposure in disadvantaged communities. Given that 20 of the 30 most disadvantaged communities in California are in the San Joaquin Valley, this process is expected to bring additional clean air resources and strategies to many Valley communities.

South Central Fresno and the City of Shafter are the first Valley communities selected by the California Air Resources Board for investment of additional resources under AB 617. The Valley Air District has established a steering committee for each of these communities comprised of community residents, business owners, community advocates, and government representatives to assist in the development and implementation of community air monitoring and emission reduction programs. The Fresno Community Emissions Reduction Plan (CERP) was adopted by the San Joaquin Valley Air Pollution Control District Board in the fall of 2019.

4.8.5.3 Local Policies and Regulations

The following is a summary of the applicable policies included in the City's Greenhouse Gas Reduction Plan and approved General Plan that are related to GHGs and applicable to the proposed project.

Greenhouse Gas Reduction Plan Update. The 2014 Greenhouse Gas Reduction Plan (GHG Plan) provided a comprehensive assessment of the benefits of these General Plan and Development Code policies along with existing plans, programs, and initiatives that reduce GHG emissions. In addition, the GHG Plan includes an emission reduction target for demonstrating consistency with State GHG reduction targets. The analysis prepared to quantify GHG emissions and emission reductions provides the basis for the GHG Plan targets and for CEQA significance findings of implementing the

approved General Plan and the GHG Plan. The Greenhouse Gas Reduction Plan Update (GHG Plan Update, 2020) was prepared to re-evaluate the City's existing GHG reduction targets and strategies. The GHG Plan Update provides new goals and supporting measures to reflect and ensure compliance with changes in the local and State policies while ensuring it encourages economic growth and keeps the city economically competitive while achieving GHG reductions and maintaining the "CEQA Qualified Plan" status.

City of Fresno General Plan. The approved General Plan is a set of policies and programs that form a blueprint for the physical development of the city. For a description of each of the elements within the approved General Plan, refer to Chapter 3.0, Project Description. The following objectives and policies related to GHGs are presented in various elements of the approved General Plan:

Urban Form, Land Use, and Design Element

Policy UF-1-c: Identifiable City Structure. Focus integrated and ongoing planning efforts to achieve an identifiable city structure, comprised of a concentration of buildings, people, and pedestrian-oriented activity in Downtown; along a small number of transit-oriented, mixed-use corridors and strategically located Activity Centers; and in existing and new neighborhoods augmented with parks and connected by multi-purpose trails and tree lined bike lanes and streets.

Objective UF-12: Locate roughly one-half of future residential development in infill areas—defined as being within the City on December 31, 2012—including the Downtown core area and surrounding neighborhoods, mixed-use centers and transit-oriented development along major BRT corridors, and other non-corridor infill areas, and vacant land.

Commentary: The Planning Director will provide an annual report describing the City's compliance with the Plan and progress toward meeting the goals and objectives to City Council, and prepare, every five years, an updated plan for achieving this goal, with recommended appropriate policy amendments and also new implementation strategies necessary to meet this goal by 2035. The rate of progress toward meeting this goal is not expected to occur in a linear or "one-to-one" pattern. Development in infill areas versus growth areas may progress in an uneven pattern, depending upon the schedule of relevant key incentive programs (such as those related to BRT) and the impact of market forces. However, the City expects to make steady progress toward all the goals and objectives and anticipates meeting them at or near the close of General Plan Horizon in 2035. See the Implementation Element for additional implementation strategies for this objective.

Policy UF-12-a: BRT Corridors. Design land uses and integrate development site plans along BRT corridors, with transit-oriented development that supports transit ridership and convenient pedestrian access to bus stops and BRT station stops.

Commentary: Developments close to major streets encourages walking and can be connected with the adjacent neighborhoods through a network of pedestrian ways.

Parking will be concealed from the street, and predominant residential uses will be considered an acceptable use in all mixed-use areas.

Policy UF-12-b: Activity Centers. Mixed-use designated areas along BRT and/or transit corridors are appropriate for more intensive concentrations of urban uses. Typical uses could include commercial areas; employment centers; schools; compact residential development; religious institutions; parks; and other gathering points where residents may interact, work, and obtain goods and services in the same place.

Commentary: Activity Centers are typified by a full range of uses, including residential, retail, employment, education, recreation, public amenities, and/or open space features. Near the mixed-use central area of the Activity Center, there are typically higher residential densities, typically 15 to 45 dwelling units per acre, but away from the center of the Activity Center, uses become predominantly residential at lower densities.

Policy UF-12-d: Appropriate Mixed-Use. Facilitate the development of vertical and horizontal mixed-uses to blend residential, commercial, and public land uses on one or adjacent sites. Ensure land use compatibility between mixed-use districts in Activity Centers and the surrounding residential neighborhoods.

Commentary: Vertical mixed-use may be achieved within the same building with multiple compatible uses in multiple stories, and horizontal mixed use may be achieved across an integrated development site with a mix of compatible and complementary uses housed in different buildings.

Policy UF-12-e: Access to Activity Centers. Promote adoption and implementation of standards supporting pedestrian activities and bicycle linkages from surrounding land uses and neighborhoods into Activity Centers and to transit stops. Provide for priority transit routes and facilities to serve the Activity Centers.

Policy UF-12-f: Mixed-Use in Activity Centers. Adopt a new Development Code which includes use regulations and standards to allow for mixed-uses and shared parking facilities.

Objective UF-14: Create an urban form that facilitates multi-modal connectivity.

Commentary: Multi-modal connectivity creates the opportunity for people to travel through a variety of modes of transportation, including biking, walking, driving, and using public transit.

Policy UF-14-a: Design Guidelines for Walkability. Develop and use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.

Commentary: These guidelines will highlight how to achieve these design ideas and avoid barriers to access, such as:

- *Walls and fences that separate related uses or isolate neighborhoods;*
- *Over reliance on cul-de-sacs and dead end streets that cut off access within neighborhoods;*
- *Disconnected bike and pedestrian paths;*
- *Wide streets that lack pedestrian support, such as sidewalks, median strips, and a landscaped strip that separates pedestrians from the street;*
- *Street front parking lots that separate pedestrian from commercial operations;*
- *Retail centers that are exclusively auto-oriented;*
- *Transit stops that are not easily accessible from an individual's starting point and destination; and*
- *Long blocks that discourage walking.*

Policy UF-14-b: Local Street Connectivity. Design local roadways to connect throughout neighborhoods and large private developments with adjacent major roadways and pathways of existing adjacent development. Create access for pedestrians and bicycles where a local street must dead end or be designed as a cul-de-sac to adjoining uses that provide services, shopping, and connecting pathways for access to the greater community area.

Policy UF-14-c: Block Length. Create development standards that provide desired and maximum block lengths in residential, retail, and mixed-use districts in order to enhance walkability.

Commentary: When preparing such standards the City should assess the desirability of varying maximum block length requirements between single family residential, multi-family residential, mixed use, and commercial districts.

Objective LU-2: Plan for infill development that includes a range of housing types, building forms, and land uses to meet the needs of both current and future residents.

Policy LU-2-a: Infill Development and Redevelopment. Promote development of vacant, underdeveloped, and re-developable land within the City Limits where urban services are available by considering the establishment and implementation of supportive regulations and programs.

Policy LU-2-b: Infill Development for Affordable Housing. Establish a priority infill incentive program for residential infill development of existing vacant lots and underutilized sites within the City as a strategy to help to meet the affordable housing needs of the community.

Policy LU-3-b: Mixed-Use Urban Corridors that Connect the Downtown Planning Area. Support the development of mixed-use urban corridors that connect the Downtown Planning Area with the greater Fresno-Clovis Metropolitan Area with functional, enduring, and desirable urban qualities along the Blackstone Avenue, Shaw Avenue, California Avenue,

and Ventura Avenue/Kings Canyon Road corridors, as shown on Figure LU-1: General Plan Land Use Diagram.

Policy LU-3-c: Zoning for High Density on Major BRT Corridors. Encourage adoption of supportive zoning regulations for compact development along BRT corridors leading to the Downtown Core that will not diminish the long-term growth and development potential for Downtown.

Policy LU-5-f: High Density Residential Uses. Promote high-density residential uses to support Activity Centers and BRT Corridors, and walkable access to transit stops.

Policy D-3-c: Local Streets as Urban Parkways. Develop local streets as "urban parkways," where appropriate, with landscaping and pedestrian spaces.

Policy D-4-b: Incentives for Pedestrian-Oriented Anchor Retail. Consider adopting and implementing incentives for new pedestrian-friendly anchor retail at intersections within Activity Centers and along corridors to attract retail clientele and maximize foot traffic.

Commentary: Examples of incentives include increased floor area ratios, deferred impact fees, and priority processing.

Mobility and Transportation Element

Policy MT-1-h: Update Standards for Complete Streets. Update the City's Engineering and Street Design Standards to ensure that roadway and streetscape design specifications reflect the Complete Streets concept, while also addressing the needs of through traffic, transit stops, bus turnouts, passenger loading needs, bike lanes, pedestrian accommodation, and short- and long-term parking.

Commentary: For instance, transit stops and bus turnouts may have higher priority than through traffic on important transit corridors; through traffic may have higher priority than parking on Arterials; and pedestrian and bicycle movement may have high priority in areas with high pedestrian interest and activity such as the Downtown Planning Area.

Policy MT-1-i: Local Street Standards. Establish and implement local roadway standards addressing characteristics such as alignment, width, continuity and traffic calming, to provide efficient neighborhood circulation; to allow convenient access by residents, visitors, and public service and safety providers; and to promote neighborhood integrity and desired quality of life by limiting intrusive pass-through traffic.

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.

- In implementing this policy, the City will design improvements to:
- Facilitate provision of multi-modal transportation opportunities;
- Provide added safety, including appropriate traffic calming measures;
- Promote achievement of air quality standards;
- Provide capacity in a cost effective manner; and
- Create improved and equitable access with increased efficiency and connectivity.

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-a: Active Transportation Plan. To the extent consistent with this General Plan, continue to implement and periodically update the Active Transportation Plan to meet State standards and requirements for recommended improvements and funding proposals as determined appropriate and feasible.

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.

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-e: Traffic Management in Established Neighborhoods. Establish acceptable design and improvement standards and provide traffic planning assistance to established neighborhoods to identify practical traffic management and calming methods to enhance

the pedestrian environment with costs equitably assigned to properties receiving the benefits or generating excessive vehicle traffic.

Objective MT-6: Establish a network of multi-purpose pedestrian and bicycle paths, as well as limited access trails, to link residential areas to local and regional open spaces and recreation areas and urban Activity Centers in order to enhance Fresno's recreational amenities and alternative transportation options.

Policy MT-6-a: Link Residences to Destinations. Design a pedestrian and bicycle path network that links residential areas with Activity Centers, such as parks and recreational facilities, educational institutions, employment centers, cultural sites, and other focal points of the city environment.

Policy MT-6-g: Path and Trail Development. Require all projects to incorporate planned multi-purpose path and trail development standards and corridor linkages consistent with the General Plan, applicable law and case-by-case determinations as a condition of project approval.

Commentary: This should be done pursuant to Figure MT-2: Paths and Trails, and the adopted ATP, as amended.

Policy MT-6-l: Environmentally Sensitive Path and Trail Design. Develop paths and trails with minimum environmental impact by taking the following actions:

- Surface paths and trails with materials that are conducive to maintenance and safe travel, choosing materials that blend in with the surrounding area;
- Design paths and trails to follow contour lines where the least amount of grading (fewest cuts and fills) and least disturbance of the surrounding habitat will occur;
- Beautify path and trail rights-of-way in a manner consistent with intended use, safety, and maintenance;
- Use landscaping to stabilize slopes, create physical or visual barriers, and provide shaded areas; and
- Preserve and incorporate native plant species into the landscaping.

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.

Commentary: Public transit services must meet accessibility standards for individuals with disabilities as required by applicable state and federal regulations.

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.

Commentary: Neighborhoods with circuitous and discontinuous streets are more difficult for public transit to serve efficiently than those with consistently spaced linear or semi-grid patterns.

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-g: High Speed Train. If the State moves forward with HST, ensure it is constructed through Fresno in a manner that minimizes impacts to surrounding property owners and creates the most opportunity for redevelopment around the HST station.

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-10-a: Updating Parking Standards. Update off-street parking standards to reflect the context and location within activity areas of multiple uses and reductions appropriate for mixed residential and non-residential uses and proximity to existing or planned transit service.

Policy MT-10-b: Shared Parking. Establish a strategy to promote the sharing of excess parking between uses within Activity Centers and BRT corridors, including specific provisions for this in the Development Code.

Policy MT-10-c: Transportation Demand Management Guidelines. Establish transportation demand management guidelines to allow for reduced off-street parking requirements.

Policy MT-10-d: Parking Maximums. Explore maximum off-street parking limits within Activity Centers proximate to BRT corridors, if such an Activity Center is determined compatible with promotion of a healthy and vigorous business environment.

Policy MT-10-f: Parking Benefit Districts. Establish parking benefit districts to fund consolidated public parking where supported by local businesses.

Commentary: Net revenues collected from on-street parking pricing and permit revenues can be dedicated to funding public improvements within designated Parking Benefit Districts, ensuring that revenue is used to benefit the blocks where the money is collected. State laws provide for public parking facility construction, operation and maintenance.

Parks, Open Space, and Schools Element

Policy POSS-1-g: Regional Urban Forest. Maintain and implement incrementally, through new development projects, additions to Fresno's urban forest to delineate corridors and the boundaries of urban areas, and to provide tree canopy for bike lanes, sidewalks, parking lots, and trails.

Policy POSS-7-h: Interlink City and San Joaquin River Parkway Trail Networks. Strive to connect the parkway trail network to other trails in the vicinity, in order to create a community and regional trail system that offers a variety of different route combinations and enhances public access to the parkway.

Public Utilities Element

Objective PU-7: Promote reduction in wastewater flows and develop facilities for beneficial reuse of reclaimed water and biosolids for management and distribution of treated wastewater.

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-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-9-a: New Techniques. Continue to collaborate with affected stakeholders and partners to identify and support programs and new techniques of solid waste disposal, such as recycling, composting, waste to energy technology, and waste separation, to reduce the volume and toxicity of solid wastes that must be sent to landfill facilities.

Policy PU-9-b: Compliance with State Law. Continue to pursue programs to maintain conformance with the Solid Waste Management Act of 1989 or as otherwise required by law and mandated diversion goals.

Resource Conservation and Resilience Element

Objective RC-2: Promote land uses that conserve resources.

Policy RC-2-a: Link Land Use to Transportation. Promote mixed-use, higher density infill development in multi-modal corridors. Support land use patterns that make more efficient use of the transportation system and plan future transportation investments in areas of

higher-intensity development. Discourage investment in infrastructure that would not meet these criteria.

Policy RC-2-b: Provide Infrastructure for Mixed-Use and Infill. Promote investment in the public infrastructure needed to allow mixed-use and denser infill development to occur in targeted locations, such as expanded water and wastewater conveyance systems, complete streetscapes, parks and open space amenities, and trails. Discourage investment in infrastructure that would not meet these criteria.

Policy RC-4-c: Evaluate Impacts with Models. Continue to require the use of computer models used by SJVAPCD to evaluate the air quality impacts of plans and projects that require such environmental review by the City.

Policy RC-4-i: Methane Capture. Continue to pursue opportunities to reduce air pollution by using methane gas from the old City landfill and the City's wastewater treatment process.

Objective RC-5: In cooperation with other jurisdictions and agencies in the San Joaquin Valley Air Basin, take timely, necessary, and the most cost-effective actions to achieve and maintain reductions in greenhouse gas emissions and all strategies that reduce the causes of climate change in order to limit and prevent the related potential detrimental effects upon public health and welfare of present and future residents of the Fresno community.

Policy RC-5-a: Support State Goal to Reduce Statewide GHG Emissions. As is consistent with State law, strive to meet AB 32 goal to reduce greenhouse gas emissions to 1990 levels by 2020 and strive to meet a reduction of 80 percent below 1990 levels by 2050 as stated in Executive Order S-03-05. As new statewide GHG reduction targets and dates are set by the State update the City's Greenhouse Gas Reduction Plan to include a comprehensive strategy to achieve consistency with those targets by the dates established.

Policy RC-5-b: Greenhouse Gas Reduction Plan. As is consistent with State law, prepare and adopt a Greenhouse Gas Reduction Plan as part of the Master Environmental Impact Report to be concurrently approved with the Fresno General Plan in order to achieve compliance with State mandates, assist development by streamlining the approval process, and focus on feasible actions the City can take to minimize the adverse impacts of growth and development on global climate change. The Greenhouse Gas Reduction Plan shall include, but not be limited to:

- A baseline inventory of all known or reasonably discoverable sources of GHGs that currently exist in the city and sources that existed in 1990.
- A projected inventory of the GHGs that can reasonably be expected to be emitted from those sources in the year 2035 with implementation of this General Plan and foreseeable communitywide and municipal operations.
- A target for the reduction of emissions from those identified sources.

- A list of feasible GHG reduction measures to meet the reduction target, including energy conservation and "green building" requirements in municipal buildings and private development.

- Periodically update municipal and community-wide GHG emissions inventories to determine the efficacy of adopted measures and to guide future policy formulation needed to achieve and maintain GHG emissions reduction targets.

Policy RC-5-c: GHG Reduction through Design and Operations. Increase efforts to incorporate requirements for GHG emission reductions in land use entitlement decisions, facility design, and operational measures subject to City regulation through the following measures and strategies:

- Promote the expansion of incentive-based programs that involve certification of projects for energy and water efficiency and resiliency. These certification programs and scoring systems may include public agency "Green" and conservation criteria, Energy Star™ certification, CALGreen Tier 1 or Tier 2, Leadership in Energy Efficient Design (LEED™) certification, etc.

- Promote appropriate energy and water conservation standards and facilitate mixed-use projects, new incentives for infill development, and the incorporation of mass transit, bicycle and pedestrian amenities into public and private projects.

- Require energy and water audits and upgrades for water conservation, energy efficiency, and mass transit, pedestrian, and bicycle amenities at the time of renovation, change in use, change in occupancy, and change in ownership for major projects meeting review thresholds specified in an implementing ordinance.

- Incorporate the City's "Guidelines for Ponding Basin/Pond Construction and Management to Control Mosquito Breeding" as conditions of approval for any project using an on-site stormwater basin to prevent possible increases in vector-borne illnesses associated with global climate change.

- Periodically evaluate the City's facility maintenance practices to determine whether there are additional opportunities to reduce GHGs through facility cleaning and painting, parks maintenance, road maintenance, and utility system maintenance.

- Periodically evaluate standards and mitigation strategies for highly vehicle-dependent land uses and facilities, such as drive-through facilities and auto-oriented development.

Policy RC-5-d: SCS and CAP Conformity Analysis. Ensure that the City includes analysis of a project's conformity to an adopted regional Sustainable Community Strategy or Alternative Planning Strategy (APS), an adopted Climate Action Plan (CAP), and any other applicable City and regional greenhouse gas reduction strategies in affect at the time of project review.

Policy RC-5-e: Ensure Compliance. Ensure ongoing compliance with GHG emissions reduction plans and programs by requiring that air quality measures are incorporated into projects' design, conditions of approval, and mitigation measures.

Policy RC-5-f: Toolkit. Provide residents and project applicants with a "toolkit" of generally feasible measures that can be used to reduce GHG emissions, including educational materials on energy-efficient and "climate-friendly" products.

Policy RC-5-g: Evaluate Impacts with Models. Continue to use computer models such as those used by SJVAPCD to evaluate greenhouse gas impacts of plans and projects that require such review.

Policy RC-6-d: Recycled Water. Prepare, Adopt, and implement a City of Fresno Recycled Water Master Plan.

Commentary: This plan will expand the City's wastewater recycling program by developing treatment, delivery, and users.

Objective RC-7: Promote water conservation through standards, incentives and capital investments.

Policy RC-7-a: Water Conservation Program Target. Maintain a comprehensive conservation program to help reduce per capita water usage in the city's water service area to 243 gallons per capita per day (gpcd) by 2020 and 190 gpcd by 2035, by adopting conservation standards and implementing a program of incentives, design and operation standards, and user fees.

- Support programs that result in decreased water demand, such as landscaping standards that require drought-tolerant plants, rebates for water conserving devices and systems, turf replacement, xeriscape landscape for new homes, irrigation controllers, commercial/industrial/institutional water conserving programs, prioritized leak detection program, complete water system audit, landscape water audit and budget program, and retrofit upon resale ordinance.
- Implement the U.S. Bureau of Reclamation Best Management Practices for water conservation as necessary to maintain the City's surface water entitlements.
- Adopt and implement policies in the event that an artificial lake is proposed for development.
- Work cooperatively toward effective uniform water conservation measures that would apply throughout the Planning Area.
- Expand efforts to educate the public about water supply issues and water conservation techniques.

Policy RC-7-c: Best Practices for Conservation. Require all City facilities and all new private development to follow U.S. Bureau of Reclamation Best Management Practices for water conservation, as warranted and appropriate.

Policy RC-7-d: Update Standards for New Development. Continue to refine water saving and conservation standards for new development.

Policy RC-7-e: Retrofit City Facilities, and Consider Incentives Programs to Encourage Retrofitting of Other Existing Public and Private Residential and Non-Residential Facilities and Sites. Reduce water use in municipal buildings and City operations by developing a schedule and budget for the retrofit of existing municipal buildings with water conservation features, such as auto shut-off faucets and water saving irrigation systems. Prepare a comprehensive incentive program for other existing public and private residential and non-residential buildings and irrigation systems.

Policy RC-7-f: Implementation and Update Conservation Program. Continue to implement the City of Fresno Water Conservation Program, as may be updated, and periodically update restrictions on water uses, such as lawn and landscape watering and the filling of fountains and swimming pools, and penalties for violations. Evaluate the feasibility of a 2035 conservation target of 190 gpcd in the next comprehensive update of the City of Fresno Water Conservation Program.

Policy RC-7-g: Educate on State Requirements. Educate the residents and businesses of Fresno on the requirements of the California Water Conservation Act of 2009.

Policy RC-7-h: Landscape Water Conservation Standards. Refine landscape water conservation standards that will apply to new development installed landscapes, building on the State Model Water Efficient Landscape Ordinance and other State regulations.

- Evaluate and apply, as appropriate, augmented xeriscape, “water-wise,” and “green gardening” practices to be implemented in public and private landscaping design and maintenance.

- Facilitate implementation of the State’s Water Efficient Landscape Ordinance by developing alternative compliance measures that are easy to understand and observe.

Policy RC-7-i: PACE Financing. Develop a residential Property Assessed Clean Energy (PACE) program, if it is determined to be a feasible option, to help finance water efficiency and energy efficiency upgrades for property owners.

Commentary: The program would be administered by private parties.

Objective RC-8: Reduce the consumption of non-renewable energy resources by requiring and encouraging conservation measures and the use of alternative energy sources.

Policy RC-8-a: Existing Standards and Programs. Existing Standards and Programs. Continue existing beneficial energy conservation programs, including adhering to the California Energy Code in new construction and major renovations.

Policy RC-8-b: Energy Reduction Targets. Strive to reduce per capita residential electricity use to 1,800 kWh per year and non-residential electricity use to 2,700 kWh per year per capita by developing and implementing incentives, design and operation standards, promoting alternative energy sources, and cost-effective savings.

Commentary: These targets represent 28 and 30 percent reductions respectively, from the 2010 rate of consumption.

Policy RC-8-c: Energy Conservation in New Development. Consider providing an incentive program for new buildings that exceed California Energy Code requirements by fifteen percent.

Policy RC-8-d: Incentives. Establish an incentive program for residential developers who commit to building all of their homes to ENERGY STAR performance guidelines.

Commentary: See also Policy RC-7-j on PACE financing for energy efficient retrofits.

Policy RC-8-e: Energy Use Disclosure. Promote compliance with State law mandating disclosure of a building's energy data and rating of the previous year to prospective buyers and lessees of the entire building or lenders financing the entire building.

Policy RC-8-f: City Heating and Cooling. Reduce energy use at City facilities by updating heating and cooling equipment and installing "smart lighting" where feasible and economically viable.

Policy RC-8-g: Revolving Energy Fund. Create a City Energy Fund which uses first year savings and rebates from completed City-owned energy efficiency projects to provide resources for additional energy projects. Dedicate this revolving fund to the sole use of energy efficiency projects that will pay back into the fund.

Policy RC-8-h: Solar Assistance. Identify and publicize information about financial mechanisms for private solar installations and provide over-the-counter permitting for solar installations meeting specified standards, which may include maximum size (in kV) of units that can be so approved.

Policy RC-8-j: Alternative Fuel Network. Support the development of a network of integrated charging and alternate fuel station for both public and private vehicles, and if feasible, open up municipal stations to the public as part of network development.

Policy RC-8-k: Energy Efficiency Education. Provide long-term and on-going education of homeowners and businesses as to the value of energy efficiency and the need to upgrade existing structures on the regular basis as technology improves and structures age.

Policy RC-11-a: Waste Reduction Strategies. Maintain current targets for recycling and re-use of all types of waste material in the city and enhance waste and wastewater management practices to reduce natural resource consumption, including the following measures:

- Continue to require recyclable material collection and storage areas in all residential development.
- Establish recycling collection and storage area standards for commercial and industrial facilities to size the recycling areas according to the anticipated types and amounts of recyclable material generated.
- Provide educational materials to residents on how and what to recycle and how to dispose of hazardous waste.
- Provide recycling canisters and collection in public areas where trash cans are also provided.
- Institute a program to evaluate major waste generators and identify recycling opportunities for their facilities and operations.
- Continue to partner with the California Integrated Waste Management Board on waste diversion and recycling programs and the CalMax (California Materials Exchange) program.
- Evaluate the feasibility of a residential, restaurant, and institutional food waste segregation and recycling program, to reduce the amount of organic material sent to landfill and minimize the emissions generated by decomposing organic material.
- Evaluate the feasibility of "carbon footprinting" for the City's wastewater treatment facilities, biomass and composting operations, solid waste collection and recycling programs.
- Expand yard waste collection to divert compostable waste from landfills.
- Study the feasibility and cost-benefit analysis of a municipal composting program to collect and compost food and yard waste, including institutional food and yard waste, using the resulting compost matter for City park and median maintenance.

Policy RC-11-b: Zero Waste Strategy. Create a strategic and operations plan for fulfilling the City Council resolution committing the City to a Zero Waste goal.

4.8.6 Significance Criteria

The thresholds for greenhouse gas impacts used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. The proposed project may be deemed to have a significant impact with respect to aesthetics if it would:

GHG-1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

GHG-2 Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

4.8.7 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to greenhouse gas emissions that could result from implementation of the approved General Plan. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with implementation of the approved General Plan and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less-than-significant level. Cumulative impacts are also addressed.

4.8.7.1 Project Impacts

The following discussion describes the potential impacts related to greenhouse gas emissions that could result from implementation of the approved General Plan.

GHG-1 The proposed project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

The proposed project includes the GHG Reduction Plan Update (2020) for the City. That plan includes strategies to reduce greenhouse gas emissions that align with State targets.

The GHG Reduction Plan Update includes inventory projections for 2020, 2030, and 2035. The 2020 and 2030 forecast years are consistent with the goals identified in AB 32 and the 2017 Scoping Plan, which identify Statewide GHG reduction targets by 2020 and 2030. The 2035 forecast year correspond to the approved General Plan horizon and will allow the City to develop long-term strategies to continue GHG reductions.

Business-as-usual (BAU) scenarios are commonly used in climate action planning to ensure that control measures are adequate to overcome the effects of cumulative growth in emissions by a target year. BAU is defined in the CARB AB 32 Scoping Plan as the forecasted GHG emissions through 2030 with existing policies and programs, but without any further action to reduce GHGs. BAU inventories allow for separate accounting of the benefits of regulations, strategies, and programs on future emissions.

The City's BAU GHG emissions for 2020, 2030, and 2035 were projected based on 2016 Inventory Update data using population, households, and employment growth rate from the Fresno County

2050 Growth Projections developed by Fresno Council of Governments.[19] The BAU inventory for each forecast year is provided in Table 4.8-3.

Table 4.8-3: City of Fresno 2016 Inventory Update and Business-as-Usual Projections

Sector	2016 (MT CO_2e)	Percent of Total	2020 (MT CO_2e)	Percent of Total	2030 (MT CO_2e)	Percent of Total	2035 (MT CO_2e)	Percent of Total
Transportation	1,520,052	52	1,594,888	52	1,798,498	51	1,909,852	52
Commercial Energy	524,838	18	557,142	18	627,373	18	657,379	18
Residential Energy	479,371	16	514,053	17	579,546	17	603,951	16
Fugitive Emissions	270,130	9	288,573	9	335,316	10	357,008	10
Solid Waste	119,167	4	127,303	4	147,923	4	157,493	4
Industrial Energy	10,055	<1%	10,506	<1%	11,528	<1%	12,035	<1%
Agriculture	20	<1%	20	<1%	20	<1%	20	<1%
Total	**2,923,633**	**100**	**3,092,486**	**100**	**3,500,204**	**100**	**3,697,738**	**100**

Source: ICLEI Local Governments for Sustainability, City of Fresno 2016 Inventory Update, 2018. Complied by LSA.
MT CO_2e = metric tons of carbon dioxide equivalent

The BAU inventories presented above show that in the absence of regulations and other measures to reduce GHG emissions, the city's BAU emissions in 2020 are estimated to be 3,092,486 MT CO_2e, or a 5.8 percent increase from 2016 emissions. By 2030, emissions are estimated to increase 19.7 percent from the 2016 level to 3,500,204 MT CO_2e. By 2035, emissions are estimated to increase 26.5 percent from the 2016 level to 3,697,738 MT CO_2e.

Applicable Laws, Regulations, Relevant Land Use Policies

Reductions from State Regulations. The State has enacted many regulations pursuant to the requirements in AB 32 that would reduce emissions within the city. The State's strategy is detailed in the Climate Change Scoping Plan adopted by the CARB in November 2017. Scoping Plan strategies are primarily implemented through the adoption of regulations. The most important and applicable strategies from the previous iterations and most recent 2017 Scoping Plan are discussed below.

For details regarding the reduction estimates, see the calculations in Appendix H.

Motor Vehicles. The CARB has adopted many Scoping Plan measures for mobile sources as regulations both in the previous versions and most recent Scoping Plan.[20] Only the measures that have been adopted or put into practice are included in this assessment. The following regulations are included:

[19] Applied Development Economics. 2017. *Fresno County 2050 Growth Projections. Prepared for Fresno County Council of Governments*. Available online at: www.fresnocog.org/wp-content/uploads/publications/Demographics/Fresno_COG_2050_Projections_Final_Report_050417.pdf (accessed October 2019). May 4.

[20] California Air Resources Board (CARB). 2017. Scoping Plan. Available online at: ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf (accessed August 6, 2019).

- **Pavley and Low Carbon Fuel Standard (LCFS).** EMFAC2017 emission factors that include Pavley and the LCFS were used to estimate the impact of those regulations. In this way, the reductions from those measures are more specific than simply applying the statewide reduction estimates because the reductions in EMFAC take into account the variations between vehicle classes and region.

- **Low Emission Vehicle (LEV) III Standards.** The LEV III standards amend the exhaust and evaporative emission standards for passenger cars and light- and medium-duty trucks. The standards provide requirements for model years 2017 to 2025. The regulation applies to both criteria pollutant and GHG emissions. The standard drops GHG emission to 166 grams per mile, a reduction of 34 percent compared with 2016 levels. LEV III implements the Pavley II standards described in the Scoping Plan.

- **Tire Pressure Program.** This regulation is categorized under vehicle efficiency measures in the Scoping Plan. This regulation applies to automotive service providers performing or offering to perform automotive maintenance or repair services in California. This applies to passenger cars, light-duty trucks, medium-duty vehicles, and light heavy-duty trucks with gross vehicle weight ratings of less than or equal to 10,000 pounds.[21] This measure is anticipated to reduce emissions by 0.5 percent for those vehicle types.

- **Low Friction Oil.** CARB indicates that this measure has been achieved in practice. It is assumed that this measure would apply to the same vehicle types as in the tire pressure program. This measure is anticipated to reduce emissions by 2.2 percent.

- **Aerodynamic efficiency.** This regulation improves the fuel efficiency of heavy-duty tractors that pull 53-foot or longer box-type trailers. Fuel efficiency is improved through improvements in tractor and trailer aerodynamics and the use of low rolling-resistance tires. This measure would reduce emissions by 2.1 percent from heavy-duty vehicles.

Energy. The State's strategy for reducing energy-related GHGs targets electric power utilities on the production side and energy efficiency on the consumer side. Two regulations are in place to reduce emissions from this source. The Renewable Portfolio Standard requires electric utilities to provide an increasing share of their energy from renewable sources with 33 percent by 2020, 60 percent by 2030, and 100 percent by 2045. Title 24 Energy Efficiency Standards for Residential and Non-Residential Buildings requires new structures to meet increasingly stringent energy efficiency standards. The California Green Building Code mandates increased water conservation that results in less electricity consumed to pump and transport water.

Renewable Portfolio Standard (RPS). The electricity emission factor was decreased to account for the renewable energy regulations, which require 33 percent renewable energy by the year 2020, 60 percent by 2030, and 73 percent by 2035, which is

[21] California Air Resources Board (CARB). 2010 Tire Inflation Regulation. Website: ww3.arb.ca.gov/cc/tire-pressure/tire-pressure.htm (accessed July 10, 2019).

interpolated from the 100 percent by 2045 requirement. The average renewable energy use for 2005-2009 for PG&E was calculated as 12.6 percent.[22] Based on an approximation of electric generation from RPS-eligible sources divided by forecasted electricity retail sales for the year 2018, the Energy Commission estimates that 34 percent of California's retail electricity sales in 2018 will be provided by RPS-eligible renewable resources. This shows that the State is already ahead of its 2020 goal.[23]

California Energy Code (Building Energy Efficiency Standards). Building energy efficiency standards are designed to ensure that new and existing buildings achieve energy efficiency and preserve outdoor and indoor environmental quality. These standards are contained in the California Code of Regulations (CCR) Title 24, Part 6, California Energy Code. The California Energy Commission (CEC) is required by State law to update energy efficiency standards every 3 years. The 2019 Standards, which will become effective in January 2020, are focused on achieving zero net energy (ZNE) homes by increasing energy efficiency and requiring solar photovoltaic (PV) systems for new homes.[24]

The reductions from the California Energy Code are applied to the energy consumption related emissions for new development and remodeling projects at existing buildings subject to the regulations. The benefits of the standards accrue as buildings subject to the standards are constructed to meet the standard applicable at the time. PG&E provided actual electricity and natural gas usage for 2008 through 2010, which reflect the benefits of all development subject to previous versions of the California Energy Code. New development would provide additional reductions as buildings are constructed to comply with the latest standards.

California Green Building Standard Code. Adopted in 2008 for the first time, CCR Title 24, Part 11 (California Green Building Standard Code [CALGreen]), became effective as a voluntary code on August 1, 2009. The State Building Standards Commission unanimously adopted mandatory requirements in the 2010 California Green Building Standards Code, which went into effect on January 1, 2011. The Code is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings. The 2019 CALGreen went into effect on January 1, 20120. CALGreen is the first Statewide mandatory green building code and significantly raises the minimum environmental standards for construction of new buildings in California. The mandatory provisions in CALGreen will

22 California Public Utilities Commission. 2012. 2013 Building Energy Efficiency Standards. Available online at: www.energy.ca.gov/2012publications/CEC-400-2012-004/CEC-400-2012-004-CMFREV2. PDF (accessed November 6, 2012).

23 California Energy Commission (CEC). 2018. California Energy Commission: Tracking Progress. Available online at: ww2.energy.ca.gov/renewables/tracking_progress/documents/renewable.pdf (accessed August 10, 2019).

24 California Energy Commission (CEC). 2019. Title 24, Part 6 and Associated Administrative Regulations. Building Energy Efficiency Standards for Residential and Nonresidential Buildings. Available online at: ww2.energy.ca.gov/2018publications/CEC-400-2018-020/CEC-400-2018-020-CMF.pdf (accessed August 8, 2019).

reduce the use of VOC-emitting materials, will strengthen water conservation, and will require construction waste recycling.

Refrigerants. The State has adopted several refrigerant management regulations that are anticipated to achieve substantial reductions. For example, CARB predicts that the regulations that will apply to large commercial refrigeration units will reduce emissions by more than 50 percent.

The predicted reduction in emissions from State measures on city of Fresno emissions is shown in Table 4.8-4.

Table 4.8-4: Reductions from Statewide Measures

Sector	State Measures	Emission Reductions (MT CO_2e/year)		
		2020	2030	2035
Transportation	Pavley and Low Carbon Fuel Standard; Low Emission Vehicle Program III; Tire Tread Program; Tire Pressure Program; Low Friction Oil; HD Aerodynamic/MHD Hybridization	424,559	667,463	836,897
Residential Energy	Renewable Portfolio Standards	164,477	299,049	363,843
	Title 24 – Electricity	16,833	79,525	102,708
	Title 24 – Natural Gas	7,983	10,762	12,496
Commercial Energy	Renewable Portfolio Standards	174,877	317,958	386,849
	Title 24 – Electricity	9,614	5,532	4,196
	Title 24 – Natural Gas	17,530	12,933	11,108
Fugitive Emissions	Limit High GWP Use in Consumer Products; Motor Vehicle Air Conditioning; High GWP Refrigerant Management Program for Stationary Sources	144,287	167,658	178,504
	Total	**960,160**	**1,560,880**	**1,896,602**

Source: Compiled by LSA Associates, Inc. (2019).
GWP = global warming potential
HD = Heavy Duty
MHD = Medium Heavy Duty
MT CO_2e/year = metric tons of carbon dioxide equivalent per year

The adjusted business-as-usual (ABAU) inventory applies emission reductions achieved by Statewide regulations, programs, and measures. This inventory identifies the base from which reductions are needed from local strategies and measures to demonstrate consistency with the State-aligned targets. Table 4.8-5 shows the emission inventories for each year after the application of State regulatory measures.

The State has set goals for reducing GHG emissions by 2020, 2030, and 2050 through AB 32, SB 32, and EO B-30-15, respectively. The State has also provided guidance to local jurisdictions as “essential partners” in achieving the State’s goals by identifying a 2020 recommended reduction goal. That goal, stated in the AB 32 Scoping Plan, was for local governments to achieve a 15 percent reduction below baseline levels by 2020, which aligns with the State’s goal of not exceeding 1990 emissions levels by 2020. The State’s long-term target is to emit no more than 20 percent of 1990 levels by 2050 (or, a reduction of 80 percent below 1990 levels by 2050). The State has also provided an

interim target, which is 40 percent below 1990 levels by 2030. It is clear that the issue of climate change will not end in 2030 and continued reduction goals should be implemented to keep the State on a path toward the 2050 goal. A straight-line projection from the 2030 to 2050 goals would result in a reduction goal of 58 percent below baseline levels by 2035.

Table 4.8-5: City of Fresno Adjusted Business-as-Usual Emissions

Sector	Emissions (MT CO_2e/year)			
	2016	2020	2030	2035
Transportation	1,520,052	1,170,329	1,131,034	1,072,955
Commercial Energy	524,838	355,121	290,950	255,226
Residential Energy	479,371	324,760	190,210	124,904
Fugitive Emissions	270,130	144,287	167,658	178,504
Solid Waste	119,167	127,303	147,923	157,493
Industrial Energy	10,055	10,506	11,528	12,035
Agriculture	20	20	20	20
Total	**2,923,6323**	**2,132,326**	**1,939,325**	**1,801,137**

Source: Compiled by LSA (2019).
MT CO_2e/year = metric tons of carbon dioxide equivalent per year

In order to keep the City of Fresno GHG Reduction Plan in line with the State's reduction goals, the following targets, as shown in Table 4.8-6, have been identified. Based on these targets, the city would meet the reduction target from an ABAU forecast in 2020. In 2030 and 2035, the city would need to reduce 29,316 MT CO_2e and 209,463 MT CO_2e emissions below the ABAU scenario, respectively, to meet the State-aligned target (Table 4.8-6).

Table 4.8-6: State-Aligned GHG Emission Reduction Targets By Year

Sector	Emissions (MT CO_2e/year)				
	2010[1]	2016	2020	2030	2035
BAU Emissions (MT CO_2e)	3,745,115	2,923,633	3,092,486	3,500,203	3,697,737
Adjusted BAU Emissions (MT CO_2e)	3,745,115	2,923,633	2,32,326	1,919,325	1,801,137
State-Aligned Target (Percent change from 1990)			0	-40	-50
State-Aligned Target (Percent change from 2010)			-15	-49	-58
State-Aligned Emissions Goal (MT CO_2e)			3,183,348	1,910,009	1,591,674
Reductions from Adjusted BAU needed to meet the State-Aligned Target (MT CO_2e)			Target Met	29,316	209,463

Source: Compiled by LSA.
Note: [1] Baseline (2010) emissions are from the City's 2014 GHG Reduction Plan.
BAU = Business-as-Usual
GHG = greenhouse gas
MT CO_2e = metric tons carbon dioxide equivalent

Reductions from Local Measures. Reductions beyond State regulations will be achieved through the development of the land use pattern and transportation system envisioned by the approved General Plan, enforcement of City ordinances and design standards, and direct reductions from energy conservation projects, and alternative fuels use.

The effectiveness of the GHG land use strategy is dependent on several factors. The first factor is the rate of population growth. Rapid population growth has two contradictory effects. First, the overall growth in emissions will increase substantially in high growth areas; however, the per capita emissions in high growth areas will be lower. This is because a larger percentage of the population will live in areas of the city with energy efficient homes and businesses, and better transportation options than the slow growing or built out counterparts. On a citywide basis, faster-growing cities will build out neighborhoods and shopping centers more rapidly, providing more work and shopping opportunities close to home and shorter travel distances.

The second factor is economic. The type and scale of development projects will vary depending on market forces and the state of the economy in future years. Market forces affect the amount of single-family development compared to multifamily development. A vibrant economy will tend to create more jobs and increase in migration.

The amount of trips and miles traveled varies substantially between highly urban areas and suburban and rural areas. Frequent bus, light rail, or commuter train service requires high development densities to provide adequate ridership to support the service. The reductions that can be achieved by pedestrian orientated development and transit oriented development vary widely based the density and design at both ends of the trip.

The GHG Plan Reduction Plan Update strategies are implemented in two ways. New development projects would be evaluated for consistency with the General Plan and GHG Reduction Plan Update through the consistency checklist. Existing residents and businesses would comply with regulations that apply to everyone and participate in new and existing programs and measures. People living in existing residential development also share the benefits of the land use strategies applied at work places and commercial areas that are walkable and transit oriented. The strategies that apply directly and indirectly to existing development are shown in Table 4.8-7.

Table 4.8-7: Strategies for Existing Development

Strategy	How it Applies
Transportation Demand Management (TDM)	TDM is implemented at existing and new businesses and can also reduce trips from new and existing housing where employees live.
Expanded Transit Service	Improved transit service will encourage increased ridership from new and existing development.
Improved Transit Stations	Transit stations service a wider community area that includes new and existing development.
Traffic Calming Retrofits	Traffic calming designs can be retrofitted on existing roads or built in new development.
Complete Streets Program	Complete streets connect existing and new areas.
Parking Management	Parking management at new and existing employment centers encourages trip reductions from all residential development
Energy Retrofits	Educational and incentive programs encourage existing residents and business owners to install energy retrofits providing large benefits in older structures.
Bicycle and Pedestrian Improvements on Existing Roads and near transit stations	Bicycle paths and lanes can be retrofitted on existing roads, near transit stations. Sidewalks and pedestrian paths can connect existing neighborhoods with appropriate destinations including transit stations.
Bicycle Parking Facilities	Bicycle parking can be added to existing businesses if needed to satisfy demand by employees and customers.
Water Conservation Programs	Educational and incentive programs encourage existing residents and businesses to conserve water.
Recycled Water Use in Existing Parks	Recycled water can be piped to any area retrofitted or initially developed with a “purple pipe” system to distribute recycled water.
Energy Retrofits	Educational and incentive programs encourage existing residents and business owners to install energy retrofits providing large benefits in older structures.
Bicycle Parking Facilities	Bicycle parking can be added to existing businesses if needed to satisfy demand by employees and customers.
Recycling Programs	Operational programs such as recycling apply to all residents and businesses in the city.
Electric Vehicle Charging	Charging stations can be installed in existing development as a retrofit or in new development.
Measures That Apply to New Development but Indirectly Benefit Existing Development	
Transit and Pedestrian Oriented Development	Transit and pedestrian oriented development provides destinations that encourage transit use from existing development and walking once people arrive.
Mixed Use Development	Mixed-use development creates a more walkable environment conducive to transit use for trips from existing development.
Compact Development	Making the city more compact shortens average trip lengths for residents and creates more opportunities for transit.
Traffic Flow Improvements	Transportation improvements that reduce congestion and improve flow can reduce emissions from both existing and new development.
Recycling Programs	Operational programs such as recycling apply to all residents and businesses in the city.
Electric Vehicle Charging	Charging stations can be installed in existing development as a retrofit or in new development.

Mobile Source Reductions

Land Use Strategy. SB 375 required the CARB to set regional targets for reductions from light duty passenger vehicle emissions. After a lengthy review process and input from the regional transportation planning agencies, the CARB adopted a Fresno County target reduction in passenger vehicle CO_2e per capita of 4.7 percent by 2020 and 7.6 percent by 2035. The key strategies envisioned include:

- Combination of density increase, mixed uses, and infill
- Growth along major transit corridors and activity centers

The land use strategies are expected to reduce trip generation and vehicle miles traveled to achieve the percentage reductions based on modeling results from the regional transportation model for the approved General Plan land use scenario.

Emission reductions at the individual project level would be substantially larger than the amounts estimated for the overall reduction for SB 375 compliance. CAPCOA estimates that land use and transportation measures in a suburban setting can reduce emissions by a global maximum of 15 percent and 20 percent in a suburban center. Projects approaching the maximum reductions would be in locations served by frequent transit with complete pedestrian and bicycle infrastructure and multiple destinations such as retail and commercial service within walking distance.

Transportation Demand Management. The approved General Plan encourages transportation demand management (TDM) at projects that are large employers. The SJVAPCD Rule 9410 – Employer Trip Reduction would provide at 1.6 percent emission reduction in 2020 and 2035 through reduced trips and vehicle miles traveled.

The land use strategy and transportation demand management would provide a combined 45,184 MT CO_2e/year in emission reductions by 2020, 66,191 MT CO_2e/year reduction by 2030, and an 80,114 MT CO_2e/year reduction by 2035. The assumptions used for these calculations are based on the 2014 GHG Plan with the adoption of General Plan land use strategy and compliance with SJVAPCD Rule 9410.

Electric Vehicle. Hybrid EVs, plug-in hybrid EVs, and all-(EVs produce lower emissions than conventional vehicles. Any type of electrified vehicle emits less GHG than conventional vehicles by at least 40 percent. The City could promote EVs by establishing EV incentive programs, installing EV chargers within residential units and commercial building parking lots and providing streamlined permitting ordinance for EV charging stations. Based upon the historic trends in EV ownership and the CARB Zero-Emission

Vehicles (ZEV) Action Plan[25], it is assumed that by 2030, EV ownership in the city would reach 8.7 percent, and by 2035, 13 percent of the vehicle trips would be made by EVs.

CALGreen, the State green building code (California Code of Regulations [CCR], Title 24, Part 11), sets requirements for installing EV-capable infrastructure in new residential and nonresidential buildings. Starting January 1, 2020, CALGreen requires that new construction of single-family residences, duplexes, and townhouses with private garages must have raceway and panel capacity to support the future installation of level 2 charging stations (CEC 2019, ICC 2019). The City supports increased EVs within the city by encouraging the installation of EV chargers within new and existing multi-family residential and commercial parking areas within the city.

Implementation Support for Zero Emission Buses. To implement the State of California's Innovative Clean Transit regulation[26] of 100 percent zero emission buses by 2040,[27] FAX needs regulatory and financial support to determine the most viable options for transitioning its fleet to zero emission buses (ZEBs). FAX should consider potential funding mechanisms for this program. Some potential strategies are as follows:

- Traditional financing methods, such as municipal bonds and local option transportation taxes to finance the purchase and/or operation of new ZEBs.
- Collaboration with local utilities to obtain beneficial rate structures to reduce charging costs and work with utilities to secure charging infrastructure investments.
- Federal, State, regional, and local grant and incentive programs to reduce the initial purchase price of ZEBs.

In addition to funding, building the infrastructure necessary to deploy the ZEBs, and procuring electricity, hydrogen, or other alternative fuel sources to operate them pose challenges for FAX that will require innovative approaches and best practices to operate a full fleet of ZEBs in the City by 2040. FAX is currently working on its rollout plan to meet all requirements by 2040.

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25 California Air Resources Board (CARB). 2018. Zero Emission Vehicle Action Plan Priorities Update. Available online at: https://static.business.ca.gov/wp-content/uploads/2019/12/2018-ZEV-Action-Plan-Priorities-Update.pdf (accessed February 19, 2020).

26 To transition successfully to an all zero-emission bus fleet by 2040, each transit agency will submit a rollout plan under the regulation demonstrating how it plans to purchase clean buses, build out necessary infrastructure and train the required workforce. The rollout plans are due in 2020 for large transit agencies and in 2023 for small agencies. Agencies will then follow a phased schedule from 2023 until 2029, by which date 100 percent of annual new bus purchases will be zero-emission.

27 California Air Resources Board (CARB). California transitioning to all-electric buses by 2040. Website: ww2.arb.ca.gov/news/california-transitioning-all-electric-public-bus-fleet-2040 (accessed June 2019).

Energy Efficiency Reductions

Building Energy Efficiency. The City supports the State's efforts to achieve net zero energy consumption in new residential and non-residential buildings. Achieving net zero is currently possible in some buildings with the use of onsite solar to offset the electricity consumption from the grid. The 2019 Title 24 standards that will go into effect in January 2020 are substantially more stringent than the 2016 Title 24 standards and focus on achieving zero net energy homes.

The City encourages developers to achieve the voluntary tier levels from the CPUC Energy Efficiency Strategic Plan, which ultimately lead to net zero energy consumption for residential development by 2020 and non-residential development by 2030. GHG emission reductions from net zero energy homes have been accounted for under State regulations in Chapter 4 as the 2019 Title 24 standards include this requirement. By achieving net zero energy consumption for non-residential development by 2030, the city would reduce GHG emissions by 70,230 MT CO_2e/year by 2030, and 100,237 MT CO_2e/year by 2035. Once Title 24 mandates net zero energy consumption, no further reductions beyond regulation can be achieved by projects.

Water Conservation. The California Water Conservation Act mandates a 20 percent reduction in water usage by 2020. The City has a reduction target of per capita water usage in the city's water service area to 230 gallons per day per capita (25 percent below the current consumption rate) in 2035. The city will meet the reduction target with measures applicable to new and existing development. Reductions beyond the state mandated 20 percent are possible with the use of building and landscaping water conservation features. The reductions from buildings can be achieved with high-efficiency toilets, low-flow showers and faucets, and water-efficient appliances such as clothes washers and dishwashers. Water savings from landscaping would be achieved primarily through the use of synthetic ('turf') lawns, drought-tolerant landscaping or xeriscaping. The City is also proposing General Plan Policy RC-7-b that requires a tiered water cost structure to cover the true cost of the water supply. Example measures and water savings estimates are provided below.

Indoor Water Conservation Measures

- **Hot water pipe insulation.** Insulate hot-water pipes, and separation of hot and cold piping to avoid heat exchange. Water savings: 2,400 gallons per residential unit per year. Cost: $50/unit.

- **Pressure reducing valves.** Pressure reducing valves maintain pressure below 60 psi reducing volume of any leakage present and preventing excessive flow from all

appliances and fixtures. Water savings: 30,000 gallons approximately per residential unit per year. Cost: $100-$150 per unit.[28]

- **Water-Efficient Dishwashers.**Install Energy Star-certified units. Water savings: 5000 gallons per residential unit per year.[29]

- **Dual Flush Toilets.** Provides option to flush with partial (0.8 gallon) flow of water or with a full (1.6 gallons) flow depending on need. Water savings: 13,000 gallons per year per toilet[30]. Cost: $200 per toilet; however, retrofit kits are available for under $20.

- **High-efficiency Washing Machines.** Use front loading and top loading Energy Star-qualified clothes washers that use 35 to 50 percent less water than conventional washing machines. Water savings: 7,000 gallons per year.[31] Cost: $800 for a high-efficiency washing machine.

- **Point-of-Use or Tankless Water Heaters.** Install small water heaters close to the point of use, such as bathrooms, kitchen, and laundry area. Water savings: 5,300 gallons per residential unit per year.[32] Cost: $700 for point of use water heaters. However, the cost is approximately the same for one large unit or three smaller ones.

Outdoor Water Conservation Measures

- **Evapotranspiration (ET) Controllers.** Irrigation scheduled by actual plant ET rates. Water savings: 20,000 gallons per single-family unit per year. Cost: $175 per controller and $48 per year in maintenance.

- **Water-Efficient Landscaping.** Use drought tolerant plants and compliant irrigation systems and controllers. Water Savings: Up to 50 percent of outdoor use (12,000 gallons/year from a 2,100-square-foot landscaped area). Cost: similar to conventional landscaping.

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28 Water Pressure Reducing Valves: Frequently Asked Questions: Website: www.watts.com/resources/references-tools/waterpressurereducingvalvesfaq (accessed February 19, 2020).

29 Energy Star Appliances: Dishwashers Vs. Handwashing Dishes Website: www.energystar.gov/products/appliances/dishwashers/dishwasher_hand_washing (accessed August 10, 2019).

30 Energy Efficient Toilets Comparison: Constellation Energy. Website: www.blog.constellation.com/2017/09/25/energy-efficient-toilets-comparison/ (accessed August 10, 2019).

31 Energy Star High Efficiency Clothes Washers. Website: www.energystar.gov/products/appliances/clothes_washers (accessed August 10, 2019).

32 Energy Star Point of Contact Heaters. Website: www.energystar.gov/products/water_heaters/point_use_pou_water_heaters (accessed August 10, 2019).

- **Xeriscape.** Xeriscaping is a combination of seven principles, planning and design, practical turf areas, efficient irrigation, soil analysis and improvement, mulching, low-water-use plants, and appropriate maintenance. Water savings: 30 percent reduction in irrigation demand or about 16,000 gallons per year on a typical single-family lot. Cost: similar to conventional landscaping.

Energy Savings from Water Conservation. The combined benefits of indoor and outdoor water conservation program are estimated at 20 percent in 2020 to achieve compliance with state-mandated reductions and 25 percent by 2035 to meet the approved General Plan target, which are consistent with the assumptions in 2014 GHG Plan. Reductions in water use reduce electricity consumed for pumping, treatment, and transport of water by proportional amounts. Reductions in water use by these amounts would provide emission reductions of 5,975 MT CO_2e/year by 2020 and 8,891 MT CO_2e/year by 2035. Assuming a constant reduction rate, the emission reductions in 2030 would be 7,840 MT CO_2e/year.

Waste Diversion and Recycling Reductions. The City of Fresno will meet or exceed the state-mandated 75 percent diversion target in the future. The CARB estimates that statewide reductions of 20 to 30 MMT CO_2e will be achieved through this strategy. The City of Fresno has achieved substantial progress to date. The city per capita baseline based on the 2002 to 2004 average is 6.6 pounds per day per person. The 2018 per capita rate was 4.8 pounds per day per person, which was assumed to remain consistent through 2020. The 75 percent diversion target would require a per capita rate of 1.65 pounds per person per day in the future. Achieving net zero waste would provide additional reductions from this sector; however, no reductions are estimated pending adoption of a state mandate. The estimated emission reductions from achieving the 75 percent mandated diversion target are 84,677 MT CO_2e/year in 2030, and 90,043 MT CO_2e/year in 2035.

Summary of Reductions from Local Measures. Table 4.8-8 summarizes the local reductions from the measures described above.

Table 4.8-8: Reductions from Local Measures

Sector	Local Measures	Emissions Reductions (MT CO_2e/year)		
		2020	**2030**	**2035**
Transportation	Land Use Strategy and Transportation Demand Management	45,184	66,191	80,114
Commercial Energy	Net Zero Energy Commercial Building	-	70,230	100,237
Industrial Energy (Water)	Water Conservation	5,975	7,840	8,981
Solid Waste	Waste Diversion and Recycling	-	84,677	90,043
	Total	**51,159**	**228,938**	**279,375**

Source: Compiled by LSA Associates, Inc. (2019).

Table 4.8-9 summarizes the baseline 2010 and updated 2016 GHG emissions, the projected 2020, 2030, and 2035 emission inventories, as well as the reduced 2020, 2030, and 2035 inventories after implementation of the State and local reduction measures.

By 2020, the Statewide and local measures together would reduce the city's GHG emissions from the 2020 BAU level to 2,081,167 MT CO_2e, which would exceed the 15 percent below baseline levels reduction target of 3,183,348 MT CO_2e for 2020. By 2030, the Statewide and local measures together would reduce emissions to 1,710,386 MT CO_2e, which would exceed the 49 percent below baseline levels reduction target of 1,910,009 MT CO_2e for 2030. In 2035, implementation of Statewide and local measures together would reduce emissions from the 2035 BAU level to 1,521,761 MT CO_2e, which would exceed the 58 percent below baseline levels reduction target of 1,591,674 MT CO_2e for 2035.

Table 4.8-9: GHG Emissions and Targets Comparison

	2010 (MT CO_2e)[1]	**2016 (MT CO_2e)**	**2020 (MT CO_2e)**	**2030 (MT CO_2e)**	**2035 (MT CO_2e)**
BAU Emissions	3,745,115	2,923,633	3,092,486	3,500,204	3,697,738
State Reductions	-	-	*960,160*	*1,560,880*	*1,896,602*
ABAU Emissions	3,745,115	2,923,633	2,132,326	1,939,324	1,801,137
Local Measures Reductions	-	-	*51,159*	*228,938*	*297,375*
Total Adjusted Emissions	-	-	2,081,167	1,710,386	1,521,761
Reduction Target	-	-	3,183,348	1,910,009	1,591,674
Additional Reductions Needed	-	-	Target Met	Target Met	Target Met

Source: Compiled by LSA Associates, Inc. (2019).
Note: [1] Baseline (2010) emissions are from the City's 2014 GHG Reduction Plan.
GHG = greenhouse gas
ABAU = Adjusted Business-as-Usual
BAU = Business-as-Usual
MT CO_2e = metric tons of carbon dioxide equivalent

Although the General Plan growth rate would result in buildout by the year 2056, given current methods and the State's goals and targets, 2035 is a reasonable forecast for GHG and is in-line with the State emission reduction targets. In addition, with the City's commitment to continue to update the GHG Reduction Plan Update, the future updates will be conducted to align the Plan with State emission reduction targets.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact GHG-1: The project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Mitigation Measure GHG-1.1 Development projects that require discretionary approval shall be consistent with the GHG Reduction Plan Update (2020) and shall implement all measures deemed applicable to the project through the GHG Reduction Plan Update-Project Consistency Checklist (Appendix B to the GHG Reduction Plan Update).

Level of Significance With Mitigation: Less Than Significant Impact.

GHG-2 The proposed project would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The following discusses the consistency of the proposed project to the State's GHG reduction goals and the CARB Scoping Plan.

The AB 32 Scoping Plan has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation fee to fund the program.

In addition, SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in EO B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an IPCC analysis of the global emissions trajectory that would stabilize atmospheric GHG concentrations at 450 parts per million CO_2e and reduce the likelihood of catastrophic impacts from climate change.

The companion bill to SB 32, AB 197, provides additional direction to CARB in the following areas related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197, intended to provide easier public access to air emissions data that are collected by CARB, was posted in December 2016. The measures applicable to the proposed project include energy efficiency measures, water conservation and efficiency measures, and transportation and motor vehicle measures. The proposed project includes various policies as described above that would contribute to reduced GHG emissions, consistent with the State's GHG reduction goals.

In addition, the proposed project includes the GHG Reduction Plan Update for the City (2020), which includes strategies to reduce GHG emissions that align with State targets. The GHG Reduction Plan Update includes inventory projections for 2020, 2030, and 2035. The 2020 and 2030 forecast years are consistent with the goals identified in AB 32 and the 2017 Scoping Plan, which identify Statewide GHG reduction targets by 2020 and 2030. The 2035 forecast year correspond to the approved General Plan horizon and will allow the City to develop long-term strategies to continue GHG reductions.

As shown in Table 4.8-9, the Statewide and local measures together would reduce the city's GHG emissions from the 2020 BAU level to 2,081,167 MT CO_2e, which would exceed the 15 percent below baseline levels reduction target of 3,183,348 MT CO_2e for 2020. By 2030, the Statewide and local measures together would reduce emissions to 1,710,386 MT CO_2e, which would exceed the 49 percent below baseline levels reduction target of 1,910,009 MT CO_2e for 2030. In 2035, implementation of Statewide and local measures together would reduce emissions from the 2035 BAU level to 1,521,761 MT CO_2e, which would exceed the 58 percent below baseline levels reduction target of 1,591,674 MT CO_2e for 2035. Therefore, implementation of GHG Reduction Plan Update would be required for the continued implementation of the approved General Plan to meet

the State's reduction targets. As shown in Table 4.8-9, with implementation of the Plan Update, emission levels would meet the State's reduction targets.

CARB Scoping Plan: In accordance with AB 32, CARB developed the Scoping Plan to outline the State's strategy to achieve 1990-level emissions by year 2020. Since adoption of the 2008 and 2017 Scoping Plans, State agencies have adopted programs identified in the Scoping Plan, and the legislature has passed additional legislation to achieve the GHG reduction targets. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard (LCFS) and changes in the corporate average fuel economy standards (e.g., Pavley I and 2017–2025 Corporate Average Fuel Economy [CAFE] standards). These statewide measures are applicable uniformly throughout the State, and all future developments under the proposed project would be in compliance.

A summary of the Statewide measures and the associated GHG emissions reductions when integrated into the proposed project are described above. In addition to these Statewide strategies, the local measures outlined above would also contribute to reducing GHG emissions. Therefore, the proposed project would be consistent with the Scoping Plan, and impacts are considered less than significant.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.8.5.4, Local Policies and Regulations, above; and the GHG Reduction Plan Update (2020).

Level of Significance Without Mitigation: Less Than Significant Impact.

4.8.7.2 Cumulative Impacts

GHG-3 The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to greenhouse gas emissions.

Greenhouse gas impacts are by their nature cumulative impacts. Localized impacts of climate change are the result of the cumulative impact of global emissions. The combined benefits of reductions achieved by all levels of government help to slow or reverse the growth in greenhouse gas emissions. In the absence of comprehensive international agreements on appropriate levels of reductions achieved by each country, another measure of cumulative contribution is required. This serves to define the State's share of the reductions regardless of the activities or lack of activities of other areas of the U.S. or the world. Therefore, a cumulative threshold based on consistency with state targets and actions to reduce greenhouse gases is an appropriate standard of comparison for significance determinations at the approved General Plan level.

AB 32 requires CARB to reduce Statewide GHG emissions to 1990 level by 2020. As part of this legislation, CARB was required to prepare a "Scoping Plan" that demonstrates how the State will achieve this goal. The Scoping Plan was first adopted in 2011 and in it local governments were described as "essential partners" in meeting the Statewide goal, recommending a GHG reduction

level of 15 percent below 2005 to 2008 levels, depending on when a full emissions inventory is available, by 2020.

Reductions will be achieved by existing development and new projects. Residents of new development projects will achieve lower per capita rates than residents of existing development. This is because of greater energy efficiency in new structures and lower motor vehicle travel resulting from the project designs and higher development densities anticipated from General Plan implementation.

The CARB released the First Update to the Climate Change Scoping Plan on February 10, 2014. The draft update emphasized the need for a mid-term target between 2020 and 2050 to provide a continuum of action to reduce cumulative emissions. The EO B-30-15 and SB 32 required CARB to reduce Statewide GHG emissions to 40 percent below 1990 levels by 2030. The EO B-30-15 further stated that the emission reduction target of 40 percent below 1990 levels by 2030 is an interim-year goal to make it possible to reach the ultimate goal of reducing emissions 80 percent under 1990 levels by 2050. The order directs CARB to provide a plan with specific regulations to reduce Statewide sources of GHG emissions. The Executive Order does not include a specific guideline for local governments. The 2017 Scoping Plan recommends local plan level GHG emissions reduction goals.

At the growth rates projected for General Plan buildout, the city could continue to grow through 2050 without designating additional land for development. The approved General Plan and the GHG Plan Update ensure that the City of Fresno will do its part of reducing GHG emissions for the short-term (2020) and the long term (2050).

As identified above, the proposed project includes the GHG Reduction Plan Update for the City, which includes strategies to reduce GHG emissions align with State targets. The GHG Reduction Plan Update includes inventory projections for 2020, 2030, and 2035. The 2020 and 2030 forecast years are consistent with the goals identified in AB 32 and the 2017 Scoping Plan, which identify Statewide GHG reduction targets by 2020 and 2030. The 2035 forecast year correspond to the approved General Plan horizon and will allow the City to develop long-term strategies to continue GHG reductions.

As shown in Table 4.8-9, the Statewide and local measures together would reduce the city's GHG emissions from the 2020 BAU level to 2,081,167 MT CO_2e, which would exceed the 15 percent below baseline levels reduction target of 3,183,348 MT CO_2e for 2020. By 2030, the Statewide and local measures together would reduce emissions to 1,710,386 MT CO_2e, which would exceed the reduction target of 49 percent below baseline levels of 1,910,009 MT CO_2e for 2030. In 2035, implementation of Statewide and local measures together would reduce emissions from the 2035 BAU level to 1,521,761 MT CO_2e, which would exceed the 58 percent below baseline levels reduction target of 1,591,674 MT CO_2e for 2035. Therefore, with implementation of GHG Reduction Plan Update, continued implementation of the approved General Plan would meet the State's reduction targets.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.8.5.4, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact GHG-3: The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to greenhouse gas emissions.

Mitigation Measure: Refer to Mitigation Measure GHG-1.1.

Level of Significance Without Mitigation: Less Than Significant Impact.

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4.9 HAZARDS AND HAZARDOUS MATERIALS

4.9.1 Introduction

This chapter provides information on safety hazards within the City of Fresno Planning Area, including environmental effects associated with hazardous materials, emergency response, and the potential for aircraft crash hazards. Information used to prepare this section is based on applicable Airport Land Use Compatibility Plans (ALUCPs), and data from federal, State, and local agencies regarding hazardous materials use, waste, and environmental contamination.

4.9.2 CEQA Baseline

The City of Fresno is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Travelled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the approved General Plan, explains that the PEIR will evaluate the continued implementation of the approved General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of Senate Bill (SB) 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. The General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.9.3 Existing Environmental Setting

4.9.3.1 Hazardous Materials Definitions

Hazardous materials, as defined by the California Code of Regulations, are substances with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. Hazardous materials are grouped into the following four categories, based on their properties:

- Toxic - causes human health effects
- Ignitable - has the ability to burn
- Corrosive - causes severe burns or damage to materials
- Reactive - causes explosions or generates toxic gases

A hazardous waste is any hazardous material that is discarded, abandoned, or slated to be recycled. The criteria that define a material as hazardous also define a waste as hazardous. If improperly handled, hazardous materials and hazardous waste can result in public health hazards if released into the soil or groundwater or through airborne releases in vapors, fumes, or dust. Soil and groundwater having concentrations of hazardous constituents higher than specific regulatory levels must be handled and disposed of as hazardous waste when excavated or pumped from an aquifer. The California Code of Regulations, Title 22, Sections 66261.20-24 contains technical descriptions of toxic characteristics that could cause soil or groundwater to be classified as hazardous waste.

4.9.3.2 Hazardous Materials Use

Hazardous materials are routinely used, stored, and transported in the Planning Area and are associated with industrial and commercial/retail businesses, as well as in educational facilities, hospitals, and households. Hazardous waste generators in the Planning Area include industries, businesses, public and private institutions, and households. Federal, state, and local agencies maintain comprehensive databases that identify the location of facilities using large quantities of hazardous materials, as well as facilities generating hazardous waste. Some of these facilities use certain classes of hazardous materials that require risk management plans to protect surrounding land uses.

The Fresno County Health Department's Certified Unified Program Agency (CUPA) is responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that:

- Require Hazardous Materials Business Plans;
- Require California Accidental Release Prevention plans or Federal Risk Management Plans;
- Operate Underground Storage Tanks;
- Operate Aboveground Storage Tanks;

- Generate Hazardous Waste(s);
- Have Onsite Treatment of Hazardous Waste(s)/Tiered Permits.

Compliance is achieved through routine inspections of all regulated facilities, and investigation of citizen-based complaints and inquiries regarding improper handling and/or disposal of hazardous materials and/or hazardous wastes. Hazardous waste source reduction is a primary goal of the CUPA. Additionally, the agency provides oversight for the remediation of contaminated sites.

Hazardous Waste Storage and Leaking Sites. State laws relating to the storage of hazardous materials in underground storage tanks include permitting, monitoring, closure, and cleanup requirements. Regulations set forth construction and monitoring standards, monitoring standards for existing tanks, release reporting requirements, and closure requirements. A Permit to Operate from Fresno County Environmental Health Department is required in order to operate an underground storage tank system within the Planning Area. Environmental Health staff inspects UST facilities on an annual basis to assure compliance with applicable laws and regulations. The purpose of this program is to assure that hazardous materials stored in underground tanks are not released into the groundwater and/or the environment. The Permit to Operate incorporates a set of conditions for operation and continuous monitoring of the underground storage tank system.

Sites within the Planning Area that have been previously contaminated by hazardous materials are required to be identified and cleaned up. These contaminated sites are mainly associated with leaking underground storage tanks and are located in several areas including south of Downtown, within the boundaries of Fresno Yosemite International Airport, adjacent to the Palm Bluffs Corporate Center (located in northwest Fresno), as well as along the Union Pacific Railroad Tracks. Releases, leaks, or disposal of chemical compounds, such as petroleum, on or below ground surface can cause contamination in underlying soil and groundwater.

Disturbance of previously contaminated areas may expose the public to hazards from physical or airborne contact. Due to these threats from hazardous materials, the City of Fresno coordinates with local, state and federal agencies to ensure potential threats are minimized. Below is a brief description of six of the databases that provide information about hazardous materials sites within the Planning Area.

1. **Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS):** CERCLIS contains data on potentially hazardous waste sites that have been reported to the United States Environmental Protection Agency (US EPA) by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites, which are either proposed to or on the National Priorities List (NPL) and sites, which are in the screening and assessment phased for possible inclusion on the NPL. The CERCLIS database lists three Federal Superfund sites within the Planning Area.

2. **Department of Toxic Substances Control EnviroStor Database**: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may

be reasons to investigate further. This is one of a number of lists that comprise the "Cortese List" (a list of all hazardous materials sites compiled pursuant to Government Code Section 65962.5). The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, a formerly used database of known and potential hazardous substance release sites. DTSC replaced CalSites with EnviroStor, which also provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the EnviroStor database in August 2019 identified a total of 116 sites in the Planning Area. Table 4.9-1 lists current Active sites from that list within the Planning Area.

Table 4.9-1: Facilities Listed on the DTSC EnviroStor Database

Site Facility Name	Site/Facility Type	Cleanup Status	Address Description
Commercial Electroplaters	State Response	Active	2940 South Elm Avenue
FMC Corporation – Fresno	State Response	Active	2501 South Sunland Avenue
Former Burlington Northern Santa Fe Ice House	State Response	Active	3090 East Church Avenue
Former Fresno 2 Manufactured Gas Plant Site	Voluntary Cleanup	Active	Mariposa Street Between F And G Streets
Fowler-McKinley Elementary School Project	School Cleanup	Active	Northeast Corner of Fowler Avenue and McKinley Avenue
Fresno Air Terminal/Old Hammer Field (J09CA0823)	State Response	Active	McKinley and Clovis Avenues
Fresno Sanitary Landfill	Federal Superfund	Active	Southwest corner of Jensen and West Avenues
North Fresno PCE Plume	Evaluation	Active	Blackstone and Bullard Avenues
PG&E MGP, Fresno	State Response	Active	Northwest corner of North Thorne Avenue and West Voorman Avenue
Planned Ventura-10th School	School Cleanup	Active	Southwest corner of East Ventura Avenue and South 10th Street
SA Recycling Fresno	Voluntary Cleanup	Active	3489 South Chestnut Avenue
Schnitzer – Fresno	Corrective Action	Active	2727 South Chestnut Avenue
South Fresno PCE Groundwater Plume	State Response	Active	2376 South Railroad Avenue
South Fresno Regional Groundwater Plume	State Response	Active	North of Church Avenue at South East Ave
T H Agriculture & Nutrition, L.L.C.	Federal Superfund	Certified / Operation & Maintenance	7183 East McKinley Avenue
Valley Foundry and Machine Works	State Response	Active	2510 South East Avenue
West Shields Elementary School	School Investigation	Active	4108 Shields Avenue

Source: Department of Toxic Substances Control- Envirostor Database (2019).

3. **GeoTracker Database**: The Geotracker database is the California Water Resources Control Boards' (Water Board) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (such as Underground Storage Tanks, Department of Defense, Site Cleanup Program) as well as permitted facilities such as operating underground storage tanks (USTs) and land disposal sites. Per the Geotracker database, the Planning Area contains 50 sites, in which the cleanup status is open (GeoTracker Database, 2019).

4. **Water Board Sites**: The Water Board has identified a list of solid waste disposal sites with waste constituents above hazardous waste levels outside the waste management unit. The following two sites, shown in Table 4.9-2, are located in the Planning Area (Cortese List Data Resources, 2019).

Table 4.9-2: Waste Management Units

Discharger System Number	Waste Management Unit Number	Facility Name	Agency Name
5d100300001-01	McKinley Avenue Yard	T.H. Agriculture and Nutrition	North American Phillips
5d100319001-01 (Solid Waste Id Number: 10-Aa-0013)	Orange Avenue Disposal Company	Orange Avenue Landfill	Orange Avenue Disposal Company, Inc.

Source: California Environmental Protection Agency (2019).

5. **List of "active" Cease and Desist Orders (CDOs) and Cleanup and Abatement Orders (CAOs) from the Water Board**: This list contains many Cease and Desist Orders and Cleanup and Abatement Orders that do not concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders. As shown in Table 4.9-3 below, all four facilities in the Planning Area are active facilities.

Table 4.9-3: Facilities Listed on the Water Board List of "Active" CDO and CAOs

Facility ID	Facility Name	Agency Name	Description	Address	Facility Waste Type	Status
246108	Orange Ave Landfill	Orange Avenue Disposal Company, Inc.	Refuse Systems	3280 Orange Avenue	Solid Waste Class III - nonhazardous solid wastes	Active
241258	Monson Facility	RBT Properties, LLC	Farm-Product Raw Materials, NEC	2533 West McKinley Avenue, #92	Industrial - Farm-Product Raw Materials	Active
273180	Malaga CWD WWTF	Malaga CWD	Sewerage Systems	3749 Maple	Nonhazardous domestic sewage/industrial waste	Active
269508	USA SS #96	USA Petroleum Corporation	Gasoline Service Stations	5698 Kings Canyon	Gasoline Service Station	Active

Source: Cortese List Data Resources (2019).

6. **Department of Toxic Substances Control (DTSC)**: Section 65962.5(a)(1) requires that DTSC "shall compile and update as appropriate, but at least annually, and shall submit to the Secretary for Environmental Protection, a list of all the following: (1) [a]ll hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code.

   The hazardous waste facilities identified in HSC § 25187.5 are those where DTSC has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment. This is a very small and specific subgroup of facilities, and they are not separately posted on the DTSC or Cal/EPA's website. There are no facilities currently listed in the Planning Area.[1]

Hazardous Materials Incidents Emergency Response. The unauthorized releases of hazardous materials into the environment could create many environmental impacts including impacts to properties, natural environment and human health. The significance of these impacts could vary according to the location and quantity of the substance released. Hazardous releases can occur in area that treat, store, transport and use hazardous materials; however, certain areas within the State and Planning Area are at higher risk for releases. In the event of an unauthorized release of hazardous materials/substances, emergency response measures must be implemented to ensure the protection of human and natural environmental health from risk.

The Planning Area includes a developed urban area with industrial uses concentrated in the southern portion of the Planning Area. Agriculture is one of the city's major industries. The potential for hazardous materials incidents are heightened. Accidental releases of pesticides, fertilizers, and other agricultural chemical may be harmful to the public's health, safety, and the environment. In addition, the Planning Area contains major transportation routes, such as State Highways 99, 180, 41, and 168. Varieties of chemicals are also transported utilizing one of the two railroad lines. As discussed below, the Fresno Yosemite International Airport (FYI), Fresno Chandler Executive Airport, and the Sierra Sky Park are located within the Planning Area. These facilities, along with the transportation routes and industrial uses listed above, transport hundreds of thousands of tons of hazardous materials through and into the Planning Area each year. Due to the urban nature of the Planning Area and its location among several routes that regularly transport hazardous materials through and around the Planning Area, the area faces risks associated with the potential for hazardous materials emergencies (accidental releases). The City of Fresno Fire Department recognizes the potential for a large chemical release to occur which could expose thousands of people to hazardous or toxic vapors.

The City of Fresno Fire Department Hazardous Materials Response Team (HMRT) has embraced an all-hazards approach to emergency response to ensure that the Planning Area receives effective protection from the risk of hazardous materials releases.

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[1] California Environmental Protection Agency. Cortese List Section 65962.5(a). Website: calepa.ca.gov/sitecleanup/corteselist/section-65962-5a (accessed February 28, 2020).

The Fresno Fire Department HMRT is comprised of approximately fifty (50) personnel trained to the Hazardous Materials Technician and/or Specialist requirements set by the State of California. There are seven personnel on duty each day with a minimum staffing of five Technician/Specialist level trained members. The HMRT responds from a centrally located fire station within the city of Fresno. The station is staffed with a Fire Engine, Fire Truck and a Type One HAZMAT vehicle which is equipped to handle any type of hazardous materials release. In addition, the closest Engine or Truck Company will respond to a hazardous materials incident for support. All Fresno Firefighters are trained to the Hazardous Materials First Responder Operations and Decontamination level. The Department also houses an OES Type 2 hazardous materials vehicle for statewide deployment which is staffed with HMRT members.

Emergency Response. In addition to emergency response to hazardous materials incidents, both the City of Fresno and the County of Fresno implement programs to facilitate emergency preparedness for other types of incidents within the Planning Area. Specifically, the City of Fresno has an Emergency Operations Plan that describes what the City's actions will be during a response to an emergency. This plan also describes the role of the Emergency Operations Center (EOC) and the coordination that occurs between the EOC, City Departments, and other response agencies. The plan establishes a requirement for the emergency management organization to mitigate any significant emergency disaster affecting the city of Fresno. The plan also identifies the policies, responsibilities, and procedures required to protect the health and safety of city communities, public and private property, and the environmental effects of natural or technological disasters. In addition, the plan establishes the operation concepts and procedures associated within initial response operations (field response) to emergencies, the extended response operations (City of Fresno Emergency Operations Center Activities), and the recovery process. Furthermore, the plan complies with the State of California Emergency Operations Plan "Cross Walk" checklist for determining whether an emergency plan has addressed critical elements of California's Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS).

The County of Fresno has a Multi-Jurisdictional Hazard Mitigation Plan, which is a plan that aims to reduce or eliminate long-term risk to people or property from hazards. The plan, which covers all territory within Fresno County's jurisdictional boundaries, was adopted by the City of Fresno in 2009, and an update has been completed that is anticipated to be adopted by the City of Fresno in 2020. The plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 so that Fresno County and the jurisdictions within it would be eligible for the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Assistance Grants.

Standardized Emergency Management System (SEMS). In addition to the City Emergency Operations Plan and the County Multi-Jurisdictional Hazard Mitigation Plan, the SEMS is the system required by Government Code Section 8607 (a) for managing response to multi-agency and multi-jurisdiction emergencies in California. SEMS consists of five organizational levels, which are activated as necessary: field response, local government, operational area, OES Mutual Aid Regions, and State OES.

Emergency Operations Center (EOC). The primary City of Fresno EOC is located at the City owned waste water treatment facility located at 5607 W Jensen. During a disaster/emergency, the City of Fresno EOC will support field response operations in mitigating incidents within the incorporated areas of the city of Fresno.

The primary emphasis will be placed on saving lives, protecting property, and preserving the environment. The City of Fresno EOC will operate using the SEMS/National Incident functions, principles, and components. It will implement the action planning process, identifying and implementing specific objectives for each operational period.

The City of Fresno EOC will serve as the coordination and communications between the City of Fresno and Fresno County Operational Area EOC. The Operational Area EOC will be activated whenever an emergency or disaster impacts the city, cities, or special district(s). The Fresno Operational Area EOC will utilize the discipline-specific mutual aid coordinators to coordinate fire, law enforcement, public works, and medical specific resources. Other resource requests that do not fall into these four disciplines will be coordinated by the requesting branch/section/unit within the Appropriate SEMS EOC Section.

Emergency Response Routes. The City does not maintain formal evacuation routes, as the most appropriate routes away from an area that may have been affected by a major disaster would be determined by the location and type of incident. Plans for such incidents would also be heavily subject to change.

Airport Hazards. Three airports are located within the city of Fresno: Fresno Yosemite International Airport (FYI), Fresno Chandler Executive Airport, and Sierra Sky Park. Each of the three airports is described below.

Fresno Yosemite International Airport. Fresno Yosemite International Airport (FYI) is located in the eastern portion of the city along East Clinton Way. FYI is a joint use civilian/military airport. It is used by commercial air carriers, air cargo operators, charter operators, the State of California, general aviation, and the United States military. The California Air National Guard (CANG) occupies a 58-acre area adjacent to East McKinley Avenue in the southeast portion of FYI. A helicopter repair and maintenance unit of the Army National Guard, the California Division of Forestry, and a number of corporate aviation businesses occupy facilities north of the runways. About 250 general aviation aircraft are based at FYI and two Fixed Base Operators (FBOs) offer a wide range of aeronautical services. According to the FYI Safety Compatibility Zones Map, approximately six existing residential structures are located within Safety Zone 1-Runway Protection Zone (RPZ) at the north end of the runway. These residential structures were constructed before implementation of the RPZ, but due to their location relative to noise contours, the homeowners are eligible for no-cost noise mitigation measures such as the installation of noise-reducing windows, exterior doors, attic insulation and other acoustic treatments.

Fresno Chandler Executive Airport. Fresno Chandler Executive Airport is located in the southwestern portion of the city, northwest of the intersection of West Kearny Boulevard and South Thorne Avenue. The airport is designated as a general aviation reliever airport for FYI. One small cargo carrier operates out of the facility, and nine general aviation businesses operate out

of the airport. Approximately 180 general aviation aircraft are based at Fresno Chandler Executive Airport.

Sierra Sky Park. Sierra Sky Park airport is located in the northern portion of the city adjacent to the San Joaquin River north of Herndon Avenue. The facility is a privately owned public use general aviation airport. Sierra Sky Park functions as a reliever airport for small general aviation aircraft, and includes a hangar and office complex.

Fire Hazards. The Planning Area is located within the Central Valley, and is relatively flat. The majority of the Planning Area is located within developed properties or agricultural lands. Similar uses surround the Planning Area with the City of Clovis to the east, and mostly agricultural properties to the north, west, and south. The Sierra Nevada foothills to the north and east of the Planning Area and the City of Clovis provide the nearest areas where large expanses of undeveloped properties occur. Because of the topography and the distance between the developed portions of the Planning Area and undeveloped areas, the primary fire hazard concern within the Planning Area consists of the potential for structure fires in developed areas.

4.9.4 Regulatory Setting

Potential hazards and the use and transportation of hazardous substances are regulated by an overlapping set of adopted City, County, State, and federal plans, policies and regulations. In general, federal and State legislation empowers regulation by local agencies; however, both State and federal agencies such as the Federal Aviation Administration (FAA) (airports) and Regional Water Quality Control Board (RWQCB) (ground and surface water contamination) retain a substantial direct regulatory role. The City addresses these issues primarily in its Municipal Code. Hazardous materials are also regulated by the City of Fresno Fire Department and the San Joaquin Valley Air Pollution Control District (SJVAPCD). The Fresno Council of Governments maintains the Airport Land Use Compatibility Plan (ALUCP) which applies to all three airports in Fresno, and the Fresno Municipal Code incorporates the ALUCP by reference and gives it priority over all other land use plans and zoning requirements in Section 15-104-B(4).

4.9.4.1 Federal Regulations

Toxic Substances Control Act. Established in 1976 and amended on December 31, 2002, the Toxic Substances Control Act (TSCA) (15 United States Code [USC] Section 2601-2692) grants the EPA power to require proper reporting, record-keeping, and testing requirements related to chemical substances and/or mixtures. Specifically, the TSCA addresses the production, importation, use, and disposal of specific chemicals, including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paints (LBP). The TSCA establishes the EPA's authority to require the notification of the use of chemicals, require testing, maintain a TSCA inventory, and require those importing chemicals under Sections 12(b) and 13 to comply with certification and/or other reporting requirements. This federal legislation also phased out the use of asbestos-containing materials in new building materials and sets requirements for the use, handling, and disposal of asbestos-containing materials. Disposal standards for lead-based paint wastes are also detailed in the TSCA.

The Emergency Planning and Community Right-To-Know Act. The Emergency Planning and Community Right-To-Know Act (also known as Title III of the Federal Superfund Amendments and Reauthorization Act, or "SARA III") (42 United States Code 11001 et seq.), was established by the EPA to allow for emergency planning at the State and local level regarding chemical emergencies, to provide notification of emergency release of chemicals, and to address community right-to-know regarding hazardous and toxic chemicals. SARA III was designed to increase community access and knowledge about chemical hazards as well as facilitate the creation and implementation of State/Native American tribe emergency response commissions, responsible for coordinating certain emergency response activities and for appointing local emergency planning committees (LEPCs). Section 1910.1200(c) Title 29 of the CFR defines "chemicals or hazardous materials" for the purposes of SARA III.

Federal Air Regulations, Part 77. The Federal Aviation Administration (FAA) is charged with the review of construction activities that occur in the vicinity of airports. Its role in reviewing these activities is to ensure that new structures do not result in a hazard to navigation. The regulations in the Federal Air Regulations (14 CFR, Part 77) are designed to ensure that no obstructions in navigable air space are allowed to exist that would endanger the public. Proposed structures are also evaluated against Terminal En Route Procedures, which ensure that a structure does not adversely impact flight procedures. Tall structures, including buildings, construction cranes, and cell towers in the vicinity of an airport can be hazardous to the navigation of airplanes. Federal Air Regulations Part 77 identifies the maximum height at which a structure would be considered an obstacle at any given point around an airport. The extent of the off-airport coverage that needs to be evaluated for tall structure impacts can extend miles from an airport facility. In addition, Federal Air Regulations Part 77 establishes standards for determining whether objects constructed near airports will be considered obstructions in navigable airspace, sets forth notice requirements of certain types of proposed construction or alterations, and provides for aeronautical studies to determine the potential impacts of a structure on the flight of aircraft through navigable airspace.

Federal Insecticide, Fungicide, and Rodenticide Act. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (seven United States Code 136 et seq.) was originally passed in 1947. It has been amended several times, most extensively in 1972 and in 1996 by the Food Quality Protection Act of 1996, and in 2012 by the Pesticide Registration Improvement Extension Act. The purpose of FIFRA is to establish federal jurisdiction over the distribution, sale, and use of pesticides. It also gives EPA the authority to study the effects of pesticide use. Other key provisions of FIFRA require pesticide applicators to pass a licensing examination for status as "qualified applicators," create a review and registration process for new pesticide products, and ensure thorough and understandable labeling that includes instructions for use.

Hazardous Materials Transportation Act (HMTA) – Safe Transport of Hazardous Materials. The U.S. Department of Transportation regulates hazardous materials transportation between states under Title 49, Chapter 1, Part 100-185 of the Code of Federal Regulations. Within California, Caltrans and the California Highway Patrol enforce federal law. Together, these agencies determine driver training requirements, load labeling procedures, and specifications for container types to be used.

Federal Emergency Management Agency (FEMA). With respect to emergency planning, FEMA is responsible for ensuring the establishment and development of policies and programs for emergency management at the federal, State, and local levels. Enforcement of these laws and regulations is delegated to State and local environmental regulatory agencies.

Resource Conservation and Recovery Act. The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provide the framework for a regulatory program designed to prevent releases from Underground Storage Tanks (USTs). The program establishes tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. Owners and operators of USTs had until December 1998 to meet the new tank standards.

Comprehensive Environmental Response, Compensation and Liability Act. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. The act was intended to be comprehensive in encompassing both the prevention of, and response to uncontrolled hazardous substances releases. The act deals with environmental response, providing mechanisms for reacting to emergencies and chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for, and respond to, failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

4.9.4.2 State Regulations

California Health and Safety Code. The California Environmental Protection Agency has established rules governing the use of hazardous materials and the management of hazardous wastes. California Health and Safety Code Sections 25531, et seq., incorporate the requirement of Superfund Amendments and Reauthorization Act and the Clean Air Act as they pertain to hazardous materials. Health and Safety Code Section 25534 directs facility owners storing or handling acutely hazardous materials in reportable quantities to develop a Risk Management Plan (RMP). The RMP must be submitted to the appropriate local authorities, the designated local administering agency, and the EPA for review and approval.

San Joaquin Valley Air Pollution Control District. The San Joaquin Valley Unified Air Pollution Control District (SJVAPCD) has regulations that require compliance with the asbestos demolition and renovation requirements developed by the United States Environmental Protection Agency in the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulation, 40 CFR, Part 61, Subpart M. (San Joaquin Valley Pollution Control District Asbestos Bulletin, 2012).

4.9.4.3 Local Policies and Regulations

City of Fresno General Plan

Public Utilities and Services Element

Objective PU-2: Ensure that the Fire Department's staffing and equipment resources are sufficient to meet all fire and emergency service level objectives and are provided in an efficient and cost effective manner.

Policy PU-2-a: Unify Fire Protection. Pursue long-range transfer of fire protection service agreements with adjacent fire districts that, in concert with existing automatic aid agreements, will lead to the eventual unification of fire protection services in the greater Fresno area.

Policy PU-2-b: Maintain Ability. Strive to continually maintain the Fire Department's ability to provide staffing and equipment resources to effectively prevent and mitigate emergencies in existing and new high-rise buildings and in other high-density residential and commercial development throughout the city.

Policy PU-2-c: Rescue Standards. Develop appropriate standards, as necessary, for rescue operations, including, but not limited to, confined space, high angle, swift water rescues, and the unique challenges of a high speed train corridor.

Policy PU-2-d: Station Siting. Use the General Plan, community plans, Specific Plans, neighborhood plans, and Concept Plans, the City's Geographic Information Systems (GIS) database, and a fire station location program to achieve optimum siting of future fire stations.

Policy PU-2-e: Service Standards. Strive to achieve a community wide risk management plan that include the following service level objectives 90 percent of the time:

- First Unit on Scene – First fire unit arriving with minimum of three firefighters within 5 minutes and 20 seconds from the time the unit was alerted to the emergency incident.
- Effective Response Force – Provide sufficient number of firefighters on the scene of an emergency within 9 minutes and 20 seconds from the time of unit alert to arrival. The effective response force is measured as 15 firefighters for low risk fire incidents and 21 firefighters for high risk fire incidents and is the number of personnel necessary to complete specific tasks required to contain and control fire minimizing loss of life and property.

Objective PU-3: Enhance the level of fire protection to meet the increasing demand for services from an increasing population.

Policy PU-3-a: Fire Prevention Inspections. Develop strategies to enable the performance of annual fire and life safety inspection of all industrial, commercial, institutional, and multi-family residential buildings, in accordance with nationally recognized standards for the level of service necessary for a large Metropolitan Area, including a self-certification program.

Policy PU-3-b: Reduction Strategies. Develop community risk reduction strategies that target high service demand areas, vulnerable populations (e.g. young children, older adults, non-English speaking residents, persons with disabilities, etc.), and high life hazard occupancies.

Policy PU-3-d: Review All Development Applications. Continue Fire Department review of development applications, provide comments and recommend conditions of approval that will ensure adequate on-site and off-site fire protection systems and features are provided.

Policy PU-3-e: Building Codes. Adopt and enforce amendments to construction and fire codes, as determined appropriate, to systematically reduce the level of risk to life and property from fire, commensurate with the City's fire suppression capabilities.

Policy PU-3-f: Adequate Infrastructure. Continue to pursue the provision of adequate water supplies, hydrants, and appropriate property access to allow for adequate fire suppression throughout the City.

Policy PU-3-g: Cost Recovery. Continue to evaluate appropriate codes, policies, and methods to generate fees or other sources of revenue to offset the ongoing personnel and maintenance costs of providing fire prevention and response services.

Noise and Safety Element

Objective NS-4: Minimize the risk of loss of life, injury, serious illness, and damage to property resulting from the use, transport, treatment, and disposal of hazardous materials and hazardous wastes.

Policy NS-4-a: Processing and Storage. Require safe processing and storage of hazardous materials, consistent with the California Building Code and the Uniform Fire Code, as adopted by the City.

Policy NS-4-b: Coordination. Maintain a close liaison with the Fresno County Environmental Health Department, Cal-EPA Division of Toxics, and the State Office of Emergency Services to assist in developing and maintaining hazardous material business plans, inventory statements, risk management prevention plans, and contingency/emergency response action plans.

Policy NS-4-c: Soil and Groundwater Contamination Reports. Require an investigation of potential soil or groundwater contamination whenever justified by past site uses. Require appropriate mitigation as a condition of project approval in the event soil or groundwater contamination is identified or could be encountered during site development.

Policy NS-4-d: Site Identification. Continue to aid federal, State, and County agencies in the identification and mapping of waste disposal sites (including abandoned waste sites), and to assist in the survey of the kinds, amounts, and locations of hazardous wastes.

Policy NS-4-e: Compliance with County Program. Require that the production, use, storage, disposal, and transport of hazardous materials conform to the standards and procedures established by the County Division of Environmental Health. Require compliance with the County's Hazardous Waste Generator Program, including the submittal and implementation of a Hazardous Materials Business Plan, when applicable.

Policy NS-4-f: Hazardous Materials Facilities. Require facilities that handle hazardous materials or hazardous wastes to be designed, constructed, and operated in accordance with applicable hazardous materials and waste management laws and regulations.

Policy NS-4-g: Hazmat Response. Include policies and procedures appropriate to hazardous materials in the City's disaster and emergency response preparedness and planning, coordinating with implementation of Fresno County's Hazardous Materials Incident Response Plan.

Policy NS-4-h: Household Collection. Continue to support and assist with Fresno County's special household hazardous waste collection activities, to reduce the amount of this material being improperly discarded.

Policy NS-4-i: Public Information. Continue to assist in providing information to the public on hazardous materials.

Objective NS-5: Protect the safety, health, and welfare of persons and property on the ground and in aircraft by minimizing exposure to airport-related hazards.

Policy NS-5-a: Land Use and Height. Incorporate and enforce all applicable Airport Land Use Compatibility Plans (ALUCPs) through land use designations, zoning, and development standards to support the continued viability and flight operations of Fresno's airports and to protect public safety, health, and general welfare.

- Limit land uses in airport safety zones to those uses listed in the applicable ALUCPs as compatible uses, and regulate compatibility in terms of location, height, and noise.
- Ensure that development, including public infrastructure projects, within the airport approach and departure zones complies with Part 77 of the Federal Aviation Administration Regulations (Objects Affecting Navigable Airspace), particularly in terms of height.

Policy NS-5-b: Airport Safety Hazards. Ensure that new development, including public infrastructure projects, does not create safety hazards such as glare from direct or reflective sources, smoke, electrical interference, hazardous chemicals, fuel storage, or from wildlife, in violation of adopted safety standards.

Policy NS-5-c: Aviation Easements. Employ aviation easements in order to secure and protect airspace required for unimpeded operation of publicly owned airports.

Commentary: Aviation easements are established in the form of land use covenants and are binding upon present and subsequent property owners.

Policy NS-5-d: Disclosure. As a condition of approval for residential development projects, require sellers to prepare and provide State Department of Real Estate Disclosure statements to property buyers notifying of noise and safety issues related to airport operations.

Policy NS-5-e: Planned Expansion. Allow for the orderly expansion and improvement of publicly-owned airports, while minimizing adverse environmental impacts associated with these facilities.

- Periodically update airport facility master plans in accordance with FAA regulations.
- Require land use within the boundaries of the Fresno-Yosemite International Airport and Chandler Downtown Airport to conform to designations and policies specified in adopted City of Fresno compatible land use plans.
- Provide local jurisdictions surrounding the City's publicly owned airports with specific guidelines for effectively dealing with the presence and operation of these airports.

Objective NS-6: Foster an efficient and coordinated response to emergencies and natural disasters.

Policy NS-6-a: County Multi-Jurisdiction Hazard Mitigation Plan. Adopt and implement the Fresno County Multi-Jurisdiction Hazard Mitigation Plan and City of Fresno Local Hazard Mitigation Plan Annex.

Commentary: The federal Disaster Mitigation Act of 2000 requires that cities, counties, and special districts have a Local Hazard Mitigation Plan to be eligible to receive FEMA hazard mitigation funds. Cities and counties can adopt and use all or part of a regional multi-jurisdictional plan, such as the one prepared by Fresno County, in lieu of preparing all or part of a Local Hazard Mitigation Plan.

Policy NS-6-b: Disaster Response Coordination. Maintain coordination with other local, State, and Federal agencies to provide coordinated disaster response.

Policy NS-6-c: Emergency Operations Plan. Update the City's Emergency Operations Plan periodically, using a whole community approach which integrates considerations for People with access and functional needs in all aspects of planning.

Policy NS-6-d: Evacuation Planning. Maintain an emergency evacuation plan in consultation with the Police and Fire Departments and other emergency service providers, which shows potential evacuation routes and a list of emergency shelters to be used in case of catastrophic emergencies.

Policy NS-6-e: Critical Use Facilities. Ensure critical use facilities (e.g. City Hall, police and fire stations, schools, hospitals, public assembly facilities, transportation services) and other structures that are important to protecting health and safety in the community remain operational during an emergency.

- Site and design these facilities to minimize their exposure and susceptibility to flooding, seismic and geological effects, fire, and explosions.
- Work with the owners and operators of critical use facilities to ensure they can provide alternate sources of electricity, water, and sewerage in the event that regular utilities are interrupted in a disaster.

Policy NS-6-f: Emergency Vehicle Access. Require adequate access for emergency vehicles in all new development, including adequate widths, turning radii, hard standing areas, and vertical clearance.

Policy NS-6-g: Emergency Preparedness Public Awareness Programs. Continue to conduct programs to inform the general public, including people with access and functional needs, of the City's emergency preparedness and disaster response procedures.

City of Fresno Municipal Code. Chapter 10, Article 14 of the City of Fresno Municipal Code pertains to the recovery of expenses associated with hazardous spills. Specifically, this section states that "Any person causing a release or threatened release which results in an emergency action shall be liable to the City of Fresno for the recoverable costs resulting from the emergency action."

Fresno County Environmental Health Department - Hazardous Materials Business Plans. Facilities that store, use or handle hazardous materials above reportable amounts are required to prepare and file a Hazardous Materials Business Plan for the safe storage and use of chemicals. In the event of an emergency, firefighters, health officials, planners, public safety officers, health care providers and others rely on the Business Plan. Implementation of the Business Plan should prevent or reduce damage to the health and safety of people and the environment when a hazardous material is released.[2]

A Business Plan must be submitted by businesses that handle a hazardous material, or a mixture containing a hazardous material, in quantities equal to or greater than:

[2] Fresno County Department of Environmental Health. Hazardous Materials Business Plans. Website: www.co.fresno.ca.us/departments/public-health/environmental-health/hazardous-materials-certified-unified-program-agency-cupa/hazardous-materials-business-plans (accessed February 28, 2020).

1. 55 gallons of a liquid.

2. 500 pounds of a solid.

3. 200 cubic feet (at standard temperature and pressure) of a compressed gas.

4. The federal Threshold Planning Quantity (TPQ) for Extremely Hazardous Substances.

5. Radioactive materials in quantities for which an Emergency Plan is required as per Parts 30, 40, or 70, Chapter 1 of Title 10 of Code of Federal Regulations.

The Business Plan must include: 1) the type and quantity of hazardous materials; 2) site map; 3) risks of using these materials; 4) spill prevention; 5) emergency response; 6) employee training; and 7) emergency contacts.

Fresno County Airport Land Use Compatibility Plan. The Fresno County Airport Land Use Compatibility Plan (ALUCP) was prepared by the Fresno County Airport Land Use Commission (ALUC) and adopted in December 2018. The ALUCP provides an update of the State-mandated airport land use compatibility plan for the environs of the nine public use airports in Fresno county, including three public use airports within the Planning Area: Fresno Chandler Executive Airport; Fresno Yosemite International Airport; and Sierra Sky Park Airport. The Fresno County ALUCP implements land use compatibility policies and criteria related to proposed development in the vicinity of public use airports in the Planning Area (and throughout Fresno county). The Fresno County ALUCP also establishes the planning boundaries around each of these airport facilities that define safety areas, noise contours, and height/airspace protection for policy implementation and areas within which notification is required as part of real estate transactions.

This Airport Land Use Compatibility Plan replaced the following compatibility plans for the Fresno County ALUC:

- Coalinga Airport Land Use Policy Plan, November 1994

- Fresno County Airports Land Use Policy Plan (Firebaugh, William Robert Johnston Municipal, Reedley Municipal, and Selma), January 1983

- Fresno Chandler Downtown Airport Land Use Policy Plan, Revised October 2014

- Fresno Yosemite International Airport Compatibility Land Use Plan, Revised June 2012

- Harris Ranch Airport Land Use Policy Plan, October 1995

- Reedley Municipal Airport Land Use Compatibility Plan, November 2007

- Sierra Sky Park Land Use Policy Plan, Revised October 1995

Similar to the previously listed airport compatibility plans, this ALUCP is intended to protect and promote the safety and welfare of residents, businesses, and airport users near the public use airports and Naval Air Station Lemoore in Fresno county, while supporting the continued operation of these facilities. Specifically, the plan seeks to: ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents; protect the public from the adverse effects of airport noise; and ensure that no structures or activities encroach upon, or adversely affect, the use of navigable airspace. The City of Fresno Development Code Priority of Plans section mentioned above (Section 15-104-B.4) clearly establishes the adopted Fresno County Airport Land Use Compatibility Plan as the plan that takes precedence over all of the City's other land use plans within the Airport Influence Areas defined in the Plan.

City of Fresno Emergency Operation Plan. The California Emergency Services Act requires cities to prepare and maintain an emergency plan for emergencies that are natural or caused by man. The City's adopted Emergency Operations Plan (EOP) plans for emergencies including natural hazards. The EOP does not designate any evacuation routes within the Planning Area.

County of Fresno Multi-Jurisdictional Local Hazard Mitigation Plan. The purpose of a Local Hazard Mitigation Plan is to reduce or eliminate long-term risk to human life and property resulting from hazards. A local hazard mitigation plan recognizes risks before they occur, as well as identifies resources, information, and strategies for emergency response. Fresno County, with participation from 17 jurisdictions, is the lead agency on the Multi-Jurisdictional Local Hazard Mitigation Plan (MHMP). In 2018, the Fresno County Board of Supervisors adopted the MHMP, which includes a Fresno Annex listing information that pertains to the City in the areas of health, infrastructure, housing, government, environment, and land use.

4.9.5 Significance Criteria

The thresholds for impacts related to hazards and hazardous materials used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. Continued implementation of the approved General Plan would result in a significant impact related to hazards and hazardous materials if it would:

HAZ-1 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

HAZ-2 Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment;

HAZ-3 Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

HAZ-4 Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;

HAZ-5 For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;

HAZ-6 Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;

HAZ-7 Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

4.9.6 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to hazards and hazardous materials that could result from continued implementation of the General Plan. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with continued implementation of the approved General Plan and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less-than-significant level. Cumulative impacts are also addressed.

4.9.6.1 Project Impacts

The following discussion describes the potential impacts related to hazards and hazardous materials that could result from continued implementation of the approved General Plan.

HAZ-1 The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Potential Short-Term Construction Impacts. The approved General Plan includes infill development and intensification of land uses within the City of Fresno Planning Area. Therefore, existing structures within the Planning Area may need to be demolished and new buildings will be constructed. Identification of hazardous materials or conditions would occur during subsequent CEQA review of any future discretionary projects.

Demolition of existing buildings in the Planning Area could expose persons working or living in the Planning Area to potentially hazardous materials including but not limited to asbestos and lead from lead-based paints. Various regulations and guidelines pertaining to abatement of, and protection from, exposure to asbestos and lead have been adopted for demolition activities. These requirements include: San Joaquin Valley Air Pollution Control District requirements for demolitions and renovations; Construction Safety Orders 1529 (pertaining to asbestos) and 1532.1 (pertaining to lead) from Title 8 of the CCR, Part 61, Subpart M of the Code of Federal Regulations (CFR) (pertaining to asbestos); and lead exposure guidelines provided by the Department of Housing and Urban Development (HUD). In California, asbestos and lead abatement must be performed and monitored by contractors with appropriate certifications from the State Department of Health Services. In addition, the California Occupational Safety and Health Administration (Cal/OSHA) has regulations concerning the use of hazardous materials, including requirements for safety training, availability of safety equipment, hazardous materials exposure warnings, and emergency action and

fire prevention plan preparation. Cal/OSHA enforces the hazard communication program regulations, which include provisions for identifying and labeling hazardous materials, describing the hazards of chemicals, and documenting employee-training programs. All demolition that could result in the release of lead and/or asbestos must be conducted according to Cal/OSHA standards.

Grading and excavation of sites for new development may expose construction workers and the public to known or potentially unknown hazardous substances present in the soil or groundwater. As described above in Section 4.9.3, there are sites containing hazardous materials located throughout the city, which pose as potential health hazards. However, new development on contaminated areas that would occur as a result of continued implementation of the approved General Plan would be required to be remediated (i.e., cleaned up) prior to the commencement of construction activities. These activities would be under the supervision of the Department of Toxic Substances Control (DTSC), Fresno County Division of Environmental Health, and/or Regional Water Quality Control Board (RWQCB), depending on the site characteristics.

Potential soil contamination in these areas must be properly identified and cleaned up prior to any development activities on any of these sites to prevent exposure of people and the environment to these hazards. Additionally, it is also possible that old underground storage tanks (USTs) that were in use prior to permitting and record keeping requirements may be present throughout the Planning Area. If an unidentified underground storage tank were uncovered or disturbed during construction activities, it would need to be sealed and abandoned in place or removed. Removal activities could pose both health and safety risks, such as the exposure of workers, tank handling personnel, and the public to tank contents or vapors. Potential risks, if any, posed by underground storage tanks would be minimized by managing the tank according to Fresno County standards as enforced and monitored by the Department of Environmental Health. The extent to which groundwater may have been affected, if at all, depends on the type of contaminant, the amount released, and depth to groundwater at the time of the release, if any, occurred. If groundwater contamination has been identified, remediation activities would be required by the RWQCB, DTSC, or other appropriate regulatory agency prior to the start of any new construction activities.

To reduce potential project-specific impacts regarding routine transport, use, or disposal of hazardous materials in the city, the approved General Plan includes Objective NS-4, Policies NS-4-a through NS-4-g, and Policy NS-4-i within the Noise and Safety Element as identified in Section 4.9.4.3, Local Policies and Regulations, above.

Potential Long-Term Operational Impacts. Development associated with the continued implementation of the approved General Plan would result in the addition of new buildings and infrastructure as well as population to the Planning Area. Development under the approved General Plan would result in the addition of land uses, which could generate hazardous materials, as well as added population, which could be exposed to future hazardous materials releases. Additionally, new development that would be constructed under the approved General Plan that involves routine transport, use, or disposal of hazardous materials will be required to conform to City of Fresno ordinances and regulations regarding the transport, use and disposal of hazardous materials. New businesses that handle a hazardous material, or a mixture containing a hazardous material, in quantities equal or greater than 500 pounds of a solid, 55 gallons of a liquid, 200 cubic feet of a compressed gas at a standard room temperature and pressure, the federal Threshold Planning

Quantity (TPQ) for Extremely Hazardous Substances, and radioactive materials in quantities for which an Emergency Plan is required as per Parts 30, 40, or 70, Chapter 1 of Title 10 of Code of Federal Regulation (CFR) will be required to conform to the City of Fresno approved Hazardous Materials Business Plan. The Hazardous Materials Business Plan includes business owner/operator identification form, business activities form, hazardous materials inventory, site map and building diagram(s), written emergency response plans, and written employee training programs. Less than significant project-specific impacts are anticipated because all generation, transport, and treatment of hazardous materials are required to comply with applicable federal, State and local requirements. Additionally, as described below, the approved General Plan contains objectives and policies that are specific to hazards and hazardous materials.

To reduce potential project-specific impacts regarding routine transport, use, or disposal of hazardous materials the approved General Plan includes Objective NS-4, Policies NS-4-a through NS-4-i within the Noise and Safety Element as identified in Section 4.9.4.3, Local Policies and Regulations, above.

With the implementation of the above objective and policies, as well as compliance with applicable federal and state law, project impacts regarding the exposure of hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials will remain less than significant. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- General Plan Objective NS-4 and Policies NS-4-a through NS-4-i, and Objective PU-3 and Policies PU-3-a through PU-3-g, identified in Section 4.9.4.3, Local Policies and Regulations, above.
- San Joaquin Valley Air Pollution Control District requirements for demolitions and renovations;
- Construction Safety Orders 1529 (pertaining to asbestos) and 1532.1 (pertaining to lead) from Title 8 of the CCR, Part 61, Subpart M of the Code of Federal Regulations (CFR) (pertaining to asbestos)
- Lead exposure guidelines provided by the Department of Housing and Urban Development (HUD)
- Hazardous Materials Transportation Act (HMTA)
- Resource Conservation and Recovery Act

Level of Significance Without Mitigation: Less Than Significant Impact.

HAZ-2 ***The project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment.***

The City of Fresno Fire Department recognizes the potential for a large chemical release to occur which could expose thousands of people to hazardous/toxic vapors. A variety of chemicals are transported via the two railroad lines or the four freeways, which transect the city. The City of Fresno Fire Department Hazardous Materials Response Team has embraced an all-hazards approach to emergency response to ensure that the community receives a robust, competent level of service to all hazardous materials events. Continued implementation of the approved General Plan could result in significant impacts with regard to the creation of a hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. To reduce potential impacts from the accidental release of hazardous materials into the environment within the Planning Area, the approved General Plan includes Objective NS-4 and Policies NS-4-e through NS-4-g and Objective NS-6 and Policies NS-6-a through NS-6-g, as identified in Section 4.9.4.3, Local Policies and Regulations. These Objective and Policies require site and project-specific compliance with local, State and federal standards and procedures for the use of hazardous materials. Local programs include Fresno County's Hazardous Waste Generator Program and Hazardous Materials Incident Response Plan. Implementation of the Objective and Policies would result in less than significant impacts related to upset and accident conditions involving the release of hazardous materials into the environment. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- General Plan Objective NS-4 and Policies NS-4-e through NS-4-g, and Objective NS-6 and Policies NS-6-a through NS-6-g, identified in Section 4.9.4.3, Local Policies and Regulations, above.
- California Health and Safety Code
- Resource Conservation and Recovery Act

Level of Significance Without Mitigation: Less Than Significant Impact.

HAZ-3 The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Existing underground storage tanks, hazardous materials sites and environmentally regulated sites are scattered across the Planning Area. As discussed above in Section 4.9.3, contaminated sites in the Planning Area are largely associated with leaking underground storage tanks and are predominantly clustered south of Downtown, Fresno-Yosemite International Airport, Palm Bluffs Corporate Center (located in northwest Fresno) and along the Union Pacific Railroad Tracks. It is anticipated that future development under the approved General Plan could occur within one-quarter mile of an existing or proposed school. However, all generation, transport, and treatment of hazardous materials are required to comply with applicable federal, State and local requirements. Therefore, impacts in this regard are anticipated to be less than significant. No mitigation is required.

To reduce potential impacts from hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school, the approved General Plan includes Objective NS-4 and Policies NS-4-b, NS-4-e through NS-4-g, and NS-4-i, as described above in Section 4.9.4.4, which requires the City to enforce local, State and federal standards and requirements. These policies include proper production, use, storage and transport of hazardous materials and coordination with Fresno County regarding hazardous materials incident response. Implementation of the objective and policies would further reduce potential hazardous impacts.

Applicable Laws, Regulations, Relevant Land Use Policies

- General Plan Objective NS-4 and Policies NS-4-b, NS-4-e through NS-4-g, and NS-4-i, identified in Section 4.9.4.3, Local Policies and Regulations, above.
- Fresno County Environmental Health Department - Hazardous Materials Business Plans
- Hazardous Materials Transportation Act (HMTA)
- Resource Conservation and Recovery Act

Level of Significance Without Mitigation: Less Than Significant Impact.

HAZ-4 The project could be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

Contaminated sites are mainly associated with leaking underground storage tanks and are predominately clustered south of Downtown, Fresno Yosemite International Airport, Palm Bluffs Corporate Center (northwest Fresno) and along the Union Pacific Railroad Tracks. These sites may include Superfund, Environmental Protection Agency, Storage and Disposal Facilities, Toxic Release Inventory System, National Discharge Elimination System Majors, Large Quantity Generators, Major Discharge of Air Pollutants, Corrective Actions, Risk Management Plan, Section Seven Tracking System (pesticides) and Brownfield Properties, as defined by the Environmental Protection Agency, and described above in Section 4.9.3 and Section 4.9.4.

Cortese list data resources were searched to determine the extent of any sites within the City of Fresno Planning Area, which are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List." Information on the California Environmental Protection Agency's website includes five data resources that provide information regarding the facilities or sites identified as meeting the "Cortese List" requirements (Cortese List Data Resources 2019).

1. List of Hazardous Waste and Substances sites from Department of Toxic Substances Control (DTSC) EnviroStor database.

2. List of Leaking Underground Storage Tank Sites by county and Fiscal Year from Water Board GeoTracker database.

3. List of solid waste disposal sites identified by Water Board with waste constituents above hazardous waste levels outside the waste management unit.

4. List of "active" Cease and Desist Orders (CDOs) and Cleanup and Abatement Orders (CAOs) from Water Board.

5. List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by the Department of Toxic Substances Control.

Each of the above sources was reviewed for the City of Fresno to ascertain the extent of hazardous waste in the city with regard to the Cortese List Data Resources provided on the California Environmental Protection Agency's website.

It is anticipated that development in accordance with the approved General Plan could be located on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. However, hazardous sites would be identified during subsequent CEQA review of all future discretionary development. Further, before a development would be permitted to occur on such a site, the site would be required to be remediated to address any on-site hazardous materials consistent with the requirements of the DTSC, Fresno County Division of Environmental Health, and/or RWQCB, to a level that would permit development onsite depending on the site characteristics. Thus, impacts in this regard are anticipated to be less than significant. No mitigation is required.

To reduce potential impacts from development on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, the approved General Plan includes Objective NS-4 and Policies NS-4-a through NS-4-g and Policy NS-4-i within the Noise and Safety Element, as identified in Section 4.9.4.3, Local Policies and Regulations, above. The objective and policies would require compliance with County requirements for the production, use, storage, disposal and transport of hazardous materials. In addition, these policies would require facilities that handle hazardous materials or hazardous wastes to be designed, constructed, and operated in accordance with applicable hazardous materials and waste management laws and regulations. As a result, a less-than-significant impact would occur, and no mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Government Code Section 65962.5

- General Plan Objective NS-4 and Policies NS-4-a through NS-4-g and NS-4-i, identified in Section 4.9.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

HAZ-5 The project would be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and would not result in a safety hazard for people residing or working in the project area.

As described above in Section 4.9.3, there are three public or public use airports located within in the Planning Area: Fresno-Yosemite International Airport; Fresno Chandler Executive Airport, and Sierra Sky Park. The approved General Plan also states that the Air National Guard maintains an airbase for military flight and training operations at the Fresno-Yosemite International Airport. Continued implementation of the approved General Plan would increase the population within the Planning Area and as such may expose those working or living in the area to potential safety hazards associated with airport operations.

As described above in Section 4.9.4, the City of Fresno implements land use compatibility policies and criteria related to proposed development in the vicinity of public use airports in the Planning Area. The Fresno County ALUCP also establishes the planning boundaries around each of these airport facilities that define safety areas, noise contours, and height/airspace protection for policy implementation and areas within which notification is required as part of real estate transactions.

The ALUCP is intended to protect and promote the safety and welfare of residents, businesses, and airport users near the public use airports and Naval Air Station Lemoore in Fresno county, while supporting the continued operation of these facilities. Specifically, the plan seeks to: ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents; protect the public from the adverse effects of airport noise; and ensure that no structures or activities encroach upon, or adversely affect, the use of navigable airspace. The City of Fresno Development Code Priority of Plans section mentioned above (Section 15-104-B.4) clearly establishes the adopted Fresno County Airport Land Use Compatibility Plan as the plan that takes precedence over all of the City's other land use plans within the Airport Influence Areas defined in the Plan.

The 2011 California Airport Land Use Planning Handbook (Handbook) provides guidance on the delineation of safety zones and the application of land use policies in those zones. The safety zones are based on the Handbook guidance, with adjustments to reflecting the specific operating characteristics of each airport (type of aircraft activity, runway length, traffic pattern, etc.). The safety compatibility policy framework is also based on Handbook guidance. The safety compatibility policies of this compatibility plan work in tandem with the airspace protection policies described in the Handbook. Safety zones are depicted in the following appendices of this document:

The ALUCP identifies six safety zones that reflect specific operating characteristics of the airports (i.e. type of aircraft activity, runway length, traffic pattern, etc.). The safety zones are as follows:

- **Zone 1 – Runway Protection Zone (RPZ):** Runway protection zones are trapezoidal-shaped areas located at ground level beyond each end of a runway. Ideally, each runway protection zone should be entirely clear of all objects. The dimensions for the RPZ are taken from the respective airport's airport layout plan or diagram and are based on FAA's Advisory Circular 150/5300-13A,

Airport Design. The accident risk level is considered to be very high within the RPZ zones, encompassing approximately 20 to 21 percent of the accidents at general aviation airports.

- **Zone 2 – Inner Approach/Departure Zone (IADZ):** This zone encompasses area that is overflown at low altitudes, typically only 200 to 400 feet above runway elevation. The accident risk level is considered to be high within the IADZ zones, encompassing approximately ten percent of general aviation aircraft accidents.

- **Zone 3 – Inner Turning Zone (ITZ):** This zone encompasses locations where aircraft are typically turning from the base to final approach legs of the standard traffic pattern and are descending from traffic pattern altitude. The ITZ also includes the area where departing aircraft normally complete the transition from takeoff power and flap settings to a climb mode and have begun to turn to their en-route heading. The accident risk level is considered to be moderate to high within the ITZ zones, encompassing approximately seven percent of general aviation aircraft accidents.

- **Zone 4 – Outer Approach/Departure Zone (OADZ):** The OADZ is situated along the extended runway centerline beyond the IADZ. Approaching aircraft are usually at less than traffic pattern altitude in the OADZ. The accident risk level is considered to be moderate within the OADZ, encompassing approximately five percent of general aviation aircraft accidents.

- **Zone 5 – Sideline Zone (SZ):** The SZ encompasses the close-in area lateral to runways. The primary risk in SZ is with aircraft losing directional control on takeoff. The accident risk level is considered low to moderate within the SZ, encompassing approximately five percent of general aviation aircraft accidents.

- **Zone 6 – Traffic Pattern Zone (TPZ):** The TPZ zone includes all other portions of regular aircraft traffic patterns based upon the 14 CFR Part 77 Conical Surface for the following airports: Firebaugh Airport, Fresno-Chandler Executive Airport, Harris Ranch Airport, Reedley Municipal Airport, Selma Airport, Sierra Sky Park Airport, and William Robert Johnston Municipal Airport. The aircraft accident risk level is considered to be low within the TPZ.

- **Zone 7 – Precision Approach Zone (PAZ):** The PAZ includes the 14 CFR Part 77 Outer Approach Transitional Surface and Precision Approach Surface. The Outer Approach Transitional Surface and Precision Approach Surface are used at airports with runways with an existing or planned Precision Instrument Approach. For Coalinga Municipal Airport and Fresno Yosemite International Airport, the AIA includes both the Traffic Pattern Zone (Zone 6) and the Precision Approach Zone. The aircraft accident risk level is considered to be low within the PAZ.

In addition the safety zone land use compatibility standards listed in Table 4.9-4 restricts the development of land uses that could pose particular hazards to the public or to vulnerable populations in case of an aircraft accident. Table 4.9-4 also provides a breakdown of the intensity criteria for the compatibility zones.

Table 4.9-4: Safety Criteria Matrix Fresno County Airport Land Use Compatibility Plan

Maximum Densities/Intensities/Required Open Land				Additional Criteria	
Zone	**Dwelling Units per Acre[1]**	**Maximum Non-residential Intensity[2]**	**Required Open Land[3]**	**Prohibited Uses[4]**	**Other Development Conditions[5]**
1 – Runway Protection Zone (RPZ)	None	None	All unused	-All structures except ones with location set by aeronautical function -All assemblages of people (one or more people) -Objects exceeding 14 CFR Part 77 height limits -Natural gas & petroleum pipelines[10] -Dumps or landfills, other than those consisting entirely of earth & rock -Hazards to flight[6]	-Airport disclosure notice required
2 – Inner Approach/Departure Zone (IADZ)	1 d.u. per 10 acres	60 persons per acre	30%	-Residential, except for very low density residential (less than 1 d.u. per 10 acres) and infill in developed areas[11] -Hazardous uses (e.g., aboveground bulk fuel storage or gas stations) -Natural gas & petroleum pipelines[10] -Office buildings greater than 3 stories -Labor-intensive industrial uses (greater than 60 persons per acre) -Children's schools, day care centers, libraries -Hospitals, nursing homes -Places of worship - Adult schools, colleges, universities -Recreational uses, athletic fields, playgrounds, & riding stables -Theaters, auditoriums, & stadiums -Dumps or landfills, other than those consisting entirely of earth & rock -Waterways that create a bird attractant -Hazards to flight[6]	-Airport disclosure notice required -Locate structures maximum distance from extended runway centerline -Airspace review required for objects > 35 feet tall[8]

Table 4.9-4: Safety Criteria Matrix Fresno County Airport Land Use Compatibility Plan

Maximum Densities/Intensities/Required Open Land				Additional Criteria	
Zone	**Dwelling Units per Acre[1]**	**Maximum Non-residential Intensity[2]**	**Required Open Land[3]**	**Prohibited Uses[4]**	**Other Development Conditions[5]**
3 – Inner Turning Zone (ITZ)	1 d.u. per 2 acres	100 persons per acre	20%	-Residential, except for low density residential (less than 1 d.u. per 2 acres) and infill in developed areas[11] -Hazardous uses (e.g., aboveground bulk fuel storage or gas stations) -Natural gas & petroleum pipelines[10] -Buildings with more than 3 aboveground habitable floors -Children's schools, day care centers, libraries -Hospitals, nursing homes -Places of worship - Adult schools, colleges, universities -Recreational uses, athletic fields, playgrounds, & riding stables -Theaters, auditoriums, & stadiums -Dumps or landfills, other than those consisting entirely of earth & rock -Waterways that create a bird attractant -Hazards to flight[6]	-Same as IADZ
4 – Outer Approach/Departure Zone (OADZ)	1 d.u. per 2 acres	150 persons per acre	20%	-Children's schools, day care centers, libraries -Hospitals, nursing homes -Hazardous uses (e.g., aboveground bulk fuel storage or gas stations) -Bldgs. with >3 above-ground habitable floors -Highly noise-sensitive outdoor nonresidential uses[7] -Hazards to flight[6]	-Airport disclosure notice required -Airspace review required for objects >70 feet tall[9]
5 – Sideline Zone (SZ)	1 d.u. per 2 acres	100 persons per acre	30%	-Same as IADZ zone	-Same as IADZ

Table 4.9-4: Safety Criteria Matrix Fresno County Airport Land Use Compatibility Plan

Maximum Densities/Intensities/Required Open Land				Additional Criteria	
Zone	**Dwelling Units per Acre[1]**	**Maximum Non-residential Intensity[2]**	**Required Open Land[3]**	**Prohibited Uses[4]**	**Other Development Conditions[5]**
6 – Traffic Pattern Zone (TPZ)	No Limit	300 persons per acre No limit in areas designated as Urban in the ALUCP on Exhibit C1, Fresno-Chandler Executive Airport and Exhibit D1, Fresno Yosemite International Airport	10%	-Hazards to flight[6] -Outdoor stadiums and similar uses with very high intensity uses	-Airport disclosure notice required -Airspace review required for objects >100 feet tall[9] -New structures are prohibited on existing terrain that penetrates 14 CFR Part 77 surfaces[9] -New structures require additional airspace analysis required within the 50-foot terrain penetration buffer[9]
7 – Precision Approach Zone (PAZ)[12]	No Limit	No Limit	0%	-Hazards to flight[6]	No object shall have a height that would penetrate the airspace protection surface of the airport. Any object that penetrates one of these surfaces is, by FAA definition, considered an obstruction. A proposed object having a height that exceeds the airport's airspace protection surface shall be allowed only if, upon conclusion of the FAA's 7460 review process, the FAA determines that the object would not be a hazard to air navigation.

Source: Fresno County Airport Land Use Compatibility Plan, Fresno COG (2018).

1 Residential development must not contain more than the indicated number of dwelling units (excluding secondary units) per gross acre (d.u./ac). Clustering of units is encouraged. Gross acreage includes the property at issue, plus a share of adjacent roads and any adjacent, permanently dedicated, open lands associated with the property.

2 Usage intensity calculations shall include the maximum number of people (e.g., employees, customers/visitors, etc.) who may be on the parcels or site at a single point in time, whether indoors or outside.

3 Open land requirements are intended to be applied with respect to an entire zone. This is typically accomplished as part of a community general plan or a specific plan, but may also apply to large (10 acres or more) development projects.

4 The uses listed here are ones that are explicitly prohibited regardless of whether they meet the intensity criteria. In addition to these explicitly prohibited uses, other uses will normally not be permitted in the respective compatibility zones because they do not meet the usage intensity criteria. Also see Section 2.6.7 for policies on similar uses.

5 As part of certain real estate transactions involving residential property within any compatibility zone (that is, anywhere within an airport influence area), information regarding airport proximity and the existence of aircraft overflights must be disclosed. This requirement is set by state law.

6 Hazards to flight include physical (e.g., tall objects), visual, and electronic forms of interference with the safety of aircraft operations. Land use development, such as golf courses and certain types of crops, as outlined in FAA's Advisory Circular 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports, that may cause the attraction of birds to increase is also prohibited.

Table footnotes continued on next page.

Table 4.9-4: Safety Criteria Matrix Fresno County Airport Land Use Compatibility Plan

Maximum Densities/Intensities/Required Open Land				Additional Criteria	
Zone	Dwelling Units per Acre[1]	Maximum Non-residential Intensity[2]	Required Open Land[3]	Prohibited Uses[4]	Other Development Conditions[5]

[7] Examples of highly noise-sensitive outdoor nonresidential uses that should be prohibited include amphitheaters and drive-in theaters. Caution should be exercised with respect to uses, such as poultry farms and nature preserves.
[8] Objects up to 35 feet in height are permitted. However, the FAA may require Form 7460-1, marking, and lighting of certain objects.
[9] This height criterion is for general guidance. Shorter objects normally will not be airspace obstructions unless situated at a ground elevation well above that of the airport (See examples 1, 2, & 3 on Exhibit 3A of the ALUCP). Taller objects may be acceptable if determined not to be obstructions. Developers proposing structures that could penetrate 14 CFR Part 77 surfaces must file Form 7460 with the FAA to determine if 7460 review is required, consult FAA's Notice Criteria Tool: https://oeaaa.faa.gov/oeaaa/external/gisTools/gisAction.jsp?action=showNoNoticeRequiredToolForm
[10] Natural gas & petroleum pipelines less than 36 inches below the surface.
[11] The definition of infill can be found in Section 2.10.26.
[12] Only present at the following airports with a Precision Approach: Coalinga Municipal Airport and Fresno Yosemite International Airport.

As included in Section 4.9.4.3, the approved General Plan includes Objective NS-5 which requires that planning protect the safety, health, and welfare of persons and property on the ground and in aircraft by minimizing exposure to airport-related hazards. In addition, Policies NS-5-a through NS-5-e require development occurring under the approved General Plan to follow the requirements of the ALUCP.

With the implementation of the objective and policies identified above and the ALUCP, the potential airport hazard impacts associated with the proposed project would be less than significant. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Fresno County Airport Land Use Compatibility Plan
- General Plan Objective NS-5 and policies NS-5-a through NS-5-e, identified in Section 4.9.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

HAZ-6 The project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The City's Police and Fire Departments are the lead agencies for all local emergency response efforts. The City's full-time Emergency Preparedness Officer (EPO) is responsible for ensuring that Fresno's emergency response plans are up-to-date and implemented properly. The EPO also facilitates cooperation between City departments and other local, State and federal agencies that would be involved in emergency response operations. The City of Fresno Emergency Operations Center (EOC) will serve as the coordination and communication between the City of Fresno and

Fresno County Operational Area EOC. A potentially significant impact could occur if the EOC is under redevelopment or construction during an emergency.

Objective NS-6 and Policies NS-6-a through NS-6-g of the approved General Plan would reduce potential impacts to emergency response and evacuation. With the implementation of this objective and policies, potential interference with an adopted emergency response plan or emergency evacuation plan would be reduced; however, the impact could remain significant.

Applicable Laws, Regulations, Relevant Land Use Policies

- County of Fresno Multi-Jurisdictional Local Hazard Mitigation Plan
- General Plan Objective NS-6 and Policies NS-6-a through NS-6-g, identified in Section 4.9.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact HAZ-6: Implementation of the project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Mitigation Measure HAZ-6.1 The City shall establish an alternative Emergency Operations Center in the event the current Emergency Operations Center is under redevelopment or inaccessible.

Level of Significance With Mitigation: Less Than Significant Impact.

HAZ-7 The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

Although the city of Fresno is located near high and very high fire hazard designated areas, the city is largely categorized as little or no threat or moderate fire hazard, which is largely attributed to paved areas. Some small areas along the San Joaquin River Bluff area in northern Fresno are prone to wildfires due to relatively steep terrain/vegetation, and these areas are classified as high fire hazard areas. Land, which is currently vacant, is designated as multi-use in the approved General Plan. Thus, development under the approved General Plan adjacent to the San Joaquin River Bluff would be subject to dangers from wildland fires. As such, the proposed project is anticipated to have a potentially significant impact in this regard.

As identified in Section 4.9.4.3, the approved General Plan includes Objective PU-2 and Policies PU-2-a through Policy PU-2-e and Objective PU-3, Policy PU-3-a, Policy PU-3-b, Policies PU-3-d through Policy PU-3-g to address wildland fires. These objectives and policies require the City to continue to assess and update the City's firefighting capabilities, as well as implement building codes to address fire dangers. It is anticipated that continued implementation of the above objectives and policies from the approved General Plan would reduce project impacts to wildland fires to a less than significant level. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- General Plan Objective PU-2 and Policies PU-2-a through Policy PU-2-e, and Objective PU-3, Policy PU-3-a, Policy PU-3-b, Policies PU-3-d through Policy PU-3-g, identified in Section 4.9.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.9.6.2 Cumulative Impacts

HAZ-8 The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in cumulative impacts with respect to hazards and hazardous materials.

The proposed project would have a significant effect on the environment if it – in combination with other projects – would contribute to a significant cumulative impact related to hazards and hazardous materials.

Cumulative effects are anticipated regarding the routine transport, use, or disposal of hazardous materials related to agricultural use and industrial uses within and beyond the Planning Area. Agricultural uses are located within and adjacent to the areas surrounding the Planning Area. Agricultural and industrial uses include the routine transportation, use and disposal of hazardous materials including pesticides, insecticides, petroleum, and other hazardous substances. The continued implementation of the approved General Plan could contribute to cumulative effects. However, those effects would be reduced with the implementation of the objective and policies identified above. The project's contribution to potential cumulative effects from routine transport, use, and disposal of hazardous materials would not be considerable with the implementation of the approved General Plan Objective NS-4 and Policies NS-4-a through NS-4-I within the Noise and Safety Element. Therefore, the proposed project would result in less than significant cumulative impacts.

The implementation of cumulative development that is located outside of the Planning Area, such as development that would occur within the Counties of Fresno and Madera and the City of Clovis, could result in potential impacts regarding significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Any accidental release of hazardous materials into the Planning Area's environment would primarily be responded to by the City of Fresno Fire Department Hazardous Materials Response Team. The Fresno County Emergency Response Team would also provide assistance to the public and other agencies by responding to hazardous materials spills and accidents. The County of Madera Emergency Response Team would respond to hazardous materials spills and accidents within their jurisdiction. Overall, cumulative development could contribute to accidental releases of hazardous materials into the environment. The following implementing objective and policies from the approved General Plan would reduce potential impacts regarding the creation of a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving release of hazardous materials into the environment: Objective NS-4 and Policies NS-4-e NS-4-f, and NS-4-g within the Noise and Safety Element. With the

implementation of the objective and policies, the project's contribution to potential cumulative upset or accident conditions would not be considerable. Therefore, the implementation of the project would result in less than significant cumulative impacts.

Schools that are proposed along the edge of the Planning Area could be exposed to hazardous releases outside of the Planning Area. Adherence to existing federal, State, and local regulations regarding the use and disposal of hazardous materials and wastes would reduce potential impacts on human health and safety. Additionally, hazardous materials impacts within one-quarter mile of a school could be reduced because the nearby City of Clovis County of Fresno and County of Madera have their own regulations, hazardous materials business plans, and emergency response teams for the use, treatment, storage and accidental release of a hazardous material. Therefore, cumulative development in the vicinity of the Planning Area would result in less than significant impacts on schools. Since the proposed project would also result in less than significant hazardous materials impacts to schools and the potential impacts would be further reduced by the objectives and policies identified above, the project's contribution to cumulative hazardous materials impacts to schools would not be considerable, and thus a less than significant cumulative impact would occur.

The contribution of the project's impact regarding development located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, could be significant and cumulatively considerable. Hazardous Materials sites located within and outside of the Planning Area could potentially cause significant environmental effects due to onsite and offsite migration of contaminants affecting other properties. Redevelopment or development would be required to comply with all applicable regulations for remediation of hazards, such as compliance with appropriate guidelines of the Underground Storage Tank Program. Any development that would handle, transport or store hazardous materials within the vicinity of the Planning Area, such as the city of Clovis, county of Madera, and the county of Fresno, would also be required to comply with applicable federal, State and local requirements. Therefore, potential cumulative hazardous materials impacts would be less than significant. Since the proposed project would also result in less than significant hazardous materials impacts and these impacts would be further reduced with Objective NS-4, Policies NS-4-a through NS-4-g, and Policy NS-4-i the project's contribution to cumulative hazardous materials impacts would not be considerable and would be less than significant.

The implementation of cumulative development in accordance with the approved General Plan would not result in any inconsistencies with airport safety zones of the three airports located in the Planning Area. In addition, implementation of General Plan Objective NS-5 and policies NS-5-a through NS-5-e would assure that future planning would not conflict with airport facilities.

Development outside of the Planning Area could affect emergency response and evacuation; however, this potential effect would not be a cumulative effect on the City's Emergency Operation Center. Since the proposed project could result in a significant impact on the Emergency Operations Center if the Center is under redevelopment during an emergency, the proposed project's contribution to a cumulative emergency or evacuation impact is considered considerable and therefore, a significant cumulative impact.

Implementation of the proposed project along with cumulative development could create a potentially significant cumulative impact associated with the risk of loss, injury or death involving wildland fires. However, continued implementation of the approved General Plan Objective PU-2 and Policies PU-2-a through Policy PU-2-e and Objective PU-3, Policy PU-3-a, Policy PU-3-b, Policies PU-3-d through Policy PU-3-g would reduce project specific impacts related to wildfires. Therefore, the Project's contribution to potentially significant wildfire hazards would not be cumulatively considerable and would be less than cumulatively significant.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.9.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact HAZ-1: Continued implementation of the approved General Plan, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to implementation of adopted emergency response plan or emergency evacuation.

Mitigation Measure: Refer to Mitigation Measure HAZ-6.1.

Level Significance With Mitigation: Less Than Significant Impact.

4.10 HYDROLOGY AND WATER QUALITY

4.10.1 Introduction

This section evaluates the potential environmental effects related to hydrology and water quality associated with the continued implementation of the approved General Plan. The analysis includes a review of surface water, groundwater, flooding, stormwater, and water quality. The approved General Plan includes policies in the Public Utilities and Services Element and the Resource Conservation and Resilience Element that guide development and infrastructure practices to protect surface water and groundwater from the degradation of runoff and pollution. This section is based on the 2015 Urban Water Management Plan (UWMP), the Fresno Metropolitan Flood Control District (FMFCD) 2016 District Services Plan, and the 2019 North Kings Groundwater Sustainability Plan (GSP).

4.10.2 CEQA Baseline

The City of Fresno is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Travelled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the approved General Plan, explains that the PEIR will evaluate the continued implementation of the approved General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of Senate Bill (SB) 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the approved General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the approved General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. The approved General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.10.3 Existing Environmental Setting

4.10.3.1 Precipitation

Precipitation in the Planning Area occurs mostly as rain during the months of November through April. Climate data collected from 1948 to 2016 shows that annual rainfall averaged 10.89 inches, but is variable. Recorded annual rainfall has ranged from a low of 3.01 inches in 2013 to a high of 21.61 inches in 1983.[1]

4.10.3.2 Hydrology

The San Joaquin River and the Kings River are the principal rivers that influence the hydrology in the Planning Area. The western slopes of the Sierra Nevada drain to the west via the San Joaquin and Kings Rivers. The Kings River is connected to the San Joaquin River by the James Bypass, a manmade canal. Floodwater from the Kings River is diverted to the San Joaquin River. Three dams control flows on the two rivers. The Friant and Mendota Dams are located on the San Joaquin River. These two dams provide some flood control; however, these two dams were not designed for the purpose of flood control. The Pine Flat Dam was built for the purpose of flood control. In addition to the dams on the two rivers, there are reservoirs and detention basins that have been constructed to prevent flooding. These facilities include the Redbank Dam and the Redbank-Fancher Creeks Flood Control Project. The Project area includes two dams (Big Dry Creek Dam and Fancher Creek Dam), three detention basins (Redbank Creek, Pup Creek, and Alluvial Drain Detention Basins), and canals to convey discharges in and around the City of Fresno. These facilities were designed to protect developed areas from a 200-year storm event.[2]

Stormwater Drainage. Storm drainage facilities within the Fresno-Clovis Metropolitan area are planned, implemented, operated and maintained by the FMFCD. The storm drainage facilities are documented in the Storm Drainage and Flood Control Master Plan (SDFCMP), which is developed and updated by FMFCD. The master plan drainage system for the Planning Area consists of over 158 individual drainage areas or urban watersheds. Drainage area boundaries are determined by geographic and topographic features and the economics of providing storm drainage service to the watershed. The storm drainage facilities within a drainage area consist of storm drain inlets, pipeline, retention basins, urban detention (water quality) basins, and stormwater pump stations. Surface grading improvements such as streets, curbs, gutters, and valley gutters are part of the City of Fresno infrastructure, but the general grading of these features is governed by the SDFCMP to provide a coherent implementation of drainage within the Planning Area.

Storm drain inlets are located at low points in the topography as determined by the SDFCMP. Pipeline alignments and sizes are also shown on the SDFCMP. Pipeline alignments are subject to change as development proposals are put forward by development projects. Retention basins and urban detention basins locations and geometry are part of the SDFCMP as well. Basins are sited in the topographic low point of the drainage area. All of the storm drainage pipelines are directed to

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1 Western Regional Climate Center. Period of Record Monthly Climate Summary, Fresno Yosemite Intl AP, California (043257). Average Total Precipitation (inches). Website: wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3257 (accessed February 12, 2020).

2 Fresno, County of. 2000. *Fresno County General Plan Background Report*.

the retention and urban detention basins. Retention basins store and percolate stormwater from the drainage area if time between storms permits, or is otherwise pumped to designated irrigation canals. Urban detention basins provide quiescent (still) conditions for the removal or settling out of suspended solids prior to discharge of the stormwater to the San Joaquin River.

The Fresno-Clovis Metropolitan area consists of drainage areas that are completed, e.g., all of the master planned facilities are constructed and functional; or in the process of being completed, e.g. portions of the retention basins, pipelines, and inlets are constructed and portions are not. For the drainage areas that are in the planning stage, e.g., the drainage area is planned and documented, the retention basin land may have been purchased, but no construction has occurred. Implementation of the SDFCMP occurs in response to development activity in newly developing areas and through Capital Improvement Project (CIP) planning in previously developed areas. Funding for storm drainage facilities occurs through the collection of drainage fees assessed on parcels as they develop through grant funding from the State of California and the Federal Government, through low interest infrastructure improvement bonds, and in the past, through assessment districts. Drainage fees fund the majority of the construction of master plan facilities in newly developing areas. Grants, infrastructure loans, and assessment districts fund the majority of construction in previously developed drainage areas.

Groundwater. The Planning Area is underlain by the Kings River Sub-basin, which, along with six other sub-basins, comprises the San Joaquin Valley Groundwater Basin. In turn, the San Joaquin Basin is located within the Tulare Lake Hydrologic Region. The Tulare Lake Hydrologic Region spans approximately 10.9 million acres (17,000 square miles) and includes most of Fresno County. The Region encompasses the southern one-third of the Central Valley Regional Water Quality Control Board (RWQCB) jurisdiction.

The Kings River Sub-basin extends from the Sierra Nevada foothills on the east to the San Joaquin Valley trough on the west, and from the San Joaquin River on the north to roughly the Fresno County line on the south.

Historically, water demand within the Planning Area has been met by extracting groundwater from the Kings Sub-basin. Groundwater levels since 1990 have declined from less than 0.5 feet per year in the southwest portion of the downtown area, to a rate of 1.5 feet per year for northern and southern areas of the city, to a maximum of 3 feet per year in the northeastern area of the city. A groundwater mound is located near the Fresno-Clovis Regional Wastewater Reclamation Facility (Regional Facility) as a result of the disposal of treated effluent at the FCRWRF percolation basins.

Groundwater used by the City to meet its demands is replenished by three different methods:

- Natural recharge
- Net Subsurface inflow
- Intentional groundwater recharge

Natural recharge occurs through rainfall, irrigation, canal and stream flows that seep into the soil and replenish the aquifer below. Based on City data, the City estimated the natural recharge was approximately 25,400 acre feet in 2015. As additional development occurs throughout the Planning Area, there will be less pervious surfaces to allow natural recharge to occur. However, as the City annexes portions of the Planning Area, the amount of natural recharge allocated to the City will increase. At buildout, the natural recharge is estimated to be approximately 27,000 AF/year.[3]

Subsurface recharge occurs from the movement of groundwater from external sources such as the Sierra Nevada moving into the local aquifer. Since the groundwater table surrounding the Planning Area is higher than inside the Planning Area, subsurface water tends to flow from surrounding areas with a higher groundwater table into the aquifer within the Planning Area that has a lower groundwater table. Based on City data, the annual subsurface inflow to the City is approximately 48,900 AF in 2020. By the year 2040, the City and the North Kings Groundwater Sustainability Agency (NKGSA) anticipates that groundwater operations (i.e., subsurface inflows and outflows) would be balanced and subsurface flows will not be directed to the Planning Area.

Intentional recharge is provided by directing surface water into the underground aquifer by means of groundwater recharge basins located throughout the Planning Area. Currently, the City's primary recharge facility is Leaky Acres, located just northwest of Fresno-Yosemite International Airport. Other recharge facilities include FMFCD storm drainage basins and the Alluvial Groundwater Recharge System (AGRS) owned and operated by the City of Clovis. Based on the 2015 UWMP, the average intentional recharge between 2000 and 2013 was approximately 50,000 AF/year. The intentional recharge quantity in 2015 was approximately 53,100 AF, and reflects a normal year precipitation.

Based on the natural groundwater recharge (25,400 AF), subsurface inflow (47,100 AF), and intentional normal precipitation year recharge (53,100 AF) that occurred in 2015, the total groundwater recharge during normal year supply is approximately 125,600 AF. At buildout, the City anticipates that the natural groundwater recharge will increase to 27,000 AF/year, subsurface inflow will be 0 AF/year, and intentional groundwater recharge will increase to 75,100 AF/year due to an increase in the capacity of surface water treatment. The total groundwater recharge at General Plan buildout in 2056 is expected to be approximately 102,100 AF/year.

In 2004, the Northeast Surface Water Treatment Facility (NESWTF) located at Chestnut and Behymer Avenues began operation. The treatment facility is designed to treat 30 million gallons of water per day (mgd). In 2018, the Southeast Surface Water Treatment Facility (SESWTF) located at East Floradora Avenue and North Armstrong Avenue began operation. The treatment facility is fed with surface water from the Kings River through a thirteen-mile-long Kings River Pipeline and is designed to have initial treatment capacity of 54 mgd and ultimate treatment capacity of 80 mgd.

The NESWTF and SESWTF have reduced the dependence on groundwater pumping by the City needed to meet water demand. Prior to operation of the NESWTF, 100 percent of the City's water demand was met through groundwater pumping.

[3] Fresno, City of. 2016. *2015 Urban Water Management Plan*. June.

The City currently has approximately 260 active pump stations, which pump an average of 74 mgd. Groundwater pumping data provided by the City indicates that approximately 83,360 AF was pumped in 2015. Between 2011 and 2015, the City pumped an average of approximately 111,522 AF/year.[4] This average groundwater pumping has exceeded the current estimated groundwater safe yield of approximately 72,500 AF/year.

Groundwater will continue to be an important part of the City's supply but will not be relied upon as heavily as has historically been the case. The 2015 UWMP stated that groundwater pumped by the City decreased from approximately 128,578 AF/year in 2010 to approximately 83,360 AF/year in 2015. This would represent a decrease in the groundwater percentage of total water supply from 87 percent to 75 percent. In order to meet this projection, the City is planning to rely on expanding their delivery and treatment of surface water supplies and groundwater recharge activities.

4.10.3.3 Water Quality

Surface Water

San Joaquin River. The primary surface water feature within the Planning Area is the San Joaquin River, which generally serves as the Planning Area's northern boundary. At 366 miles long, the San Joaquin River is the largest river in Central California, spanning from the Sierra Nevada Mountains to the San Francisco Bay via the San Joaquin Valley. Much of the water that flows through the San Joaquin River is used for irrigation purposes. Much of the agricultural production in the San Joaquin Valley depends on water that at least originated from the San Joaquin River. The San Joaquin River has been identified by the Central Valley RWQCB as having numerous beneficial uses, including municipal and domestic water supply, agricultural, industrial, recreational, freshwater and wildlife habitat, and migration and spawning grounds. Water quality in the San Joaquin River is affected by both natural and anthropogenic sources, including soil erosion; stormwater runoff; wastewater discharges, industrial, residential, and agricultural runoff; recreational activity; and flora and fauna. While the segment of the San Joaquin River in the Planning Area is not considered substantially impaired, significant downstream portions of the River throughout the Valley and near the Sacramento-San Joaquin Delta are affected by various constituents and pollutants, usually as a result of agricultural runoff. However, the portion of the San Joaquin River in the Planning Area appears on the State Water Resources Control Board's 2016 Impaired Water Bodies/303(d) List for invasive species (non-native fish species).[5]

Millerton Lake. Aside from the San Joaquin River, another prominent surface water feature in the Planning Area is Millerton Lake, which is located upstream and just outside of the of the Planning Area's northeast boundary. Millerton Lake was created by the construction of Friant Dam on the San Joaquin River by the United States Bureau of Reclamation in 1942. While Millerton Lake's secondary uses include recreation, hydroelectric power generation, and flood

[4] Fresno, City of. 2016. *2015 Urban Water Management Plan,* Table 4-1: Historical Water Production. June.
[5] State Water Resources Control Board. 2017. *Final 2014/2016 California Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report)*. October 3.

control, the primary purpose of the Lake is the storage of irrigation water for the San Joaquin Valley. Millerton Lake is included on the 2016 Impaired Water Bodies/303(d) List for mercury.[6]

Other Surface Waters. In addition to these larger surface water features, a network of agricultural canals and flood control channels traverse the Planning Area. Numerous agricultural ponds, recharge basins, and other similar features are located within the Planning Area. Surface water starts as snow melt in the Sierra Nevada before traveling down the San Joaquin and Kings Rivers via Millerton Lake and Pine Flat Reservoir. These locations serve as temporary storage locations before the surface water is delivered via the Enterprise Canal to the Northeast Surface Water Treatment Facility (NESWTF) and Southeast Surface Water Treatment Facility (SESWTF), where the water is treated to meet drinking water standards.

The City began to use surface water as a source of potable water supply in 2004, when the NESWTF became operational and began delivering approximately 20 mgd of potable water to residents of northeast Fresno. In 2009, the NESWTF treated 19,600 AF, which offset ground-water demand by 12 percent. The NESWTF is supplied USBR CPVIA, Friant Division, Class I Water via the recently completed 5.6-mile long Friant-Kern Canal Pipeline. In addition, in 2018 the SESWTF began operation and is designed to have initial treatment capacity of 54 mgd with the ultimate treatment capacity of 80 mgd. The SESWTF is supplied Kings River water via the recently-completed 13-mile long Kings River Pipeline. The T-3 Surface Water Treatment and Storage Facility, is supplied Kings River water via the Enterprise Canal and smaller conveyance channels.

Ground Water.[7] Groundwater quality throughout the Tulare Lake Hydrologic Region is generally suitable for most urban and agricultural uses, and meets primary and secondary drinking water standards for municipal use. Local impairments are found in the Tulare Lake Hydrologic Region's groundwater supply, however, with high TDS, nitrate, arsenic, and organic compounds acting as the primary constituents of concern within the Region. With the exception of the western portion of the Tulare Lake Hydrologic Region, the Region lacks any substantial low permeability units that would isolate deep from shallow aquifers. As such, most of the aquifer underlying the Planning Area is unconfined. As a single, unconfined aquifer, the groundwater basin within the Planning Area has been designated as a Sole Source Aquifer as authorized by Section 14246 of the Federal Safe Drinking Water Act of 1974. This designation means that Planning Area is dependent on a single source of groundwater and that this sole source must be protected from contamination.

While the groundwater supply within the Kings River Subbasin generally meets drinking water standards, extensive contamination occurs throughout the Planning Area as eight major contaminant plumes are present. Of the City's approximately 260 groundwater wells, 34 of the City's active wells currently have wellhead treatment systems.

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6 State Water Resources Control Board. 2017. *Final 2014/2016 California Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report)*. October 3.

7 Fresno, City of. 2016. *2015 Urban Water Management Plan*, Chapter 6, System Supplies. June.

Several different types of pollutants have contaminated the groundwater in portions of the Planning Area. Major contaminant plumes include dibromochloropropane (DBCP), ethylene dibromide (EDB), trichloropropane (TCP), other volatile organic compounds (VOCs) like trichlorethylene (TCE), tetrachloroethylene (PCE), nitrate, manganese, radon, chloride, and iron. Nitrate, pesticides, and nutrients in agricultural drainage are currently found within much of the Planning Area's groundwater supply, and their levels exceed some drinking water standards established by the State. While nitrates may occur naturally, their presence is often attributed to anthropogenic reasons. Leaking septic tanks, which are prevalent in the less dense southeast portion of the City, are also a substantial source of nitrate contamination.

Another major problem facing the Planning Area's groundwater supply is the presence of Dibromo-Chloropropane (DBCP) in the City's groundwater wells. This fumigant was widely used in the 1960s to control nematodes in vineyards and is now present in down gradient groundwater wells. TCP has also been detected in 42 of the City's municipal wells. As of early 2020, the City is currently in litigation with pesticide manufacturers that have been linked to this contamination.

Floodplain. The City of Fresno is located in the alluvial fans of numerous foothill streams and creeks that drain the western slope of the Sierra Nevada foothills. These streams include Big Dry Creek, Alluvial Drain, Pup Creek, Dog Creek, Redbank Creek, Mud Creek, and Fancher Creek. Numerous smaller, unnamed drainage courses also drain into the Planning Area from the rural areas east of the Planning Area.

Based on a review of the Federal Emergency Management Agency's Flood Insurance Rate Maps (FIRM) for the Planning Area,[8] there are areas that are subject to the 100-year frequency flood zone. The primary area that is subject to the 100-year flood zone is along the San Joaquin River below the bluffs. There are additional areas in the vicinity of the Fresno International Airport, the Southeast Development Area in the vicinity of the Redbank Creek Dam, adjacent to Highway 180 east of Clovis Avenue, and within an industrial area east of SR-99, south of California Avenue and north of Jensen Avenue. In addition, various detention basins are subject to the 100-year flood zone.

4.10.4 Regulatory Setting

4.10.4.1 Federal Regulations

Clean Water Act. The Clean Water Act (CWA) established a basic structure for regulating discharges of pollutants into Waters of the United States and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. The "Clean Water Act" became the Act's common name with amendments in 1977.

Under the CWA, the Environmental Protection Agency (EPA) has implemented pollution control programs and established water quality standards for all contaminants in surface waters. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a

[8] Federal Emergency Management Agency. FEMA Flood Map Service Center. Website: msc.fema.gov/portal/home (accessed February 12, 2020).

National Pollutant Discharge Elimination System (NPDES) permit was obtained. Point sources are discrete conveyances such as pipes or manmade ditches. While residential structures that are either connected to a municipal system or otherwise do not discharge into surface waters are not required to obtain a NPDES permit, industrial, municipal, and similar facilities must obtain permits to discharge directly into surface waters. In California, the NPDES program is administered through the nine Regional Water Quality Control Boards (RWQCB).

Non-point sources are similarly regulated through a General Construction Activity Stormwater NPDES permit. Construction activities subject to this permit include clearing, grading, excavating, and general disturbances to the ground. Stormwater Pollution Prevention Plans (SWPPPs) are required for the issuance of a General Construction Activity Stormwater NPDES permit and typically include the implementation of structural and non-structural Best Management Practices (BMPs) to reduce impacts related to surface water quality.

National Pollutant Discharge Elimination System (NPDES) Permit. Section 402 of the CWA established the NPDES to control water pollution by regulating point sources that discharge pollutants into Waters of the United States. In the State of California, the EPA has authorized the State Water Resources Control Board (SWRCB) as the permitting authority to implement the NPDES program. The SWRCB issues two-baseline general permits; one for industrial operations, the other for construction activities (General Construction Permit). Additionally, the NPDES program includes the regulation of stormwater discharges from cities, counties, and other municipalities under Order No. R8-2009-0030 (waste discharge requirements for stormwater) and updated under Order No. 5-01-048 for the Central Valley Region.

Under the General Construction Permit, stormwater discharges from construction sites with a disturbed area of one or more acres are required to obtain either individual NPDES permits for stormwater discharges or be covered by the Construction General Permit. Coverage under the Construction General Permit is accomplished by completing and filing a Notice of Intent with the SWRCB. Each Applicant under the Construction General Permit is required to both prepare a SWPPP prior to the commencement of grading activities and to ensure implementation of the SWPPP during construction activities. The primary objective of the SWPPP is to identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site during construction activities. BMPs may include programs, technologies, processes, practices, and devices that control, prevent, remove, or reduce pollution. The SWPPP would also address BMPs developed specifically to reduce pollutants in stormwater discharges following the completion of construction activities.

Safe Drinking Water Act (Federal). The Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water in the United States. This SDWA focuses on all waters either designed or potentially designed for drinking water use, whether from surface water or groundwater sources. The SDWA and subsequent amendments authorized the EPA to establish health-based standards, or maximum contaminant levels (MCLs), for drinking water to protect public health against both natural and anthropogenic contaminants. All owners or operators of public water systems are required to comply with these primary (health-related) standards. State governments, which can be approved to implement these primary standards for the EPA, also encourage attainment of secondary (nuisance-related) standards. At the federal level, the EPA administers the SDWA and

establishes MCLs for bacteriological, organic, inorganic, and radiological constituents (United States Code Title 42, and Code of Federal Regulations Title 40). At the state level, California has adopted its own SDWA, which incorporates the federal SDWA standards with some other requirements specific only to California (California Health and Safety Code, Section 116350 et seq.).

The 1996 SDWA amendments established source water assessment programs pertaining to untreated water from rivers, lakes, streams, and groundwater aquifers used for drinking water supply. According to these amendments, the EPA must consider a detailed risk and cost assessment, as well as best available peer-reviewed science, when developing standards for drinking water. These programs are the foundation of protecting drinking water resources from contamination and avoiding costly treatment to remove pollutants. In California, the Drinking Water Source Assessment and Protection (DWSAP) program fulfills these federal mandates. The Division of Drinking Water of the State Water Resources Control Board is the primary agency for developing and implementing the DWSAP program, and is responsible for performing the assessments of existing groundwater sources.

4.10.4.2 State Regulations

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act of 1969, which became Division 7 of the California Water Code, authorized the SWRCB to provide comprehensive protection for California's waters through water allocation and water quality protection. The SWRCB implements the requirement of the CWA Section 303, which states that water quality standards must be established for certain waters through the adoption of water quality control plans under the Porter-Cologne Act. The Porter-Cologne Act established the responsibilities and authorities of the nine RWQCBs, which include preparing water quality plans within the regions, identifying water quality objectives, and instituting waste discharge requirements. Water quality objectives are defined as limits or levels of water quality constituents and characteristics established for reasonable protection of beneficial uses or prevention of nuisance. Beneficial uses consist of all the various ways that water can be used for the benefit of people and wildlife. The Porter-Cologne Act was later amended to provide the authority delegated from the EPA to issue NPDES permits regulating discharges to Waters of the United States.

Sustainable Groundwater Management Act of 2014. On September 16, 2014, a three-bill legislative package was signed into law, composed of AB 1739, SB 1168, and SB 1319, collectively known as the Sustainable Groundwater Management Act (SGMA). The Governor's signing message states "a central feature of these bills is the recognition that groundwater management in California is best accomplished locally".

The SGMA provides a framework for sustainable management of groundwater supplies by local authorities, with the potential for state intervention if necessary to protect the resource.

The act requires the formation of local groundwater sustainability agencies (GSAs) that must assess conditions in their local water basins and adopt locally-based management plans. The groundwater basin that serves Fresno has been designated by the Department of Water Resources as high-priority and subject to a condition of critical overdraft.

4.10.4.3 Local Policies and Regulations

The following is a summary of the applicable policies included in the approved General Plan that are related to hydrology and water quality, and are applicable to the proposed project.

City of Fresno Municipal Code. Chapter 6, Municipal Services and Utilities, Article 7, Urban Storm Water Quality Management and Discharge Control, of the Fresno Municipal Code (FMC) establishes provisions regarding stormwater discharges. The purpose of the City's Urban Storm Water Quality Management and Discharge Control Ordinance is to ensure the health, safety, and general welfare of citizens and protect the water quality of watercourses and water bodies in a manner pursuant to and consistent with the CWA (33 U.S.C. Section 1251, et seq.) by reducing pollutants in urban stormwater discharges to the maximum extent practicable and by effectively prohibiting non-stormwater discharges to the storm drain system.

Chapter 11, Building Permits and Regulations, Article 6 Fresno Flood Plain Ordinance establish methods of reducing flood losses by: restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards or flood heights or velocities; requiring that uses vulnerable to floods be protected against flood damage at the time of initial construction; controlling filling, grading, dredging, and other development which may increase flood damage; preventing or regulating the construction of flood barriers which will unnaturally divert flood water or which may increase flood hazards in other areas; and controlling the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters.

City of Fresno General Plan. The approved General Plan is a set of policies and programs that form a blueprint for the physical development of the City. For a description of each of the elements within the approved General Plan, refer to Chapter 3.0, Project Description. The following objectives and policies related to hydrology and water quality are presented in various elements of the approved General Plan:

Parks, Opens Space, & Schools Element

Policy POSS-6-b: Effects of Stormwater Discharge. Support efforts to identify and mitigate cumulative adverse effects on aquatic life from stormwater discharge to the San Joaquin River.

- Avoid discharge of runoff from urban uses to the San Joaquin River or other riparian corridors.
- Approve development on sites having drainage (directly or indirectly) to the San Joaquin River or other riparian areas only upon a finding that adequate measures for preventing pollution of natural bodies of water from their runoff will be implemented.
- Periodically monitor water quality and sediments near drainage outfalls to riparian areas. Institute remedial measures promptly if unacceptable levels of contaminant(s) occur.

Public Utilities and Services Element

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 storm water 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.

Objective PU-8. Manage and develop the City's water facilities on a strategic timeline basis that recognizes the long life cycle of the assets and the duration of the resources, to ensure a safe, economical, and reliable water supply for existing customers and planned urban development and economic diversification.

Policy PU-8-a: Forecast Need. Use available and innovative tools, such as computerized flow modeling to determine system capacity, as necessary to forecast demand on water production and distribution systems by urban development, and to determine appropriate facility needs.

Policy PU-8-b: Potable Water Supply and Cost Recovery. Prepare for provision of increased potable water capacity (including surface water treatment capacity) in a timely manner to facilitate planned urban development consistent with the General Plan. Accommodate increase in water demand from the existing community with the capital costs and benefits allocated equitably and fairly between existing users and new users, as authorized by law, and recognizing the differences in terms of quantity, quality and reliability of the various types of water in the City's portfolio.

Commentary: Consistent with fiscal management policies and strategies in the Economic Development and Fiscal Sustainability Element, new users will be obligated to pay for the cost of being attached to the potable water supply and distribution system and surface water treatment through connection fees, including the cost of any incremental burden that they may place on the entire system in terms of both infrastructure and water resources, and pay for the full operational costs of extraordinary facilities, as authorized by law.

Policy PU-8-c: Conditions of Approval. Set appropriate conditions of approval for each new development proposal to ensure that the necessary potable water production and supply facilities and water resources are in place prior to occupancy.

Policy PU-8-d: CIP Update. Continue to evaluate Capital Improvement Programs and update them, as appropriate, to meet the demands of both existing and planned development consistent with the General Plan.

Policy PU-8-e: Repairs. Continue to evaluate existing water production and distribution systems and plan for necessary repair or enhancement of damaged or antiquated facilities.

Policy PU-8-f: Water Quality. Continue to evaluate and implement measures determined to be appropriate and consistent with water system policies, including prioritizing the use of groundwater, installing wellhead treatment facilities, constructing above-ground storage and surface water treatment facilities, and enhancing transmission grid mains to promote adequate water quality and quantity.

Policy PU-8-g: Review Project Impact on Supply. Mitigate the effects of development and capital improvement projects on the long-range water budget to ensure an adequate water supply for current and future uses.

Resource Conservation and Resilience Element

Objective RC-6. Ensure that Fresno has a reliable, long-range source of drinkable water.

Policy RC-6-a: Regional Efforts. Support cooperative, multi-agency regional water resource planning efforts and activities on developing and implementing the Upper Kings Basin Integrated Regional Water Management Plan.

Policy RC-6-b: Water Plans. Adopt and implement ordinances, standards, and policies to achieve the intent of the City of Fresno Urban Water Management Plan, Fresno-Area Regional Groundwater Management Plan, and City of Fresno Metropolitan Water Resources Management Plan to ensure a dependable supply of water.

Policy RC-6-c: Land Use and Development Compliance. Ensure that land use and development projects adhere to the objective of the Fresno Metropolitan Water Resources Management Plan to provide sustainable and reliable water supplies to meet the demand of existing and future customers through 2025.

Policy RC-6-d: Recycled Water. Prepare, Adopt, and implement a City of Fresno Recycled Water Master Plan.

Commentary: This plan will expand the City's wastewater recycling program by developing treatment, delivery, and users.

Policy RC-6-e: Protect Aquifer. Oppose urban development in unincorporated areas that are not served by a wastewater treatment/management system capable of preventing the buildup of compounds that would degrade the aquifer.

Policy RC-6-f: Regulate Sewage Disposal Facilities. Oppose development of new sewage disposal facilities either within the Planning Area or upgradient (north and east) of the Planning Area, unless the treatment facilities produce effluent that:

- Will not degrade the aquifer in the long term;
- Will not introduce contaminants into surface water that would negatively affect its potential economic use for drinking water;
- Will not deleteriously affect downstream agricultural and urban uses; and
- Will not degrade sensitive riparian habitat.

Policy RC-6-g: Protect Recharge Areas. Continue to protect areas of beneficial natural groundwater recharge by preventing uses that can contaminate soil or groundwater.

Policy RC-6-h: Conditions of Approval. Include in the Development Code standards for imposing conditions of approval for development projects to ensure long-term maintenance of adequate clean water resources. Require findings that adequate water supply must exist prior to any discretionary project approval for residential and commercial development requiring annexation, as required by law.

Policy RC-6-i: Natural Recharge. Support removal of concrete from existing canals and change the practice of lining new and existing canals with concrete to allow for natural recharge.

Objective RC-7. Promote water conservation through standards, incentives and capital investments.

Policy RC-7-a: Water Conservation Program Target. Maintain a comprehensive conservation program to help reduce per capita water usage in the city's water service area to 243 gallons per capita per day (gpcd) by 2020 and 190 gpcd by 2035, by adopting conservation standards and implementing a program of incentives, design and operation standards, and user fees.

- Support programs that result in decreased water demand, such as landscaping standards that require drought-tolerant plants, rebates for water conserving devices and systems, turf replacement, xeriscape landscape for new homes, irrigation controllers, commercial/industrial/institutional water conserving programs, prioritized leak detection program, complete water system audit, landscape water audit and budget program, and retrofit upon resale ordinance.
- Implement the U.S. Bureau of Reclamation Best Management Practices for water conservation as necessary to maintain the City's surface water entitlements.
- Adopt and implement policies in the event that an artificial lake is proposed for development.
- Work cooperatively toward effective uniform water conservation measures that would apply throughout the Planning Area.
- Expand efforts to educate the public about water supply issues and water conservation techniques.

Policy RC-7-b: Water Pricing and Metering. Develop a tiered water cost structure for both residential and commercial users that will properly price water based on its true cost; require all new development to be metered for water use; and charge all customers the true, full cost of their water supply, including costs of acquisition, initial treatment, conveyance, wastewater treatment, operations, maintenance, and remediation.

Policy RC-7-c: Best Practices for Conservation. Require all City facilities and all new private development to follow U.S. Bureau of Reclamation Best Management Practices for water conservation, as warranted and appropriate.

Policy RC-7-d: Update Standards for New Development. Continue to refine water saving and conservation standards for new development.

Policy RC-7-e: Retrofit City Facilities, and Consider Incentives Programs to Encourage Retrofitting of Other Existing Public and Private Residential and Non-Residential Facilities and Sites. Reduce water use in municipal buildings and City operations by developing a schedule and budget for the retrofit of existing municipal buildings with water conservation features, such as auto shut-off faucets and water saving irrigation systems. Prepare a comprehensive incentive program for other existing public and private residential and non-residential buildings and irrigation systems.

Policy RC-7-f: Implementation and Update Conservation Program. Continue to implement the City of Fresno Water Conservation Program, as may be updated, and periodically update restrictions on water uses, such as lawn and landscape watering and the filling of fountains and swimming pools, and penalties for violations. Evaluate the feasibility of a 2035 conservation target of 190 gpcd in the next comprehensive update of the City of Fresno Water Conservation Program.

Policy RC-7-g: Educate on State Requirements. Educate the residents and businesses of Fresno on the requirements of the California Water Conservation Act of 2009.

Policy RC-7-h: Landscape Water Conservation Standards. Refine landscape water conservation standards that will apply to new development installed landscapes, building on the State Model Water Efficient Landscape Ordinance and other State regulations.

- Evaluate and apply, as appropriate, augmented xeriscape, “water-wise,” and “green gardening” practices to be implemented in public and private landscaping design and maintenance.
- Facilitate implementation of the State’s Water Efficient Landscape Ordinance by developing alternative compliance measures that are easy to understand and observe.

Noise and Safety Element

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-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; and

- 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.

Objective NS-3. Minimize the risks to property, life, and the environment due to flooding and stormwater runoff hazards.

Policy NS-3-a: Stormwater Drainage and Flood Control Master Plan. Support the full implementation of the FMFCD Storm Drainage and Flood Control Master Plan, the completion of planned flood control and drainage system facilities, and the continued maintenance of stormwater and flood water retention and conveyance facilities and capacities. Work with the FMFCD to make sure that its Storm Drainage and Flood Control Master Plan is consistent with the General Plan.

Policy NS-3-b: Curb and Gutter Installation. Coordinate with Fresno Metropolitan Flood Control District (FMFCD) to install curbing, gutters, and other drainage facilities with priority to existing neighborhoods with the greatest deficiencies and consistent with the Storm Drainage and Flood Control Master Plan.

Policy NS-3-d: Landscaped Buffer. City will support the development of FMFCD ponding basins including the landscaping and irrigation for the top one third of the side sloped areas consistent with the FMFCD Basin Design Criteria.

Policy NS-3-e: Pollutants. Work with FMFCD to prevent and reduce the existence of urban stormwater pollutants pursuant to the requirements of the National Pollution Discharge Elimination Systems Act.

Policy NS-3-f: Flooding Emergency Response Plans. Work with responsible agencies to update emergency dam failure inundation plans, evacuation plans and other emergency response plans for designated flood-prone areas, including the San Joaquin riverbottom.

Policy NS-3-h: Runoff Controls. Implement grading regulations and related development policies that protect area residents from flooding caused by urban runoff produced from events that exceed the capacity of the Storm Drainage and Flood Control Master Plan system of facilities. Place all structures and/or flood-proofing in a manner that does not cause floodwaters to be diverted onto adjacent property, increase flood hazards to other property, or otherwise adversely affect other property.

Policy NS-3-i: New Development Must Mitigate Impact. . Require new development to not significantly impact the existing storm drainage and flood control system by imposing conditions of approval as project mitigation, as authorized by law. As part of this process, closely coordinate and consult with the FMFCD to identify appropriate conditions that will result in mitigation acceptable and preferred by FMFCD for each project.

> *Commentary: The City recognizes the expertise and significant role of the FMFCD, and will give the highest deference to its recommendations for mitigation measures, consistent with applicable law.*

Policy NS-3-j: National Flood Insurance Program. Continue to participate in the National Flood Insurance Program (NFIP) by ensuring compliance with applicable requirements. Review NFIP maps periodically to determine if areas subject to flooding have been added or removed and make adjustments to the Land Use Diagram Figure LU-1.

Policy NS-3-k: 100-Year Floodplain Policy. Require developers of residential subdivisions to preserve those portions of development sites as open space that may be subject to 100-year flood events, unless the flood hazard can be substantially mitigated by development project design.

Policy NS-3-l: 200-Year Floodplain Protection. Promote flood control measures that maintain natural conditions within the 200-year floodplain of rivers and streams and, to the extent possible, combine flood control, recreation, water quality, and open space functions. Discourage construction of permanent improvements that would be adversely affected by periodic floods within the 200-year floodplain, particularly in the San Joaquin riverbottom.

Policy NS-3-m: Flood Risk Public Awareness. Continue public awareness programs to inform the general public and potentially affected property owners of flood hazards and potential dam failure inundation. Remind households and businesses located in flood-prone areas of opportunities to purchase flood insurance.

Policy NS-3-n: Precipitation Changes. Work with FMFCD to evaluate the planned and existing stormwater conveyance system in light of possible changes to precipitation patterns in the future.

4.10.5 Significance Criteria

Continued implementation of the approved General Plan would result in a significant impact related to hydrology and water quality if it would:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would
    - Result in substantial erosion or siltation on- or off-site;
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
    - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
    - In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation;
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan;

4.10.6 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to hydrology and water quality that could result from continued implementation of the approved General Plan. No environmental impacts would result from changes to the Greenhouse Gas Emissions Reduction Plan or the text changes to the Mobility and Circulation Element. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with continued implementation of the approved General Plan and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less-than-significant level. Cumulative impacts are also addressed.

4.10.6.1 Project Impacts

The following discussion describes the potential impacts related to hydrology and water quality that could result from continued implementation of the approved General Plan.

HYD-1 The project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.

Short-Term Construction Impacts. Construction activities associated with buildout of the Planning Area would result in ground-disturbing activities such as grading, excavation, placing fill, trenching, spoil pile storage, and backfilling of trenches. Such earth-moving activates would increase the potential for erosion and sedimentation, particularly during storm events. Additionally, construction equipment and vehicles could deposit constituents such as diesel fuel, hydraulic fluid, oil, and exhaust into the environment that could be conveyed within stormwater runoff to surface waters or groundwater. Construction activities use concrete, solvents, glues, oils, paints, and generate trash, all of which, if they come into contact with rainfall or stormwater runoff can cause pollution in stormwater. While temporary, all of these construction activities and products, including ground-disturbing construction activities, could still result in the pollution of stormwater runoff that leaves the construction site that could contribute to downstream surface waters or groundwater degradation.

There are regulatory mechanisms in place that would reduce the effects of construction activities on water quality, including the NPDES Construction General Permit. Development within the Planning Area would be required to comply with the requirements of the NPDES Construction General Permit. The NPDES Permit Program, which is administered in the Planning Area region by the Central Valley RWQCB, helps control pollution in stormwater by regulating sources of pollution at construction sites that would result in the discharge of pollutants into the stormwater and subsequent receiving waters during both construction and operations activities.

Any development project disturbing one or more acres of soil must obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). Construction activities subject to the Construction General Permit includes clearing, grading, and other ground-disturbing activities such as stockpiling or excavation. The Construction General Permit requires development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Among other mandated items that are included in a SWPPP, are features designed to eliminate contact of rainfall and stormwater runoff with sources of pollution that occur on construction sites, of which a primary source is soil erosion as a result of unstabilized soils coming in contact with water and wind. These features are known as Best Management Practices (BMPs). Common BMPs to limit pollution in stormwater runoff from construction sites include maintaining or creating drainages to convey and direct surface runoff away from bare areas and installing physical barriers such as berms, silt fencing, waddles, straw bales, and gabions.

Future development would be required to prepare, implement, and be consistent with the Construction General Permit, including the SWPPP and BMPs, which would reduce project construction impacts on water quality to less than significant levels. Therefore, short-term

construction impacts associated with water quality standards and waste discharge requirements would be less than significant.

Long-Term Project Impacts. Development consistent with continued implementation of the approved General Plan would result in new industrial, commercial, residential, and mixed-use land uses that would increase the amount of paved impervious surfaces within the Planning Area. This increase in impervious surfaces would increase stormwater runoff rates and volumes over the rates and volumes from undeveloped land. FMFCD is responsible for developing and implementing the Storm Drainage and Flood Control Master Plan for the City of Fresno. As land is developed, the FMFCD works with the developers and the City to implement the storm drainage system to collect and dispose of the increased runoff rates and volumes and prevent them from entering local surface waters, including the San Joaquin River, local creeks, and numerous irrigation canals that cross through the Planning Area. The storm drainage systems that are implemented for the Planning Area consist of streets, curbs and gutters that direct runoff to storm drain inlets, which direct runoff to underground pipelines. The underground pipelines convey stormwater to retention and urban detention (water quality) basins located at strategic locations within the Planning Area. The stormwater retention basins dispose of runoff through percolation into the groundwater and, in emergencies and preparation for the next series of rain events, through pumping to designated irrigation canals. The urban detention (water quality) basins discharge to the San Joaquin River. Discharges from the retention basins and the urban detention (water quality) basins could affect water quality in the receiving waters by potentially increasing the concentration of sediment and pollution found in stormwater.

Typically, stormwater runoff from urban development contains an array of constituents, including automotive fluids (e.g., fuel, oils, and antifreeze), combustion and exhaust byproducts (e.g., lead, cadmium, and nickel), sediments, fertilizers, pesticides, herbicides, and nutrients and bacteria pollutants from domestic and agricultural animal waste. These constituents are expelled into the environment throughout the year, where they settle onto the ground surface. During the wet season, stormwater runoff conveys these pollutants downstream, resulting in polluted stormwater runoff, especially during the first storm events of the season.

The City of Fresno is a co-permittee with the FMFCD, the County of Fresno, the City of Clovis, and California State University Fresno in the Phase 1 NPDES Permit for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). This Phase 1 MS4 Permit requires that the City and its co-permittees implement water quality and watershed protection measures for all development projects. The waste discharge requirements contained in the NPDES Permit have been designed to be consistent with the water quality standards and goals established in the Central Valley RWQCB's Basin Plan. The Phase 1 MS4 Permit prohibits discharges from violating applicable water quality standards or creating a nuisance or water quality impairment in receiving waters. Participation in the Phase 1 MS4 permit and implementation of the SDFCMP will reduce impacts to surface waters to acceptable levels and long-term project impacts to surface or groundwater quality will not exceed acceptable levels.

Additionally, the approved General Plan includes several policies that would reduce potential impacts to water quality. These policies, listed above in Section 4.10.4.3, include Policies POSS-6-b, PU-5-a through PU-5-c, PU-7-a through PU-7-f, RC-6-e through RC-6-h, NS-3-e, and NS-3-i.

Future development would be required to prepare, implement, and be consistent with the NPDES Permit, as well as continued implementation of the approved General Plan polices, which would reduce long-term project impacts associated with water quality standards and wastewater discharge requirements to less-than-significant levels.

Applicable Laws, Regulations, Relevant Land Use Policies

- Clean Water Act, NPDES permits
- Policies POSS-6-b, PU-5-a through PU-5-c, PU-7-a through PU-7-f, RC-6-e through RC-6-h, NS-3-e, and NS-3-i, identified in Section 4.10.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

HYD-2 The project could substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

The City of Fresno relied on groundwater for approximately 87 percent of its domestic water supply in 2010, which is approximately equal to a 128,578 acre feet. By 2015 the use of groundwater decreased to 75 percent, or approximately 83,360 acre feet due to conservation efforts and an increase in the use of treated surface water.

In 2015, natural groundwater recharge (25,400 AF), subsurface inflow (47,100 AF), and intentional recharge during normal precipitation years (53,100 AF) occurred for a total groundwater yield of 125,600 AF/year. By the year 2040, natural groundwater recharge is expected to increase to 26,200 AF, subsurface inflow is expected to increase to 56,200 AF, and intentional recharge is expected to increase to 66,500 AF. As a result, a total groundwater yield of 148,900 AF/year is projected.

Currently, the City is creating an overdraft of the Kings Groundwater Sub-basin aquifer as defined by the California State Department of Water Resources. In November 2019, the NKGSA adopted the Groundwater Sustainability Plan with the sustainability goal to ensure that by 2040 the Kings Groundwater Subbasin (Kings Subbasin), in which Fresno is located, is being managed in a sustainable manner to maintain a reliable water supply by balancing water demand with available water supply.[9] Continued participation and compliance with the North Kings GSP by the City of Fresno and other member agencies would ensure a balance of pumping and recharge in the basin by 2040.

Based on the 2015 UWMP, projected water demand, which includes development of the approved General Plan, is based on a per capita target. For the years of 2020 and after, the per capita target is 247 gpcd. The projected water demand for the City of Fresno in the Year 2040, based on a population of 824,400 is 228,091 AF/year. To accommodate the 2040 water demand, 178,800 AF/year would need to be provided from treated surface water, 38,500 AF/year would be provided

[9] North Kings Groundwater Sustainability Agency. *Groundwater Sustainability Plan*. Website: www.northkingsgsa.org/groundwater-sustainability-plan (accessed February 12, 2020).

as recycled water, and 148,900 AF/year would be pumped from the groundwater. The 2015 UWMP projected that water supply in 2040 would be 366,200 AF/year. However, based on updated agreements with water providers, the quantities of water deliveries may change.

The projected water demand for the City at full build out of the approved General Plan, based on a population of 970,000 and a per capita water demand of 247 gpcd from the 2015 UWMP, would be 268,375 AF/year. As stated above and in the 2015 UWMP, assuming treated water supplies, recycled water supplies, and pumped groundwater remain the same, the total supply of water would be 366,200 AF/year. Although the projected water supply may change based on updated agreements with water providers, water supply projected in the UWMP would be more than the buildout demand. As discussed in Section 5.15, Utilities and Service Systems, groundwater pumping would remain at 82,400 AF/year in approximately 2040 and beyond.

To accommodate the buildout water demand, the treated surface water supply would need to increase, the recycled water supply would need to increase, or the amount of groundwater to be pumped would need to be increased. An increase in water conservation could also accommodate the buildout demand.

Additionally, Objective RC-6, policies RC-6-a through RC-6-e and RC-6-I, Objective RC-7, policies RC-7-a through RC-7-h, Policy PU-7-d, Policy PU-7-d, Objective PU-8, and policies PU-8-a PU-8-g of the approved General Plan would reduce the potential for groundwater overdraft impacts.

The continued implementation of the approved General Plan could result in significant impacts to groundwater levels within the Kings Sub-basin if the increase in water demand is met through an increase of water supply from increased groundwater pumping.

Applicable Laws, Regulations, Relevant Land Use Policies

- Objective RC-6, policies RC-6-a through RC-6-e and RC-6-I, Objective RC-7, policies RC-7-a through RC-7-h, Policy PU-7-d, Policy PU-7-d, Objective PU-8, and policies PU-8-a PU-8-g, identified in Section 4.10.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact HYD-2: Implementation of the project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

Mitigation Measure HYD-2.1 The City shall continue to be an active participant in the North Kings Groundwater Sustainability Agency and the implementation of the North Kings Groundwater Sustainability Plan in order to ensure that the Kings Subbasin has balanced levels of pumping and recharge.

Level of Significance With Mitigation: Less Than Significant Impact.

HYD-3 The project could substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

Result in substantial erosion or siltation on- or off-site.

Short-Term Construction Impacts. As discussed in Impact HYD-1, construction activities associated with buildout of the proposed project would result in ground-disturbing activities such as grading, excavation, placing fill, trenching, spoil pile storage, and backfilling of trenches. These activities could result in silt laden stormwater that could contribute to downstream surface waters or groundwater degradation.

Development within the Planning Area could propose the realignment of an existing stream or canal. The construction activity to realign the stream or canal could result in erosion of soils within the channel or channel banks during rainfall events that could cause siltation of stormwater runoff that leaves/enter the stream or canal. Silt laden stormwater could contribute to downstream surface water degradation.

There are regulatory mechanisms in place that would reduce the effects of construction activities on drainage patterns and erosion caused by stormwater, including:

- The City of Fresno grading plan check process
- The FMFCD Storm Drainage and Flood Control Master Plan
- The NPDES Construction General Permit

Development within the Planning Area would be required to obtain a permit to grade land and comply with the City of Fresno grading plan check process. The grading plan check process is a review process that requires anyone who develops property to:

1. Properly grade their property in accordance with the California Building Code (CBC).
2. Submit a grading plan showing the proposed grading of the development.
3. Obtain approval of the FMFCD indicating conformance of the grading plan with the SDFCMP.
4. Obtain coverage under the NPDES Construction General Permit and comply with the requirements of the permit, including developing an erosion control site plan.

The SDFCMP contains proposed elevations for tops of curbs in undeveloped areas, delineation of storm drain inlet watershed areas, collection system pipeline alignments and sizes, and retention basin or urban detention (water quality) basin locations and geometry. The development of land in conformance with the SDFCMP ensures that development within the Planning Area is graded to drain to storm drainage facilities that are designed to collect and dispose of stormwater from the

planned development. Stormwater retention and urban detention (water quality) basins intercept and remove silt from stormwater before it can be discharged to surface water features.

The review of the grading plan checklist for a proposed development within the Planning Area will identify any plan to alter the course of any creek, stream, or irrigation canal. The City will require any other reviews, permits, and agreements be obtained prior to allowing the grading to proceed. Such reviews could include the US Army Corps of Engineers, the US Fish and Wildlife Service, the California Department of Fish and Game, the Central Valley Flood Protection Agency, the California State Water Resources Control Board, the Central Valley Regional Water Quality Control Board, the FMFCD, and the Fresno Irrigation District (FID). The list of possible permits and agreements includes the Clean Water 401 and 404 permits, Endangered Species or Habitat Plan, Section 1603 Streambed Alteration Agreement, and Irrigation Canal Encroachment Permit. The FMFCD maintains a Master Plan for Redbank Creek, which flows through the Planning Area and should provide review and approval of any development that plans to alter the channel to ensure that it will pass the design flood event.

The NPDES Construction General Permit program, which is administered in the Planning Area region by the Central Valley RWQCB, helps control siltation in stormwater by regulating sources of erosion at construction sites that would result in the discharge of silt laden stormwater from the site and into subsequent receiving waters during both construction and operations activities.

The requirement to obtain a grading permit and follow the grading plan check process and requirements, along with compliance with the regulations listed above, would reduce project construction impacts on grading patterns and erosion to acceptable levels. Therefore, short-term construction impacts associated with grading land, altering streams, or erosion will be less than significant.

Long-Term Project Impacts. Development consistent with continued implementation of the approved General Plan would result in new industrial, commercial, residential, and mixed-use land uses that would regrade undeveloped land to new grading patterns, may propose to alter the alignments of existing creeks, streams, or irrigation canals, and would increase impervious surfaces that would increase stormwater runoff rates. Higher rates of stormwater runoff would increase the potential for erosion of soils. FMFCD works with the developers and the City to implement the storm drainage system to collect and prevent silt laden stormwater from entering local surface waters, including the San Joaquin River, local creeks, and numerous irrigation canals that cross through the Planning Area. The above ground storm drainage infrastructure directs runoff to underground pipelines. The underground pipelines convey stormwater to retention and urban detention (water quality) basins within the Planning Area. Discharges of stormwater from the retention basins and the urban detention (water quality) basins could increase the concentration of sediment in the receiving waters.

Development proposed under the approved General Plan will be required to obtain a grading permit from the City of Fresno and follow the grading plan check process as described above. As a co-permittee in the Phase I NPDES Permit, development associated with the approved General Plan would be reviewed to ensure coverage under the Construction General Permit.

Additionally, the approved General Plan includes an objective and several policies that would reduce potential impacts to water quality. These include, as listed above in Section 4.10.4.3, Policy POSS-6-b, Objective NS-3, Policy NS-3-a, NS-3-b, NS-3-d, NS-3-e, NS-3-i.

Along with the grading plan check process, continued implementation of the approved General Plan polices would reduce long-term project impacts associated with alteration of grading patterns or creeks or streams and erosion to less than significant levels.

Applicable Laws, Regulations, Relevant Land Use Policies

- Clean Water Act, NPDES permits
- Policy POSS-6-b, Objective NS-3, Policy NS-3-a, NS-3-b, NS-3-d, NS-3-e, NS-3-i, identified in Section 4.10.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less than Significant Impact.

Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.

Short-Term Construction Impacts. Construction activities associated with buildout of the Planning Area in accordance with the approved General Plan would result in ground-disturbing activities such as grading, excavation, placing fill, trenching, spoil pile storage, and backfilling of trenches. Such earthmoving activities would change existing surface drainage patterns and increase the potential for flooding, particularly during storm events. While temporary, ground-disturbing construction activities that significantly compact the development site soils could increase runoff rates and volumes that could result in flooding on the construction site or off of the construction site.

Development within the Planning Area could propose the realignment of an existing stream or canal. The construction activity to realign the stream or canal could result in the alteration of drainage patterns that could result in flooding on or off of the construction site.

Regulatory mechanisms in place that would reduce the effects of construction activities on drainage patterns that would result in flooding on or off of the construction site include compliance with the City of Fresno grading plan check process, the SDFCMP, and the NPDES Construction General Permit. A discussion of each of these regulatory mechanisms is provided above with regard to erosion and siltation. Compliance with these required regulations would reduce project construction impacts on grading patterns and flooding on and off of the construction site to less-than-significant levels.

Long-Term Project Impacts. Development under the approved General Plan would result in new industrial, commercial, residential, and mixed-use land uses that would re-grade undeveloped land to new grading patterns, may propose to alter the alignments of existing creeks, streams, or irrigation canals, and would increase impervious surfaces that would increase stormwater runoff rates and volumes. Higher runoff rates and greater volumes of stormwater runoff would increase the potential for flooding of the development site and off site locations. Since the FMFCD is responsible for developing and implementing the Storm Drainage and Flood Control Master Plan for

the City of Fresno, the FMFCD works with the developers and the City to implement the storm drainage system to collect and dispose of the increased runoff rates and volumes and prevent flooding as the result of the development and grading of land. The storm drainage systems that are implemented for the Planning Area consist of streets, curbs and gutters that direct runoff to storm drain inlets, which direct runoff to underground pipelines. The underground pipelines convey stormwater to retention and urban detention (water quality) basins located at strategic locations within the Planning Area. The stormwater retention basins dispose of runoff through percolation into the groundwater and, in emergencies and preparation for the next series of rain events, through pumping to designated irrigation canals. The urban detention (water quality) basins discharge to the San Joaquin River.

As development occurs under the approved General Plan, the grading permit process is required to be followed. This process would reduce the potential for long-term flooding impacts to less than significant. Additionally, Objective NS-3 and Policies NS-3-a, NS-3-b, NS-3-e, NS-3-h, NS-3-i of the approved General Plan were designed to reduce flooding impacts.

Along with the grading plan check process, continued implementation of the approved General Plan polices would reduce surface runoff long-term project flooding impacts associated with alteration of grading patterns to less than significant levels.

Applicable Laws, Regulations, Relevant Land Use Policies

- City of Fresno grading plan check process
- Storm Drainage and Flood Control Master Plan
- NPDES Construction General Permit
- Objective NS-3 and Policies NS-3-a, NS-3-b, NS-3-e, NS-3-h, NS-3-i, identified in Section 4.10.4.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less than Significant Impact.

Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

In 2016, FMFCD adopted the 2016 District Services Plan which presents District goals, program objectives, current program descriptions, and implementation strategies to control and manage the flood, storm, and surface and ground water resources of the area. Implementation of the District Services Plan is intended to prevent damage, injury, and inconvenience related to floods and storms, and to conserve waters for local, domestic and agricultural use.

For the purposes of program planning, structure, service delivery, and financing, FMFCD makes a distinction between flood control and local drainage services. The flood control program relates to the control, containment, and safe disposal of stormwaters that flow onto the valley floor from the eastern streams. The local drainage program relates to the collection and safe disposal of

stormwater runoff generated within the urban and rural watersheds or drainage areas. All are closely integrated and coordinated to provide efficient, comprehensive services. Collectively, these facilities comprise the "Storm Drainage and Flood Control Master Plan."

Continued implementation of the approved General Plan is projected to increase the impervious surface area within the Planning Area. Local storm drainage master plan engineering is achieved by analyzing the topography, planned land use, climatology, and geology to produce a detailed drainage hydrology for each local drainage area. Following these analyses, drainage area boundaries are identified, runoff flows based on planned land uses are computed, retention basin size and location is determined, and preliminary pipeline or alternative conveyance system plans are completed. System relief facilities for use in major storm events are also addressed during the planning stage. The coordination of local relief flows with flood control flows, which may be occurring simultaneously in the streams and canals, must be considered. All parcels of land potentially required to build the storm drainage system are assessed to ensure that there is no evidence of hazardous material or waste contamination. Site-specific environmental studies are also conducted in compliance with CEQA review of discretionary projects.

The change in land uses resulting from continued implementation of the approved General Plan would substantially increase the sources of pollution in stormwater runoff by converting undeveloped, agricultural uses to urban uses. The increase in sources would result from the increased number of landowners and uses that would occur within the Planning Area.

As discussed above, stormwater runoff from urban development contains an array of constituents, including automotive fluids (e.g., fuel, oils, and antifreeze), combustion and exhaust byproducts (e.g., lead, cadmium, and nickel), sediments, fertilizers, pesticides, herbicides, and nutrients and bacteria pollutants from domestic and agricultural animal waste. These constituents are expelled into the environment throughout the year, where they settle onto the ground surface. During the wet season, stormwater runoff conveys these pollutants downstream, resulting in polluted stormwater runoff, especially during the first storm events of the season.

The City of Fresno is a co-permittee in the Phase 1 NPDES Permit for Stormwater Discharges From Municipal Separate Storm Sewer Systems (MS4s). This Phase 1 MS4 Permit requires that the City and its co-permittees implement water quality and watershed protection measures for all development projects. The waste discharge requirements contained in the NPDES Permit have been designed to be consistent with the water quality standards and goals established in the Central Valley RWQCB's Basin Plan. The Phase 1 MS4 Permit prohibits discharges from violating applicable water quality standards or creating a nuisance or water quality impairment in receiving waters. Participation in the Phase 1 MS4 permit and implementation of the SDFCMP would reduce impacts to surface waters to acceptable levels, and long-term project impacts to surface or groundwater quality would not exceed acceptable levels.

Additionally, the approved General Plan includes the following Policies NS-3-a, NS-3-b, NS-3-e, NS-3-h, NS-3-I and POSS-6-b designed to reduce impacts on the capacities of existing storm drain facilities and reduce water quality impacts.

Continued implementation of the approved General Plan would result in industrial, commercial, residential, and mixed-use land uses that would re-grade undeveloped land to new grading patterns and would increase impervious surfaces that would increase stormwater runoff rates and volumes. Redevelopment of existing land uses, such as changing a residential land use area to a multi-family land use area, which has a greater level of imperviousness, will also increase stormwater runoff rates and volume. Increased runoff rates and greater volumes of stormwater runoff could exceed the capacity of existing or planned stormwater drainage systems or could increase polluted runoff.

FMFCD's Storm Drainage and Flood Control Master Plan divides the Planning Area into a number of drainage areas or urban watersheds. Each drainage area has its own Master Planned pipeline collection system and retention or urban detention basin. One hundred thirty (130) master planned drainage areas are completely or partially within the Planning Area. Three of the master planned drainage areas have collection systems, but do not have retention basins. The disposal of stormwater from these drainage areas occurs by pumping the stormwater directly into a nearby irrigation canal. Eight of the master planned drainage areas discharge to the San Joaquin River. One drainage area discharges directly to the river. Seven discharge to the river from urban detention (water quality) basins.

The Storm Drainage and Flood Control Master Plan is used to develop costs for the proposed facilities that are used to develop drainage fees. The drainage fees are paid by project proponents at the time they obtain entitlements. The fees are used to pay for the cost of constructing the Master Plan pipeline collection and obtaining land and constructing retention or urban detention basin disposal facilities within each drainage area.

The buildout of the Fresno metropolitan area and continued implementation of the approved General Plan would result in the development of permeable land uses such as farming or vacant land to impervious land uses such as residential, multifamily residential, commercial, and industrial. Conversion of land to more impervious land uses that are unmitigated, always results in higher peak stormwater runoff rates and greater volumes of runoff from that land. Where development is an infill condition, such as within existing urbanized areas, master planned storm drainage facilities are generally available and are designed to provide service to the site as long as the development is consistent with the approved General Plan. There are locations within the urbanized area where master planned storm drainage facilities are not fully available and runoff from the proposed developments would exceed the ability of existing storm drainage facilities to provide service to the developments. Likewise, there may be cases where proposed development would result in a greater level of imperviousness than what was planned in the Storm Drainage and Flood Control Master Plan. In these cases, the stormwater runoff from the proposed development would exceed the ability of the existing storm drainage facilities to provide service to the developments.

Continued implementation of the approved General Plan polices, along with preparation, implementation, and participation of the NPDES Permit would reduce project-specific impacts on water quality associated with the significant increase in stormwater runoff. However, as new development is proposed, stormwater runoff would be affected. As a result, a potentially-significant impact would occur.

Applicable Laws, Regulations, Relevant Land Use Policies

- FMFCD Storm Drain and Flood Control Master Plan
- General Plan Policies NS-3-a, NS-3-b, NS-3-e, NS-3-h, NS-3-I, POSS-6-b, and PU-8-a through PU-8-g, as described in Section 4.10.4.3, Regulatory Setting, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact HYD-3: The project could create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Mitigation Measure HYD-3.1 The City shall implement the following measures to reduce the impacts on the capacity of existing or planned SDFCMP collection systems:

- Coordinate with FMFCD to implement the existing Storm Drainage and Flood Control Master Plan (SDFCMP) for collection systems in drainage areas where the amount of imperviousness is unaffected by the change in land uses.
- Coordinate with FMFCD to update the SDFCMP in those drainage areas where the amount of imperviousness increased due to the change in land uses to determine the changes in the collection systems that would need to occur to provide adequate capacity for the stormwater runoff from the increased imperviousness.
- As development is proposed, implement current SDFCMP to provide stormwater collection systems that have sufficient capacity to convey the peak runoff rates from the areas of increased imperviousness.
- Require developments that increase site imperviousness to install, operate, and maintain FMFCD approved on-site detention systems to reduce the peak runoff rates resulting from the increased imperviousness to the peak runoff rates that will not exceed the capacity of the existing stormwater collection systems.

Mitigation Measure HYD-3.2 The City shall implement the following measures to reduce the impacts on the capacity of existing or planned SDFCMP retention basins:

Prior to approval of development projects, coordinate with FCMFCD to analyze the impacts to existing and planned retention basins to determine remedial measures required to reduce the impact on retention basin capacity to less than significant. Remedial measures would include:

1. Increase the size of the retention basin through the purchase of more land or deepening the basin or a combination for planned retention basins.

2. Increase the size of the emergency relief pump capacity required to pump excess runoff volume out of the basin and into adjacent canal that convey the stormwater to a disposal facility for existing retention basins.

3. Require developments that increase runoff volume to install, operate, and maintain, Low Impact Development (LID) measures to reduce runoff volume to the runoff volume that will not exceed the capacity of the existing retention basins.

Mitigation Measure HYD-3.3 The City shall implement the following measures to reduce the impacts on the capacity of existing or planned SDFCMP urban detention (stormwater quality) basins:

Prior to approval of development projects, coordinate with FCMFCD to determine the impacts to the urban detention basin weir overflow rates and determine remedial measures required to reduce the impact on the detention basin capacity to less than significant. Remedial measures would include:

1. Modify overflow weir to maintain the suspended solids removal rates adopted by the FMFCD Board of Directors.

2. Increase the size of the urban detention basin to increase residence time by purchasing more land. The existing detention basins are already at the adopted design depth.

3. Require developments that increase runoff volume to install, operate, and maintain, Low Impact Development (LID) measures to reduce peak runoff rates and runoff volume to the runoff rates and volumes that will not exceed the weir overflow rates of the existing urban detention basins.

Mitigation Measure HYD-3.4 The City shall implement the following measures to reduce the impacts on the capacity of existing or planned SDFCMP pump disposal systems:

1. Prior to approval of development projects, coordinate with FCMFCD to determine the extent and degree to which the capacity of the existing pump system will be exceeded.

2. Require new developments to install, operate, and maintain on-site detention facilities, consistent with FMFCD design standards, to reduce peak stormwater runoff rates to existing planned peak runoff rates.

3. Provide additional pump system capacity to maximum allowed by existing permitting to increase the capacity to match or exceed the peak runoff rates determined by the SDFCMP.

Mitigation Measure HYD-3.5 The City shall coordinate with FCMFCD to develop and adopt a storm drainage update to the SDFCMP for the Southeast Development Area that is designed to collect, convey and dispose of runoff rates and volumes based on the planned land uses of the approved General Plan.

Level of Significance With Mitigation: Less Than Significant Impact.

In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

Development of housing in floodplains places those homes in danger of repeated flooding from sources of flooding, including the San Joaquin River and a number of foothill creeks that flow into the Planning Area. These include Big Dry Creek and its associated Dry Creek Canal, Redbank Creek, and Fancher Creek. Pup Creek, Alluvial Drain, and Dog Creek are tributaries of these three main creeks. Big Dry Creek is regulated by the Big Dry Creek Dam and Reservoir. Fancher Creek is regulated by Fancher Creek Dam and Fancher Creek Detention Basin. Redbank Creek is regulated by Redbank Dam and Redbank Creek Detention Basin.

The San Joaquin River forms the northern boundary of the Planning Area as well as the northern boundary of Fresno County. The San Joaquin River is regulated by Friant Dam, which creates Millerton Lake reservoir. The dam was constructed in 1942 to provide flood control to the San Joaquin River and to harvest runoff from the San Joaquin River for irrigation purposes. The dam is administered by the U.S. Bureau of Reclamation.

Big Dry Creek Dam and Reservoir, located north of the intersection of Shepherd Avenue and Temperance Avenue was originally constructed in 1948 by the U.S. Army Corps of Engineers (USACE) to protect the cities of Clovis and Fresno from this significant source of flooding. The dam was enlarged in 1993 by the USACE as part of the Redbank and Fancher Creek Flood Control Project to provide protection to the communities from the probable maximum flood event from Big Dry Creek.

Big Dry Creek Dam is administered by the FMFCD. The Redbank Creek Dam and Reservoir, located northeast of the intersection of East Shaw Avenue North Indianola Avenue, was constructed in 1961 by the FMFCD to reduce flood damage to the City of Fresno resulting from Redbank Creek. The dam and reservoir provide a 0.5 percent exceedance probability, also known as the 200-year recurrence interval, level of protection for the community. However, the dam does not control significant inflow to Redbank Creek below the dam. Therefore, the USACE constructed the Redbank Creek Detention Basin in 1990, which is located northwest the intersection of East McKinley Avenue and North DeWolf Avenue. The Redbank Detention Basin provides the community with a 0.5 percent exceedance probability, also known as the 200-year recurrence interval, level of protection.

Fancher Creek Dam and Reservoir, located east of Clovis at the terminus of East Bullard Avenue and the Friant-Kern Canal, was constructed by the USACE in 1991. Fancher Creek Dam and Reservoir provides protection to the community for the 0.5 percent exceedance probability, also known as the 200-year recurrence interval, level of protection on Fancher Creek upstream of the Friant Kern Canal.

Significant watershed exists on Fancher Creek below the dam, which could still produce significant flood flows in Fancher Creek. Therefore, in 2010 the FMFCD constructed the Fancher Creek Detention Basin southwest of the intersection of McKinley Avenue and North Highland Avenue. The detention basin provides the community with a 0.5 percent exceedance probability, also known as the 200-year recurrence interval, level of protection.

The City of Fresno has participated in the Federal Emergency Management Agency (FEMA) Flood Insurance Program (FIP) since its inception in the early 1970's. Participation on the FIP requires that the community adopt the Flood Insurance Rate Maps (FIRMs), appoint a trained Floodplain Administrator, adopt a floodplain ordinance modeled after the FIP model ordinance, and enforce the ordinance and the requirements of Title 40 of the Code of Federal Regulations (40 CFR), Subchapter D (parts 100 through 149). The 40 CFR regulations and the floodplain ordinance of the City of Fresno (Chapter 11, Article 6 of the Fresno Municipal Code) require that all new construction and substantial reconstruction of buildings located within an adopted floodplain be flood proofed and that the Community Floodplain Administrator review for conformance with the floodplain ordinance and Title 40, and approve the flood proofing. The City of Fresno has a Community Floodplain Administrator and has adopted a floodplain ordinance that complies with the model ordinance promulgated by FEMA.

FEMA has prepared and the City of Fresno has adopted the Flood Insurance Rate Maps (FIRMs) for the Planning Area. The effective FIRM maps were last revised February 18, 2009. Numerous Letters of Map Revision (LOMRs) have been issued since that revision date. The FIRMS show portions of the Planning Area are within numbered and un-numbered Special Flood Hazard Area (SFHA) Zone A. SFHA Zone A means that these areas are within the floodplain of the base flood or 1 percent exceedance probability flood event. The 1 percent exceedance probability flood event is also known as the 100-year recurrence interval flood event.

The SFHA Zone A areas, including Zone AE areas, are located throughout the Planning Area and are typically located along canals and water ways and in low elevations. SFHA areas are located below the bluff line of the San Joaquin River; along Redbank Creek between the Planning Area boundary

and Redbank Detention Basin (North DeWolf Avenue and East Clinton Avenue alignment); northeast of State Route 99 between Ventura Avenue on the north, East Jensen Avenue on the south and South Orange Avenue on the east; and north of West Central Avenue between South Walnut Avenue and South East Avenue.

Developing within these areas would require flood proofing the development in accordance with the City of Fresno floodplain ordinance and 40 CFR. Existing housing within these areas would be required to flood proof at such time as substantial improvement of the housing occurs. Substantial improvement is defined as improving the house to a value that meets or exceeds 50 percent of its assessed value.[10] Additionally, the approved General Plan includes Objective NS-3 and Policies NS-3-a, NS-3-b, NS-3-f, NS-3-h, and Policies NS-3-i through NS-3-m to address potential flood impacts.

Along with the Flood Plain Ordinance, continued implementation of the approved General Plan policies would reduce project impacts associated with housing located in a 100-year flood hazard area to less than significant.

Official Statewide Tsunami Inundation Maps, coordinated by the California Geological Survey (CGS) and the Governor's Office of Emergency Services (Cal OES, are developed for all populated areas at risk to tsunamis in California. According to the Cal OES MyHazards website,[11] the Planning Area is located outside of a Tsunami Emergency Response Planning Zone.

A seiche is a "standing" wave oscillating in a body of water. This phenomenon occurs in large bodies of water such as bays and lakes. A seiche may occur in any semi- or fully-enclosed body of water. They can be caused by strong winds and earthquakes. The nearest body of water capable of producing a seiche is Big Creek Dry Dam and Reservoir located northeast of the Planning Area. Continued implementation of the approved General Plan would not introduce new land uses near the reservoir that could be inundated. Additionally, this is a relatively small reservoir and would not be subject to strong oscillations during an earthquake event.

Fresno is not susceptible to soil erosion with the exception of the San Joaquin River Bluffs. The Bluffs steep slopes and soil composition predispose it to instability and erosion. Continued implementation of the approved General Plan would not result in a significant increase in development along the Bluffs. The Noise and Safety Element of the approved General Plan includes Objective NS-2 and Policies NS-2-a, NS-2-b, and NS-2-d, listed above in Section 4.10.4.3, that would minimize potentially hazardous conditions posed by geologic and soils risks.

Applicable Laws, Regulations, Relevant Land Use Policies

- City of Fresno Flood Plain Ordinance
- Refer to the approved General Plan Objectives and policies identified in Section 4.10.4.3, Regulatory Setting, above.

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10 Code of Federal Regulations, 44 CFR 59.1

11 State of California Governor's Office of Emergency Services. 2015. MyHazards. Website: myhazards.caloes.ca.gov (accessed February 12, 2020).

Level of Significance Without Mitigation: Less than Significant Impact.

HYD-4 The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

SGMA requires that governments and water agencies located in high and medium priority basins halt groundwater overdraft and bring groundwater basins into balanced level of pumping and recharge. As described above, the City of Fresno is located within the jurisdiction of the NKGSA, which was formed in 2016 and includes the following public agencies: FID, the County of Fresno, the City of Fresno, the City of Clovis, the City of Kerman, Biola Community Services District, Garfield Water District, and International Water District. In November 2019, the NKGSA adopted the North Kings GSP with the sustainability goal to ensure that by 2040 the Kings Groundwater Subbasin (Kings Subbasin), of which Fresno is located, is being managed in a sustainable manner to maintain a reliable water supply by balancing water demand with available water supply.[12]

The North Kings GSP determined that the NKGSA will reach sustainability by 2040 if groundwater flows from within the NKGSA to neighboring GSAs and basins are reduced, and projects are developed to mitigate present and future projected impacts. The North Kings GSP relied on population projections and estimated water demand consistent with the City's UWMP in order to develop the projects and management actions needed to reach sustainability by 2040. In addition, the City of Fresno identified the following seven projects to meet the initial estimate of impact on groundwater.

- Residential Water Meter Retrofit Project (completed)
- T-3 Surface Water Treatment Facility (completed)
- Southwest Reclamation Facility and Distribution System (completed)
- Nielsen Recharge Facility (completed)
- Southeast Surface Water Treatment Facility (completed)
- Northeast Surface Water Treatment Facility Expansion
- Southeast Reclamation Facility and Distribution System

These projects, in addition to other projects identified by member agencies and included in the North Kings GSP, will remain a part of the potential projects that the NKGSA's agencies may choose to implement. However, as additional information is gathered, other projects may be identified and considered in the future that may have a higher yield or lower cost. These projects will continue to be updated and modified by each of the NKGSA's agencies and updates will be provided to the NKGSA on an annual basis. In addition to continued participation in the NKGSA, the City would

[12] North Kings Groundwater Sustainability Agency. *Groundwater Sustainability Plan*. Website: www.northkingsgsa.org/groundwater-sustainability-plan (accessed February 12, 2020).

continue to implement Objective RC-6, and policies RC-6-a through RC-6-I listed above in Section 4.10.4.3 in order to reach sustainable water use. As a result, continued implementation of the approved General Plan would not conflict with or obstruct implementation of the North Kings GSP, and a less-than-significant impact would occur.

Applicable Laws, Regulations, Relevant Land Use Policies

- Sustainable Groundwater Management Act
- Refer to the approved General Plan policies and objectives identified in Section 4.10.4.3, Regulatory Setting, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.10.6.2 Cumulative Impacts

HYD-5 The proposed project would have a significant effect on the environment if it – in combination with other projects – would contribute to a significant cumulative impact related to hydrology and water quality.

Buildout of the Planning Area, along with construction and operation of projects in the vicinity of the Planning Area, would increase the amount of paved impervious surfaces within the Planning Area. This increase in impervious surfaces would increase stormwater runoff rates and volumes over those that occur from undeveloped land. This increase in runoff would have the potential to increase the amount of polluted runoff; however, all development projects within the Fresno-Clovis area would be required to comply with the MS4 Permit that requires the implementation of water quality and watershed protection measures. Compliance with the MS4 Permit would reduce potential impacts from cumulative projects to less than cumulatively significant. Since the development under the proposed project would also need to comply with the MS4 Permit and includes specific policies of the approved General Plan identified above, the project's contribution to potential cumulative impacts would not be cumulatively considerable, and the project would result in a less than significant cumulative impact to stormwater.

The Kings Subbasin is in overdraft condition due to pumping for agricultural and urban uses. Growth in the subbasin will increase demands for groundwater pumping, potentially resulting in continued drawdown of water levels leading to localized cones of depression, changes in groundwater flow direction, concentration of contaminants, and land subsidence. This is a regional problem that is being addressed through several means including the formation of GSA's and the development of GSPs. As discussed above, buildout of the approved General Plan would occur in 2056 with an ultimate population of approximately 970,000 residents. Based on the per capita water demand of 247 gpcd, at buildout of the approved General Plan, the total water demand would be approximately 268,375 AF/year. In addition, other areas that rely on the Kings Subbasin would continue to grow resulting in greater demands for water.

As discussed above, the City of Fresno is a member agency of the NKGSA, which is required to halt groundwater overdraft and bring groundwater basins into balanced level of pumping and recharge. Continued participation and compliance with the North Kings GSP by the City of Fresno and other member agencies would ensure balance of the basin by 2040. If the City does not continue to implement programs and policies identified in the North Kings GSP, a significant cumulative impact would occur.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.10.4.3, Local Policies and Regulations, above.
- City of Fresno grading plan check process
- Storm Drainage and Flood Control Master Plan
- NPDES Construction General Permit
- Clean Water Act
- FMFCD Storm Drain and Flood Control Master Plan
- City of Fresno Flood Plain Ordinance
- Sustainable Groundwater Management Act

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact HYD-5: Continued implementation of the approved General Plan could result in cumulative impacts to water supply and hydrology.

Mitigation Measures: Refer to Mitigation Measures HYD-2.1, HYD-3.1, HYD-3.2, HYD-3.3, HYD-3.4, and HYD-3.5.

Level of Significance With Mitigation: Less Than Significant Impact.

4.11 LAND USE AND PLANNING

4.11.1 Introduction

This section provides a discussion of the existing environmental setting of the use of land for various activities such as residential, commercial, office, public facilities, mixed use, industrial, open space, agriculture, and other uses. In addition, this section discusses the applicable plans and policies related to land use within the Planning Area. The potential impacts from the continued implementation of the approved Fresno General Plan, text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan (proposed project) are described, and mitigation measures are provided, if required.

4.11.2 CEQA Baseline

The City of Fresno (City) is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Travelled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the approved General Plan, explains that the PEIR will evaluate the continued implementation of the approved General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of SB 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the approved General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the approved General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. The approved General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the City's approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.11.3 Existing Environmental Setting

The study area for project impacts regarding land use and planning is the Planning Area because potential development under the City's approved General Plan is limited to areas within the Planning Area. As defined in Chapter 3.0, Project Description, the Planning Area is the geographic area for which the approved General Plan establishes policies about future growth. The Planning Area established by the City includes all areas within the City's current city limits, including the Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF), the areas within the current Sphere of Influence (SOI), and an area north of the city's most northeasterly portion of the city (referred to as the North Area).

Table 4.11-1 below identifies the existing land uses within the Planning Area as of 2019, consistent with the approved land uses reflected in the current Land Use Map included as Figure 3-3. The proposed project does not include any changes to the currently approved land uses.

Table 4.11-1: Existing Land Uses within the City of Fresno Planning Area

Land Use	2019 Baseline Existing Development Acreage	Percent of Planning Area
Residential	46,459	44.8%
Commercial	6,665	6.3%
Industrial	9,303	8.8%
Mixed Use	3,863	3.6%
Public Facilities	17,519	16.5%
Open Space	2,342	2.2%
Other	19,876	18.8%
TOTAL	**106,027**	–

Source: City of Fresno Planning and Development Department.

Figure 3-4, Planned Land Uses, shows the planned and current land uses within the city. In its existing setting, residential land uses are the predominant land use in the city. The remaining land uses characterizing the city are commercial and office, mixed use, public, industrial, and open space. Existing development patterns associated with these uses are summarized and further discussed below.

4.11.3.1 Residential

Single-family and multi-family residential land uses are the predominant land uses currently characterizing the city and they encompass approximately 43.8 percent of the Planning Area. Single-family residential uses are distributed fairly evenly throughout the incorporated area of the city. Multi-family units are concentrated in certain areas throughout the city, including around California State University Fresno, Fresno Pacific University, Southwest Fresno, and north of Shaw Avenue, River Park Shopping Center, the Freeway 41 Corridor, and the Fig Garden Loop Area.

4.11.3.2 Commercial

Commercial land uses comprise approximately 6.3 percent of the Planning Area and are mainly located within the incorporated area of the city. Commercial land uses within the Planning Area include a wide range of retail and service establishments intended to serve local and regional needs. Office land uses include administrative, financial, business, professional, medical, and public offices. Commercial and office retail uses include business services, food services and convenience goods for those who work in the area. Commercial and Office land uses are concentrated in various areas of the city but primarily located along transportation corridors such as Blackstone Avenue, Herndon Avenue, Shaw Avenue, and in the Downtown area.

4.11.3.3 Industrial

Industrial land uses comprise approximately 8.8 percent of the Planning Area. These uses include light and heavy industrial and manufacturing uses. The majority of industrial land is located south of Downtown, between State Routes 99 and 41. Other areas of industrial land are located along State Route 99 and near the Fresno Yosemite International Airport.

4.11.3.4 Mixed Use

Mixed use land uses comprise approximately 3.6 percent of the Planning Area. These are commercial uses that require a residential component, and are typically designated as higher-density or located along corridors.

4.11.3.5 Public Facilities

Public facilities comprise approximately 16.5 percent of the Planning Area. Public facilities are lands owned by public entities, including City Hall and other City buildings, county buildings, schools, colleges, the municipal airport and hospitals. They also include public facilities such as fire and police stations, City-operated recycling centers and sewage treatment facilities. In addition, these designations apply to public facilities, including neighborhood, community and regional parks, recreational centers, and golf courses. It also applies to multi-purpose trails that serve both regional and neighborhood level needs, some of which are paved while others, in particular those found along the San Joaquin River Bluff Environs, may be unpaved.

4.11.3.6 Open Space

Although open space and agriculture land uses continue to dominate much of the regional landscape, only 2.2 percent of the Planning Area is designated as open space. The majority of the open space land use within the Planning Area is located in the southeast.

4.11.3.7 Other

The “Other” category identified in the General Plan includes roads canals, railroads, etc. and the buffer area designated in Southeast Development Area. This area accounts for 18.8 percent of the Planning Area.

4.11.4 Methodology

The potential project-related impacts related to land use and planning were evaluated qualitatively by assessing whether the continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan would be consistent with the objectives and goals of the various planning efforts occurring within the Planning Area.

4.11.5 Regulatory Setting

4.11.5.1 Federal Policies and Regulations

Federal Aviation Regulation Title 14 Part 77. The Federal Aviation Administration regulates airspace around civil airports. The three existing airports located within the Planning Area are required to be consistent with Part 77 of the Federal Aviation Regulation (FAR). Part 77 requires the airspace to be free of obstructions to air navigation during critical flight phases and states that obstructions shall not penetrate the "imaginary surfaces" surrounding an airfield as defined in FAR Part 77. The "imaginary surfaces" are determined by runway length and type of navigational approach instrumentation available.

4.11.5.2 State Policies

The Cortese-Knox-Hertzberg Local Government Reorganization Act. The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Government Code Section 56300 et seq.) governs the establishment and revision of local government boundaries. The Act was a comprehensive revision of the Cortese-Knox-Hertzberg Local Government Reorganization Act of 1985. The Act is a policy of the state to encourage orderly growth and development that is essential to the social, fiscal, and economic well-being of the state. The intent of the Act is to promote orderly development while balancing competing state interests of discouraging urban sprawl, preserving open space and prime agricultural lands, and efficiently extending government services. The Act had previously established the County Local Agency Formation Commission (LAFCO), which gave it authority to consider and approve city and special district annexation, dissolution, and formation.

California Land Conservation Act. The California Land Conservation Act, better known as the Williamson Act, was enacted by the State Legislature in 1965 to encourage the preservation of agricultural lands. Under the provisions of the act, landowners agreeing to keep their lands under agricultural production for a minimum of ten years receive property tax adjustments. Williamson Contracts limit the use of the properties to agricultural, open space, and other compatible use. Williamson Act lands are assessed based on their agricultural value, rather than their potential market value under nonagricultural uses.

California's 2017 Legislative Housing Package. The 2017 Housing Package provides new regulatory and financial resources to provide for housing opportunities throughout the State.[1] Components include funding sources for new affordable housing and creation of streamlined processes to

[1] California Department of Housing and Community Development. 2017. California's 2017 Housing Package. Website: www.hcd. ca.gov/policy-research/lhp.shtml (accessed February 17, 2020).

increase housing supply. The new legislation holds local jurisdictions accountable for addressing housing needs by increasing enforcement by the California Department of Housing and Community Development (HCD), and creates new opportunities to develop new affordable homes and preserve existing affordable homes.

4.11.5.3 Regional Land Use Plans and Policies

Fresno County Local Agency Formation Commission Policies, Standards, and Procedures. The Fresno LAFCO established written policies and procedures that encourage and provide planned, well-ordered, efficient urban development patterns with appropriate consideration of preserving open-space and agricultural lands within those patterns. Local Area Formation Commissions (LAFCOs) review proposals for the formation of new local governmental agencies and for changes in the organization of existing agencies. The objectives of the Fresno County LAFCO are to: encourage orderly formation of local governmental agencies, preserve agricultural land resources and to discourage urban sprawl (i.e., irregular and disorganized growth occurring without apparent design or plan).

The Fresno County LAFCO assists in balancing the competing needs in the region for efficient services, affordable housing, economic opportunity, and conservation of natural resources. In addition, the Fresno County LAFCO considers effects that development may have on existing agricultural land and in doing so guides development toward vacant urban land and away from agricultural preserves.

4.11.5.4 Local Land Use Plans and Policies

City of Fresno Municipal Code

> ***Zoning Ordinance.*** The City's Zoning Ordinance (Chapter 15 of the Municipal Code) is intended to provide a guide for the physical development of the city in order to achieve the arrangement of land uses depicted in the approved General Plan, as well as implement goals, objectives, and policies of the approved General Plan. The City's Zoning Ordinance identifies land use categories, boundaries, and development standards.

City of Fresno General Plan. The City's General Plan is a long-range plan which establishes goals, objectives, policies, and strategies that combine to serve as a "blueprint" directing future growth in the city. The approved General Plan was adopted on December 18, 2014 and consists of the Economic Development and Fiscal Sustainability, Urban Form, Land Use, and Design, Mobility and Transportation, Parks, Open Space, and Schools, Public Utilities and Services, Resource Conservation and Resilience, Historic and Cultural Resources, Noise and Safety, Healthy Communities, and Housing Elements. For a description of each of the elements within the approved General Plan, refer to Chapter 3.0, Project Description. Relevant objectives and policies in the City of Fresno's General Plan include:

> ***Urban Form, Land Use, and Design Element***
>
> ***Objective UF-1.*** Emphasize the opportunity for a diversity of districts, neighborhoods, and housing types.

Policy UF-1-a: Diverse Neighborhoods. Support development projects that provide Fresno with a diversity of urban and suburban neighborhood opportunities.

Commentary: Future growth will occur in a range of higher, medium, and lower densities in existing and new mixed-use urban centers, compact neighborhoods, and suburban areas. This policy also envisions making use of underutilized land, reducing long-term farmland conversion, supporting transit and multiple transportation modes, mixing and balancing compatible residential and retail uses in new growth areas, and existing infill areas to produce economic opportunities, jobs, housing options, recreation, and other choices.

Policy UF-1-b: Revitalized Downtown Planning Area. Support adoption of community plans or Specific Plans, Downtown Development Code, programs, and streamlined regulations to support a revitalized Downtown Planning Area as the Primary Activity Center for Fresno and the surrounding region.

Commentary: The General Plan anticipates the Downtown Planning Area will be further refined through specific and community plans, such as the proposed Downtown Neighborhoods Community Plan (DNCP) and the Fulton Corridor Specific Plan (FCSP), and further implemented through the adoption of a new Development Code for regulations specific to Downtown Planning Area.

Policy UF-1-c: Identifiable City Structure. Focus integrated and ongoing planning efforts to achieve an identifiable city structure, comprised of a concentration of buildings, people, and pedestrian-oriented activity in Downtown; along a small number of transit-oriented, mixed-use corridors and strategically located Activity Centers; and in existing and new neighborhoods augmented with parks and connected by multi-purpose trails and tree lined bike lanes and streets.

Policy UF-1-f: Complete Neighborhoods, Densities, and Development Standards. Use Complete Neighborhood design concepts and development standards to achieve the development of Complete Neighborhoods and the residential density targets of the General Plan.

***Objective UF-7*.** Promote a diverse mix of uses in the Downtown in order to create a community with a 24 hour entertainment district.

***Objective UF-8*.** Develop each of Downtown's neighborhoods and districts, according to its unique character.

Objective UF-9. Capitalize on the High Speed Train system to help revitalize the Downtown neighborhoods.

Commentary: As part of Plan implementation, the City intends to prepare and adopt a station area plan to capitalize on the High Speed Train system to compliment and encourage revitalization in the Downtown Planning Area.

Objective UF-11. Revitalize the Fulton Corridor consistent with the reconstruction project.

Objective UF-12. Locate roughly one-half of future residential development in infill areas—defined as being within the City on December 31, 2012—including the Downtown core area and surrounding neighborhoods, mixed-use centers and transit-oriented development along major BRT corridors, and other non-corridor infill areas, and vacant land.

Commentary: The Planning Director will provide an annual report describing the City's compliance with the Plan and progress toward meeting the goals and objectives to City Council, and prepare, every five years, an updated plan for achieving this goal, with recommended appropriate policy amendments and also new implementation strategies necessary to meet this goal by 2035. The rate of progress toward meeting this goal is not expected to occur in a linear or "one-to-one" pattern. Development in infill areas versus growth areas may progress in an uneven pattern, depending upon the schedule of relevant key incentive programs (such as those related to BRT) and the impact of market forces. However, the City expects to make steady progress toward all the goals and objectives and anticipates meeting them at or near the close of General Plan Horizon in 2035. See the Implementation Element for additional implementation strategies for this objective.

Policy UF-12-a: BRT Corridors. Design land uses and integrate development site plans along BRT corridors, with transit-oriented development that supports transit ridership and convenient pedestrian access to bus stops and BRT station stops.

Commentary: Developments close to major streets encourages walking and can be connected with the adjacent neighborhoods through a network of pedestrian ways. Parking will be concealed from the street, and predominant residential uses will be considered an acceptable use in all mixed-use areas.

Policy UF-12-b: Activity Centers. Mixed-use designated areas along BRT and/or transit corridors are appropriate for more intensive concentrations of urban uses. Typical uses could include commercial areas; employment centers; schools; compact residential development; religious institutions; parks; and other gathering points where residents may interact, work, and obtain goods and services in the same place.

Commentary: Activity Centers are typified by a full range of uses, including residential, retail, employment, education, recreation, public amenities, and/or open space features. Near the mixed-use central area of the Activity Center, there are typically higher residential densities, typically 15 to 45 dwelling units per acre, but away from the center of the Activity Center, uses become predominantly residential at lower densities.

Policy UF-12-c: Local-Serving Neighborhood Centers. Design Neighborhood Centers for local services and amenities that build upon the character and identity of surrounding neighborhoods and communities.

Policy UF-12-d: Appropriate Mixed-Use. Facilitate the development of vertical and horizontal mixed-uses to blend residential, commercial, and public land uses on one or adjacent sites. Ensure land use compatibility between mixed-use districts in Activity Centers and the surrounding residential neighborhoods.

Commentary: Vertical mixed-use may be achieved within the same building with multiple compatible uses in multiple stories, and horizontal mixed use may be achieved across an integrated development site with a mix of compatible and complementary uses housed in different buildings.

Policy UF-12-e: Access to Activity Centers. Promote adoption and implementation of standards supporting pedestrian activities and bicycle linkages from surrounding land uses and neighborhoods into Activity Centers and to transit stops. Provide for priority transit routes and facilities to serve the Activity Centers.

Policy UF-12-f: Mixed-Use in Activity Centers. Adopt a new Development Code which includes use regulations and standards to allow for mixed-uses and shared parking facilities.

Policy UF-12-g: Impacts on Surrounding Uses. Establish design standards and buffering requirements for high-intensity Activity Centers to protect surrounding residential uses from increased impacts from traffic noise and vehicle emissions, visual intrusion, interruption of view and air movement, and encroachment upon solar access.

***Objective UF-13*.** Locate roughly one-half of future residential development in the Growth Areas—defined as unincorporated land as of December 31, 2012 SOI—which are to be developed with Complete Neighborhoods that include housing, services, and recreation; mixed-use centers; or along future BRT corridors.

Commentary: The Planning Director will provide an annual report describing the City's compliance with the Plan and progress toward meeting the goals and objectives to City Council and every five years prepare an updated plan for achieving this goal, with recommended appropriate policy amendments and also new implementation strategies necessary to meet this goal by 2035. The rate of progress toward meeting this goal is not expected to occur in a linear or "one-to-one" pattern. Development in infill areas versus growth areas may progress in an uneven pattern, depending upon the schedule of relevant key incentive programs (such as those related to BRT) and the impact of market forces. However, the City expects to make steady progress toward all the goals and objectives and anticipates meeting them at or near the close of General Plan Horizon in 2035. See the Implementation Element for additional implementation strategies for this objective.

Policy UF-13-a: Future Planning to Require Design Principles. Require future planning, such as Specific Plans, neighborhood plans or Concept Plans, for Development Areas and BRT Corridors designated by the General Plan to include urban design principles and standards consistent with the Urban Form, Land Use, and Design Element.

Commentary: The General Plan requirements and regulations will be further defined through Specific Plans, neighborhood plans and Concept Plans to coordinate more discreet land use and transportation design integration and intensity with necessary public facilities, maintenance, and services financing for Development Areas following General Plan adoption and the subsequent adoption of a new Development Code.

Objective UF-14. Create an urban form that facilitates multi-modal connectivity.

Commentary: Multi-modal connectivity creates the opportunity for people to travel through a variety of modes of transportation, including biking, walking, driving, and using public transit.

Policy UF-14-a: Design Guidelines for Walkability. Develop and use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.

Commentary: These guidelines will highlight how to achieve these design ideas and avoid barriers to access, such as:

- *Walls and fences that separate related uses or isolate neighborhoods;*
- *Over reliance on cul-de-sacs and dead end streets that cut off access within neighborhoods;*
- *Disconnected bike and pedestrian paths;*
- *Wide streets that lack pedestrian support, such as sidewalks, median strips, and a landscaped strip that separates pedestrians from the street;*
- *Street front parking lots that separate pedestrian from commercial operations;*
- *Retail centers that are exclusively auto-oriented;*
- *Transit stops that are not easily accessible from an individual's starting point and destination; and*
- *Long blocks that discourage walking.*

Policy UF-14-b: Local Street Connectivity. Design local roadways to connect throughout neighborhoods and large private developments with adjacent major roadways and pathways of existing adjacent development. Create access for pedestrians and bicycles where a local street must dead end or be designed as a cul-de-sac to adjoining uses that provide services, shopping, and connecting pathways for access to the greater community area.

Policy UF-14-c: Block Length. Create development standards that provide desired and maximum block lengths in residential, retail, and mixed-use districts in order to enhance walkability.

Commentary: When preparing such standards the City should assess the desirability of varying maximum block length requirements between single family residential, multi-family residential, mixed use, and commercial districts.

Objective LU-1. Establish a comprehensive citywide land use planning strategy to meet economic development objectives, achieve efficient and equitable use of resources and infrastructure, and create an attractive living environment.

Policy LU-1-a: Promote Development within the Existing City Limits as of December 31, 2012. Promote new development, infill, and rehabilitation of existing building stock in the Downtown Planning Area, along BRT corridors, in established neighborhoods generally south of Herndon Avenue, and on other infill sites and vacant land within the City.

Policy LU-1-b: Land Use Definition and Compatibility. Include zoning districts and standards in the Development Code that provide for the General Plan land use designations and create appropriate transitions or buffers between new development with existing uses, taking into consideration the health and safety of the community.

Policy LU-1-c: Provision of Public Facilities and Services. Provision of Public Facilities and Services. Promote orderly land use development in pace with public facilities and services needed to serve development.

Commentary: Proposed school sites, parks, and storm water retention basin sites are shown in their most probable location, but the General Plan Land Use Diagram only represents probable placement for many of these prospective future public uses, and these various future public facility sites may be relocated or purchased in alternate locations.

Policy LU-1-d: Orderly Transition of Existing Uses. Implement updates to the Fresno Municipal Code to provide for the orderly transition of existing, legal non-conforming uses on the BRT Corridors.

Commentary: The goals, objectives and policies of this General Plan are long-term in nature. The General Plan recognizes the importance of providing for an orderly evolution of existing, legal non-conforming uses in a manner that acknowledges their current economic contributions while providing for a full transition into conforming uses consistent with applicable land use designations.

Policy LU-1-e: Annexation Requirements. Adopt implementing policies and requirements that achieve annexations to the City that conform to the General Plan Land Use Designations and open space and park system, and are revenue neutral and cover all costs

for public infrastructure, public facilities, and public services on an ongoing basis consistent with the requirements of ED-5-b.

Commentary: If initiated directly with LAFCO without application by the City, the City is likely to oppose the proposed annexation unless it is consistent with the General Plan and the sequence of development discussed in the Implementation Element.

Regarding Disadvantaged Unincorporated Communities, the City will partner with the community, if there is wide support for annexation, to coordinate terms to initiate and support the annexation process.

Policy LU-1-f: Coordination with Fresno County Land Use Planning. Seek a Memorandum of Understanding (MOU) with the County of Fresno to prohibit development inconsistent with this General Plan on unincorporated land within the City's SOI.

Commentary: The MOU should also require all new development within the SOI to comply with all City development standards and policies.

Policy LU-1-g: SOI Expansion. Maintain the City's current SOI boundaries without additional expansion, except to allow for the siting of a maintenance yard for the California High Speed Train project and related industrial and employment priority areas proximate to and south of the SOI boundary between State Route 41 and State Route 99. Prohibit residential uses in the expansion area.

***Objective LU-2*.** Plan for infill development that includes a range of housing types, building forms, and land uses to meet the needs of both current and future residents.

Policy LU-2-a: Infill Development and Redevelopment. Promote development of vacant, underdeveloped, and re-developable land within the City Limits where urban services are available by considering the establishment and implementation of supportive regulations and programs.

Policy LU-2-e: Neighborhood Preservation. Incorporate standards in the Development Code to preserve the existing residential quality of established neighborhoods.

Policy LU-2-f: Lot Consolidation. Include incentives in the Development Code for streamlining the consolidation of very small, oddly shaped, and difficult to develop lots to create more efficient and developable parcels.

***Objective LU-3*.** Support the successful fulfillment of plans when adopted for the Downtown Planning Area.

Policy LU-3-a: Downtown Planning Area Plans. Prepare and adopt community plans and Specific Plans for the revitalization and continued development of the Downtown Planning Area neighborhoods, including the Fulton Street corridor, accompanied by implementing regulations that will govern future development in the area.

Policy LU-3-b: Mixed-Use Urban Corridors that Connect the Downtown Planning Area. Support the development of mixed-use urban corridors that connect the Downtown Planning Area with the greater Fresno-Clovis Metropolitan Area with functional, enduring, and desirable urban qualities along the Blackstone Avenue, Shaw Avenue, California Avenue, and Ventura Avenue/Kings Canyon Road corridors, as shown on Figure LU-1: General Plan Land Use Diagram.

Policy LU-3-c: Zoning for High Density on Major BRT Corridors. Encourage adoption of supportive zoning regulations for compact development along BRT corridors leading to the Downtown Core that will not diminish the long-term growth and development potential for Downtown.

***Objective LU-4*.** Enhance existing residential neighborhoods through regulations, code enforcement, and compatible infill development.

***Objective LU-5*.** Plan for a diverse housing stock that will support balanced urban growth, and make efficient use of resources and public facilities.

Policy LU-5-a: Low Density Residential Uses. Promote low density residential uses only where there are established neighborhoods with semi-rural or estate characteristics.

Policy LU-5-b: Medium-Low Density Residential Uses. Promote medium-low density residential uses to preserve existing uses of that nature or provide a transition between low and medium density residential areas.

Policy LU-5-c: Medium Density Residential Uses. Promote medium density residential uses to maximize efficient use of residential property through a wide range of densities.

Policy LU-5-d: Medium-High Density Residential Uses. Promote medium-high density residential uses to optimize use of available or planned public facilities and services and to provide housing opportunities with convenient access to employment, shopping, services, and transportation.

Policy LU-5-e: Urban Neighborhood Residential Uses. Promote urban neighborhood residential uses to support compact communities and Complete Neighborhoods that include community facilities, walkable access to parkland and commercial services, and transit stops.

Policy LU-5-f: High Density Residential Uses. Promote high-density residential uses to support Activity Centers and BRT Corridors, and walkable access to transit stops.

Policy LU-5-g: Scale and Character of New Development. Allow new development in or adjacent to established neighborhoods that is compatible in scale and character with the surrounding area by promoting a transition in scale and architectural character between new buildings and established neighborhoods, as well as integrating pedestrian circulation and vehicular routes.

Policy LU-5-j: Campus-Centered Communities. Encourage development of campus-centered communities by focusing growth around existing and planned academic facilities and by directing infrastructure to those areas.

***Objective LU-6*.** Retain and enhance existing commercial areas to strengthen Fresno's economic base and site new office, retail, and lodging use districts to serve neighborhoods and regional visitors.

Policy LU-6-a: Design of Commercial Development. Foster high quality design, diversity, and a mix of amenities in new development with uses through the consideration of guidelines, regulations and design review procedures.

Policy LU-6-b: Commercial Development Guidelines. Commercial Development Guidelines. Consider adopting commercial development guidelines to assure high quality design and site planning for large commercial developments, consistent with the Urban Form policies of this Plan.

Commentary: The guidelines should address:

- *Architectural finishes, coordinated color palette, massing, and hierarchy in scale;*
- *Pedestrian-scaled amenities, signage, and lighting;*
- *Site improvements, including parking lot landscaping, perimeter landscaping, foundation landscaping, walkways, and passageways;*
- *Ground floor transparency requirements along shopping streets and limitations on blank walls in these areas;*
- *Anti-theft glass on windows, rather than bars or roll-down metal screens, that are architecturally compatible with building design;*
- *Screening of truck loading, parking, mechanical equipment, transformers, ventilation systems, storage containers, and refuse collection areas from the street;*
- *Shading and its relationship and effects on surrounding buildings;*
- *Building entries; and*
- *Design standards for perimeter walls and fencing.*

Policy LU-6-c: Appropriate Office Development. Promote the establishment of development standards for new offices, addressing location, size, and intensity necessary to meet the City's needs. Integrate and support employment in adjacent and proximate neighborhoods.

- Locate office projects to provide a transition between more intensive commercial uses and residential areas;
- Facilitate office uses in conjunction with, and adjacent to, institutions and employment centers; and
- Avoid over concentrating office uses in any one part of Fresno when new office developments would create excessive vacancy rates in other established office areas.

Policy LU-6-d: Neighborhood and Community Commercial Center Design. Plan for neighborhood mixed use and community commercial uses to implement the Urban Form concepts of this Plan, promote the stability and identity of neighborhoods and community shopping areas, and allow efficient access without compromising the operational effectiveness of the street system.

- Neighborhoods will be anchored by community commercial centers with a mix of uses that meet the area's needs and create a sense of place; and
- Community commercial centers will be located within Activity Centers.

Policy LU-6-e: Regional Center Planning and Design. Promote economic growth with regional commercial centers.

- New regional commercial centers will be located with access to State Routes and/or other major transportation facilities to ensure access from throughout the region; and
- Regional shopping centers will have internally-unified building design, landscaping, and signage standards.

Policy LU-6-f: Auto-Oriented Commercial Uses. Direct highway-oriented and auto-serving commercial uses to locations that are compatible with the Urban Form policies of the General Plan. Ensure adequate buffering measures for adjacent residential uses, noise, glare, odors, and dust.

Policy LU-6-g: Lodging Facilities Location. Site lodging facilities and related accommodations near major transportation facilities.

***Objective LU-7*.** Plan and support industrial development to promote job growth.

Policy LU-7-a: Incentives for a Diversity of Industries, Increased Food Processing and Manufacturing, and Related Employment Opportunities in Fresno. Use the City's Capital Improvement Program to set priorities for locations and timing of water, sewer, and transportation infrastructure investments by the City and initiate implementation programs to encourage development of targeted industries as identified under Policy ED-3-c, in employment land use areas designated on Figure LU-1: Land Use Diagram.

Commentary: The South Industrial Area, located generally south of Jensen Avenue within the City's SOI, intersected by State Routes 41 and 99, and containing over 1,100 vacant acres designated for industry, is one such priority industrial development area for major infrastructure improvements (See Figure I-3).

Policy LU-7-b: Business and Industrial Parks. Promote business and industrial park sites that are of sufficient size, unified in design, and diversified in activity to attract a full range of business types needed for economic growth.

Policy LU-7-c: Efficiency of Industrial Uses. Promote industrial land use clusters to maximize the operational efficiency of similar activities.

- Provide access to a range of transportation modes through plans and incentives, ensuring that local, regional, and national connections are available to industrial uses;
- Develop a strategy to promote rail-accessible sites for industries that need such capability; and
- Ensure timely access to the full range of urban services for industrial development by coordinating proposed plans with the annual and long-range City infrastructure planning.

Objective LU-8. Provide for the development of civic and institutional land uses to meet the educational, medical, social, economic, cultural, and religious needs of the community.

Policy LU-8-a: Civic and Institutional Use Compatibility. Protect civic and institutional areas from incompatible uses that could affect their vitality and contributions to the city.

Policy LU-8-b: Access to Public Facilities. Ensure that major public facilities and institutions have adequate multi-modal access and can be easily reached by public transit.

Policy LU-8-c: Zoning for Public Facilities. Allow public facility uses in zoning districts where appropriate.

Policy LU-8-d: Public Facilities and Institutions Meeting City Standards. Request that federal, State, and local agencies locating public facilities and institutions in the City or designated growth area, meet City standards for public streets and sidewalks, access, parking, water supply, wastewater disposal, landscaping, and amenities.

Objective LU-9. Plan land uses, design, and development intensities to supplement and support, and not compete with, the Downtown.

Policy LU-9-a: Residential Locations. Plan for new residential uses and types in a manner that help make the Downtown Planning Area a convenient destination for employment and regional retail shopping.

Policy LU-9-b: Activity Centers. Plan for future Activity Centers at appropriate locations that avoid competition with Downtown businesses.

Policy LU-9-c: Primacy of Downtown. Maintain the Downtown mixed-use areas as the Primary Activity Center within the city with the tallest buildings to enhance its profile and visibility.

Commentary: Activity Centers outside of Downtown may include, but not be limited to, the vicinity of Woodward Park and the Blackstone Avenue, Kings Canyon Avenue, and Shaw Avenue corridors.

Policy LU-9-g: Improve Access. Provide opportunities to enhance the existing physical accessibility of Downtown in order to encourage the inclusion of individuals with disabilities.

***Objective LU-10*.** Promote regional cooperation and coordination on land use and planning issues among local jurisdictions.

Policy LU-10-a: Regional Land Use and Transportation Planning Program. Continue participation efforts in a coordinated Regional Land Use and Transportation Planning Program with the City of Clovis, Fresno and Madera counties, and other cities in the region.

Commentary: This program can undertake mutually-agreeable development strategy to:

- *Identify areas suitable for development;*
- *Direct urban development to incorporated cities;*
- *Propose programs to meet federal, State, and local air quality requirements;*
- *Identify future regional facilities and services, including transportation corridors, water, and sewerage;*
- *Conserve agricultural land and prevent its premature conversion including requirements for an economic assessment, phasing plan, and criteria to prevent leapfrog development; and*
- *Discourage the creation of new rural residential lots and subdivisions.*

Policy LU-10-b: Integrity of the General Plan. Urge neighboring jurisdictions to support the integrity and implementation of the General Plan.

Policy LU-10-c: Memorandum of Understanding (MOU). Comply with the most recent Master Settlement Agreement and Amended and Restated MOU between the City of Fresno and County of Fresno. Update the existing MOU and Agreement as necessary to implement the goals of this Plan.

***Objective LU-11*.** Encourage coordination with adjacent jurisdictions in providing public services, infrastructure and cooperative economic development.

Policy LU-11-a: Regional Programs. Coordinate with the County of Fresno, County of Madera, the City of Clovis and other cities or special districts to:

- Promote resource management programs to avoid overlap and duplication of effort;
- Promote the development of a regional justice system program to meet future needs of the justice system, both adult and juvenile, including the judicial system and law enforcement;
- Promote the development of a regional public health program to meet future needs including community, environmental and mental health services; and
- Promote the development of a regional program to meet future library, recreational and social service needs of the region.

Policy LU-11-b: Regional Economic Development. Promote cooperative efforts with the County of Fresno, the County of Madera, the City of Clovis, other cities, or special districts to develop a regional approach to economic development that:

- Identifies regional economic development programs to create jobs and provide cost-effective incentives to assist business development of regional significance; and
- Promotes an agricultural-industrial synergy that will enable a significant portion of agricultural products to be fully prepared and processed locally.

Policy LU-11-c: General Plan Consistency. Pursue coordinated planning and development project reviews with relevant federal, State, and local public agencies to ensure consistency with this General Plan.

***Objective D-1*.** Provide and maintain an urban image that creates a "sense of place" throughout Fresno.

Policy D-1-a: Direct Access to Units. Require all new multi-family residential development along BRT and other transit or pedestrian-oriented streets (Collector and Local), including high-rise, townhomes or other units, to provide direct pedestrian street access and to promote walkable connectivity, individualization, family-friendly development, identity, and street safety to the maximum extent reasonably feasible.

Policy D-1-j: Lighting Standards. Update lighting standards to reflect best practices and protect adjoining uses from glare and spillover light.

Commentary: Security and interior lighting should not be visible from the exterior of parking garages.

Objective D-4. Preserve and strengthen Fresno's overall image through design review and create a safe, walkable and attractive urban environment for the current and future generations of residents.

Policy D-4-a: Design Review for Large Buildings. Consider adopting and implementing a streamlined design review process for new construction and visible exterior alterations of large and significant multi-family, mixed-use and non-residential developments.

Commentary: Thresholds of size and significance will need to be defined and review processes designed not to impede investment and development time frames.

Policy D-4-e: Flexibility through Overlay Districts. Allow innovative lot designs and patterns to enhance community livability in residential neighborhoods through new zoning provisions, with flexible development standards.

Policy D-4-f: Design Compatibility with Residential Uses. Strive to ensure that all new non-residential land uses are developed and maintained in a manner complementary to and compatible with adjacent residential land uses, to minimize interface problems with the surrounding environment and to be compatible with public facilities and services.

Objective D-5. Maintain and improve community appearance through programs that prevent and abate blighting influences.

Policy D-5-a: Code Enforcement. Continue enforcement of the Fresno Municipal Code to remove or abate public nuisances in a timely manner.

Objective D-7. Continue applying local urban form, land use, and design policies to specific neighborhoods and locations.

Policy D-7-c: Forestiere Underground Gardens. In the event that the Highway City Specific Plan is repealed, those goals and implementation policies in the Highway City Specific Plan that are pertinent to the Forestiere Underground Gardens shall be incorporated in their entirety into this General Plan and will remain in effect.

Mobility and Transportation Element

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-a: Intensification of Bus Rapid Transit Corridors. Where traffic has previously been diverted to freeways, encourage incentives for more intense development along transportation corridors, such as the Blackstone Corridor, where there is now additional capacity.

Commentary: The General Plan Land Use Diagram (Figure LU-1) shows corridors where increases in allowable densities are permitted.

Policy MT-2-c: Reduce VMT through Infill Development. Provide incentives for infill development that would provide jobs and services closer to housing and multi-modal transportations corridors in order to reduce citywide vehicle miles travelled (VMT).

Commentary: This policy is intended to reduce regional trips and citywide congestion. Even if local congestion increases due to an increase in population from infill, this will eventually improve air quality by reducing per capita vehicle emissions and VMT through shorter commutes and increase in transit and non-motorized modes of travel. This will also reduce the need for regional travel demand transportation improvements.

Parks, Open Space, and Schools Element

Policy POSS-5-c: Buffers for Natural Areas. Require development projects, where appropriate and warranted, to incorporate natural features (such as ponds, hedgerows, and wooded strips) to serve as buffers for adjacent natural areas with high ecological value.

Policy POSS-6-a: San Joaquin River Parkway Master Plan. Support the San Joaquin River Conservancy in its efforts to update the San Joaquin River Parkway Master Plan by working with the other jurisdictions and the River Conservancy to create a comprehensive and feasible plan for preservation, conservation, and Parkway development.

Policy POSS-7-d. Buffer Zones near Intensive Uses. Protect natural reserve areas and wildlife corridor areas in the San Joaquin River corridor whenever more intensive human uses exist or are proposed on adjacent lands. Use buffer zones to allow multiple uses on parts of the parkway while still protecting wildlife and native plants.

- Require studies of appropriate buffer widths to be approved by State and federal wildlife agencies before variances from standard buffer zone widths are granted.
- Maintain natural riparian buffer zones with appropriate native plants (seed material and cuttings locally derived).
- Incorporate open space uses such as pasture, low-intensity agricultural activities, and the “rough” or marginal areas of golf courses, into buffer zones when they constitute an improvement in habitat over a previous use or degraded area. Evaluate and address the potential impacts of construction, cultural, and operational practices (such as grading, number of livestock per acre, lighting, and use of pesticides, herbicides, and fertilizers) before these uses are be approved for buffering.
- For nearby areas of the San Joaquin River corridor outside of the exclusive jurisdiction of the City, support efforts to work with other jurisdictions to achieve this policy.

Resource Conservation and Resilience

Objective RC-2. Promote land uses that conserve resources.

Policy RC-2-a: Link Land Use to Transportation. Promote mixed-use, higher density infill development in multi-modal corridors. Support land use patterns that make more efficient use of the transportation system and plan future transportation investments in areas of higher-intensity development. Discourage investment in infrastructure that would not meet these criteria.

Objective RC-9. Preserve agricultural land outside of the area planned for urbanization under this General Plan.

Policy RC-9-a: Regional Cooperation. Work to establish a cooperative research and planning program with the Counties of Fresno and Madera, City of Clovis, and other public agencies to conserve agricultural land resources.

Policy RC-9-b: Unincorporated Land in the Planning Area. Unincorporated Land in the Planning Area. Express opposition to residential and commercial development proposals in unincorporated areas within or adjacent to the Planning Area when these proposals would do any of the following:

- Make it difficult or infeasible to implement the General Plan;
- Contribute to the premature conversion of agricultural, open space, or grazing lands; or
- Constitute a detriment to the management of resources and/or facilities important to the region (such as air quality, water quantity and quality, traffic circulation, and riparian habitat).

Policy RC-9-c: Farmland Preservation Program. In coordination with regional partners or independently, establish a Farmland Preservation Program. When Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is converted to urban uses outside City limits, this program would require that the developer of such a project to mitigate the loss of such farmland consistent with the requirements of CEQA. The Farmland Preservation Program shall provide several mitigation options that may include, but are not limited to the following: Restrictive Covenants or Deeds, In Lieu Fees, Mitigation Banks, Fee Title Acquisition, Conservation Easements, Land Use Regulation, or any other mitigation method that is in compliance with the requirements of CEQA. The Farmland Preservation Program may be modeled after some or all of the programs described by the California Council of Land Trusts.

Objective RC-10. Conserve aggregate mineral resources within the Planning Area, as identified by the Division of Mines and Geology, and allow for responsible extraction to meet Fresno's needs.

Policy RC-10-b: Zoning in San Joaquin Riverbottom. Maintain zoning consistent with on-going mineral extraction in the San Joaquin Riverbottom that also allows multiple open space uses in conformance with State law and the City's Surface Mining Ordinance.

Policy RC-10-c: Processing-Mining Link. Accommodate only those mineral processing activities in the San Joaquin Riverbottom that are associated and co-located with mining operations when such industrial activities will sunset with the mining operation and do not stimulate unplanned growth or conversion of multi-use open space to urban uses.

Noise and Safety Element

Objective NS-5. Protect the safety, health, and welfare of persons and property on the ground and in aircraft by minimizing exposure to airport-related hazards.

Policy NS-5-a: Land Use and Height. Incorporate and enforce all applicable Airport Land Use Compatibility Plans (ALUCPs) through land use designations, zoning, and development standards to support the continued viability and flight operations of Fresno's airports and to protect public safety, health, and general welfare.

- Limit land uses in airport safety zones to those uses listed in the applicable ALUCPs as compatible uses, and regulate compatibility in terms of location, height, and noise.
- Ensure that development, including public infrastructure projects, within the airport approach and departure zones complies with Part 77 of the Federal Aviation Administration Regulations (Objects Affecting Navigable Airspace), particularly in terms of height.

Policy NS-5-b: Airport Safety Hazards. Ensure that new development, including public infrastructure projects, does not create safety hazards such as glare from direct or reflective sources, smoke, electrical interference, hazardous chemicals, fuel storage, or from wildlife, in violation of adopted safety standards.

Policy NS-5-c: Avigation Easements. Employ avigation easements in order to secure and protect airspace required for unimpeded operation of publicly owned airports.

Commentary: Avigation easements are established in the form of land use covenants and are binding upon present and subsequent property owners.

Policy NS-5-d: Disclosure. As a condition of approval for residential development projects, require sellers to prepare and provide State Department of Real Estate Disclosure statements to property buyers notifying of noise and safety issues related to airport operations.

Policy NS-5-e: Planned Expansion. Allow for the orderly expansion and improvement of publicly-owned airports, while minimizing adverse environmental impacts associated with these facilities.

- Periodically update airport facility master plans in accordance with FAA regulations.
- Require land use within the boundaries of the Fresno-Yosemite International Airport and Chandler Downtown Airport to conform to designations and policies specified in adopted City of Fresno compatible land use plans.
- Provide local jurisdictions surrounding the City's publicly owned airports with specific guidelines for effectively dealing with the presence and operation of these airports.

City of Fresno Community Plans. Prior to the adoption of the approved General Plan in 2014, the city of Fresno was divided into nine Community Plan areas, the Woodward Park, Bullard, West Area, Fresno-High Roeding, Hoover, McLane, Roosevelt, Edison, and the Central Area. Since then, however, the Central Area Plan has been repealed and replaced by the Downtown Neighborhoods Community Plan (and the Fulton Corridor Specific Plan). In addition, the Edison Community Plan was repealed upon adoption of the Southwest Fresno Specific Plan. The remaining plans are somewhat dated, having been written 20-40 years ago. As the City continues preparing updated community plans, these older versions will be repealed, with relevant policies being carried forward into the new plans. The City's Development Code implements the relevant land use components of these plans by regulating the development of property into houses, apartments, shopping centers, and mixed use neighborhoods as envisioned in the City's long range plans. The Development Code also established the priority of plans (Section 15-104-B4) such that the Development Code takes precedence over all other plans, except for areas subject to the Fresno County Airport Land Use Compatibility Plan or the Downtown Neighborhoods Community Plan.

City of Fresno Specific Plans. Specific Plans focus on a relatively small geographic area such as neighborhoods that contain certain characteristics that are deemed desirable or reflect a certain planning trend. Within the Planning Area, these specific plans include Butler-Willow, Fulton Corridor, Highway City Neighborhood, North Avenue Industrial Triangle, Southwest Fresno, Sun Garden Acres, Tower District, and Yosemite School Area Specific Plans. These plans provide a higher level of detail that can be achieved through the specific planning process. The plans discuss existing conditions, objectives, and guidelines that act as blueprints for Specific Plan Areas. It should be noted that only a small portion of the city is located within a Specific Plan area, although most areas are within a Community Plan area.

City of Fresno Neighborhood Plans. The city of Fresno includes two neighborhood plans, the Pinedale Neighborhood Plan and El Dorado Park Neighborhood Plan, which address specific concerns expressed by residents. The plans focus on improvements to the neighborhoods based on a unified vision. These improvements include modifications to circulation, structures, utilities, public services, and aesthetics. Both of these plans were amended into the Bullard Community Plan and the Hoover Community Plan, respectively.

San Joaquin River Parkway Master Plan. The San Joaquin River Parkway Master Plan was adopted in December 1997 and a Master Plan Update was approved in April 2018. The San Joaquin River Parkway Master Plan is implemented by the San Joaquin River Conservancy and presents policies, guidelines, and best management practices for continued improvement and management of the San Joaquin River Parkway. The San Joaquin River Parkway is a planned 22-mile regional natural and

recreation area primarily in the river's floodplain extending from Friant Dam to Highway 99, encompassing both Fresno and Madera Counties. The San Joaquin River Parkway Master Plan envisions a primary multi-use trail from Friant Dam to Highway 99, contiguous and continuous wildlife habitat and movement corridors, and a regional multifaceted parkway experience for visitors. Relevant policies in the San Joaquin River Parkway Master Plan include:

> ***Policy Mineral.3:*** In public Parkway areas that have significant sand and gravel reserves that may be needed for the San Joaquin River Restoration Program or other habitat and floodplain restoration needs, site significant permanent structures where they will not preclude or interfere with future extraction of those resources.
>
> ***Policy Access.2:*** Minimize potential impacts to sensitive natural resources by grouping facilities and intensive uses or siting facilities and intensive uses in areas that are already disturbed or developed where feasible.
>
> ***Policy Access.3:*** Locate relatively intensive recreational activity sites away from natural resources that may be sensitive to those uses (such as rookeries, spawning beds, etc.) and private residences (see Buffers).
>
> ***Policy Access.32:*** Permit commercial activities needed to serve Parkway visitors, such as sales of food and beverages, camper's grocery items, and books, guides, and educational materials, under special use permits or concession agreements and consistent with other Parkway goals, objectives and policies.
>
> ***Policy Buffer.1:*** Provide buffer zones appropriate to the intensity of the planned Parkway recreational uses or improvements as depicted in Figure 6-1 of the San Joaquin River Parkway Master Plan.
>
> ***Policy Buffer.5:*** Provide native vegetation for screening wildlife from human activity as necessary to accommodate less width for a buffer zone.
>
> ***Policy Buffer.15:*** Encourage local land use agencies to require where feasible buffer zones for the protection of wildlife habitat in natural reserves and wildlife/riparian corridors. From the river wildlife corridor encourage 100-foot buffers from agriculture/pasture; 150-foot buffers from low density housing (less than .05 unit per acre); 300-foot buffers from medium density housing (.05 units per acre to less than 1 unit per acre); and 600-foot buffers from business/industry or high density housing (more than 1 unit per acre, and 700-foot buffers for any development from sensitive habitat. (Sensitive habitat includes areas of special biological significance that provide habitat for locally unique biotic species/communities; that are adjacent to essential habitats of rare, endangered or threatened species; most wetland and riparian areas; or any natural community vulnerable to environmental effects of projects) See Figure 6-2 of the San Joaquin River Parkway Master Plan.

Fresno County Airport Land Use Compatibility Plan. The Fresno County Airport Land Use Compatibility Plan (ALUCP) was prepared by the Fresno County Airport Land Use Commission (ALUC) and adopted in December 2018. The ALUCP provides an update of the State-mandated airport land

use compatibility plan for the environs of the nine public use airports in Fresno county, including three public use airports within the Planning Area: Fresno Chandler Executive Airport; Fresno Yosemite International Airport; and Sierra Sky Park Airport. The Fresno County ALUCP implements land use compatibility policies and criteria related to proposed development in the vicinity of public use airports in the Planning Area (and throughout Fresno county). The Fresno County ALUCP also establishes the planning boundaries around each of these airport facilities that define safety areas, noise contours, and height/airspace protection for policy implementation and areas within which notification is required as part of real estate transactions.

This Airport Land Use Compatibility Plan replaced the following compatibility plans for the Fresno County ALUC:

- Coalinga Airport Land Use Policy Plan, November 1994
- Fresno County Airports Land Use Policy Plan (Firebaugh, William Robert Johnston Municipal, Reedley Municipal, and Selma), January 1983
- Fresno Chandler Downtown Airport Land Use Policy Plan, Revised October 2014
- Fresno Yosemite International Airport Compatibility Land Use Plan, Revised June 2012
- Harris Ranch Airport Land Use Policy Plan, October 1995
- Reedley Municipal Airport Land Use Compatibility Plan, November 2007
- Sierra Sky Park Land Use Policy Plan, Revised October 1995

Similar to the previously listed airport compatibility plans, this ALUCP is intended to protect and promote the safety and welfare of residents, businesses, and airport users near the public use airports and Naval Air Station Lemoore in Fresno county, while supporting the continued operation of these facilities. Specifically, the plan seeks to: ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents; protect the public from the adverse effects of airport noise; and ensure that no structures or activities encroach upon, or adversely affect, the use of navigable airspace. The City of Fresno Development Code Priority of Plans section (Section 15-104-B(4) clearly establishes the adopted Fresno County Airport Land Use Compatibility Plan as the plan that takes precedence over all of the City's other land use plans within the Airport Influence Areas defined in the ALUCP.

Fresno Parks Master Plan. The City of Fresno City Council adopted the Fresno Parks Master Plan on December 14, 2017. The Parks Master Plan guides strategic actions and daily operations of the park system. The recommendations contained in the Fresno Parks Master Plan reflects the vision of the community and provides planning tools for decision makers as they strategically manage, fund, and improve Fresno's park and open space system. The Fresno Parks Master Plan also identifies goals and recommendations to improve the City of Fresno's park and open space system.

City of Fresno Active Transportation Plan. The Fresno Active Transportation Plan (ATP), adopted in March 2017, provides a comprehensive guide outlining the vision for active transportation in Fresno. The ATP supersedes the Bicycle, Pedestrian, and Trails Master Plan that was adopted in 2010. The ATP envisions a complete, safe, and comfortable network of trails, sidewalks, and bikeways that serves all residents of Fresno. This plan lays out specific goals to improve bicycle access and connectivity in Fresno. These goals include the following:

- 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 geographical equity of access to walking and bicycling facilities in Fresno; and
- Fill key gaps in Fresno's walking and bicycling networks.

County of Fresno General Plan. The Fresno County General Plan was adopted in October 2000 by the Fresno County Board of Supervisors. The Fresno County General Plan is a comprehensive, long-term framework for the protection of the county's agricultural, natural, and cultural resources and for development in the county. Designed to meet State General Plan requirements, it outlines policies, standards, and programs and sets out plan proposals to guide day-to-day decisions concerning Fresno County's future.

County of Fresno Land Use Element. The Land Use Element designates the general distribution and intensity of all uses of the land in the county. This includes residential uses, commercial uses, industrial uses, public facilities, and open space, among others. The Land Use Element also describes the designations appearing on the Land Use Diagram and outlines the legally required standards of density and intensity for these land use designations. Relevant policies from the County of Fresno General Plan Land Use Element include:

> ***Policy LU-C.6:*** The County may allow the extraction of rock, sand, and gravel resources along the San Joaquin River consistent with the Minerals Resources section policies of the Open Space and Conservation Element.
>
> ***Policy LU-C.7:*** The County, in approving recreational facilities in the San Joaquin River Parkway adjacent to residential uses, shall require a buffer of at least 150 feet and screening vegetation as necessary to address land use compatibility issues.
>
> ***Policy LU-G.1:*** The County acknowledges that the cities have primary responsibility for planning within their LAFCO-adopted spheres of influence and are responsible for urban development and the provision of urban services within their spheres of influence.
>
> ***Policy LU-G.2:*** Fresno County shall work cooperatively with all cities of the county to encourage each city to adopt and maintain its respective plan consistent with the Fresno County General Plan. The County shall adopt complementary planning policies through a cooperative planning process to be determined by the respective legislative bodies.

Policy LU-G.4: The County shall encourage orderly outward expansion of urban development by supporting only those city sphere of influence expansion proposals where the city has demonstrated a need for additional territory after documenting a good faith effort to implement an infill development program and minimize conversion of productive agricultural lands.

Policy LU-G.6: The County shall encourage cities to incorporate in their general plans land use policies that minimize potential land use conflicts with agriculturally-related industrial operations and other agricultural activities at the urban interface through the provision of appropriate buffers or other measures.

Policy LU-G.7: Within the spheres of influence and two miles beyond, the County shall promote consultation between the cities and the County at the staff level in the early stages of preparing general plan amendments and other policy changes that may impact growth or the provision of urban services. Staff consultations, particularly concerning community plans, shall provide for meaningful participation in the policy formulation process and shall seek resolution of issues prior to presentation to the decision-making bodies.

Policy LU-G.10: The County shall minimize potential land use conflicts at the interface between urban development and existing developed rural-residential areas. Provision for a graduated transition in density/lot size from higher to lower density between the two respective areas shall generally be required unless significant buffers or other measures are determined adequate to protect established rural residential developments. The County, while recognizing the cities' need to optimize use of land within their sphere boundaries, shall encourage cities to require buffering measures when urban development is proposed adjacent to existing developed rural-residential areas within their spheres-of-influence.

Policy LU-G.11: The County shall promote consultation between the cities and the County at the staff level when cities are developing proposed annexation boundaries or proposed sphere of influence expansions.

4.11.6 Significance Criteria

Continued implementation of the General Plan and implementation of text changes to the Mobility and Transportation Element and the Greenhouse Gas Reduction Plan update would result in a significant impact related to land use and planning if it would:

LU-1 Physically divide an established community.

LU-2 Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

4.11.7 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to land use and planning that could result from continued implementation of the approved General Plan. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant.

The latter part of this section presents the impacts associated with continued implementation of the approved General Plan and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less than significant level. Cumulative impacts are also addressed.

4.11.7.1 Project Impacts

The following discussion describes the potential impacts related to land use and planning that could result from the continued implementation of the approved General Plan, implementation of the text changes to the Mobility and Transportation element, and updates to the Greenhouse Gas Reduction Plan. This programmatic EIR contemplates continued implementation of the General Plan; future discretionary projects facilitated by the proposed project will be evaluated for project-specific land use and planning impacts at the time that they are proposed.

LU-1 The proposed project would not physically divide an established community.

Continued development in accordance with the approved General Plan would result in a substantial amount of development throughout the Planning Area. This development would include infill and underutilized development within the existing City limits, revitalization of existing neighborhoods, new activity centers with mixed uses and neighborhoods, and development within rural/agriculture areas located outside the City limits, but within the Planning Area. Full buildout of the approved General Plan would result in development throughout the Planning Area.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element indicate that potential environmental impacts relative to VMT will be required after July 1, 2020, and would not result in any physical improvements that would result in land use and planning impacts. Similarly, updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements that would result in land use conflicts, as no changes in the distribution or types of land uses are proposed. However, impacts associated with the continued implementation of the approved General Plan are identified below.

The City of Fresno currently has seven community plans that had been previously established to provide more detailed planning to address specific concerns of the individual communities. The boundaries separating each of the communities range from various roadway widths, railroad, and freeways. Future development within the Planning Area could create a physical division between established communities. This division could result from corridors that are planned for higher intensities of uses compared to existing uses. Land uses proposed under the approved General Plan include dense development along Bus Rapid Transit (BRT) Corridors including rehabilitation and new construction in the Downtown Planning Area and within established neighborhoods generally south of Herndon Avenue. As development intensifies and mixed-use infill is constructed along existing major roadways, corridors that have the potential to create a division between existing established communities include Ventura-Kings Canyon Road, Clovis Avenue, and Shaw Avenue. Development along these corridors would occur along existing roadways that would not result in new physical impediments that would divide established communities, but would enhance development that

could contribute to separations between established communities. The California Avenue corridor is not within an established community and therefore, would not create a division in an established community. Development along the Blackstone Avenue Corridor would not divide an established community because this roadway currently form a physical boundary that separates communities.

In addition, future development could create established communities within rural communities that are located in the outer areas of the Planning Area. Irregular rural patterns have constrained efficient development in the Planning Area and have created lifestyle conflicts between the existing rural residents and the newly developed suburban communities. It is anticipated that as future development in accordance with the approved General Plan expands within the rural areas, there could be continuing conflicts between existing and new land uses, which could create a division of existing rural established communities.

The approved General Plan includes objectives and policies to reduce the land use conflicts and provide for future orderly development to reduce the potential to divide established communities. For example, Policy UF-14-b would local roadways to be designed to connect throughout neighborhoods and large private developments with roadways and pathways to connect to existing adjacent development. This would serve to lessen the impact of dividing established communities by increasing or maintaining connectivity to the surrounding area. As described in Section 4.11.5.4, several other objectives and policies would apply, including Objective UF-8, Policies UF-12-a, UF-12-b, UF-12-d, UF-12-g, LU-1-b through LU-1-d, LU-1-e, LU-1-f, Objective LU-2, Policies LU-2-a, LU-2-e, Objective LU-4, Policies LU-5-a through LU-5-c, LU-5-g, LU-6-a, LU-6-c, LU-6-f, LU-8-a, D-1-j, Objective D-4, Policy D-4-f, Objective D-5, Policy D-5-a, and Objective D-7.

The objectives and policies provided above would reduce the potential to physically divide an established community to a less than significant level. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives listed above.

Level of Significance Without Mitigation: Less Than Significant Impact.

LU-2 The proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The proposed project includes text changes to the Mobility and Transportation Element, the Greenhouse Gas Reduction Plan Update, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and the Greenhouse Gas Reduction Plan Update would not result in any physical improvements or changes in the distribution or types of land uses that would result in impacts to land use and planning. However, impacts associated with the continued implementation of the approved General Plan are identified below.

Development in accordance with the approved General Plan would require consistency with various federal, State, and local plans, policies, and regulations. Many of the plans, policies, and regulations

are addressed in various locations within Chapter 4.0 of this Program EIR. Below is a discussion of certain land use plans, policies, and regulations that are applicable to future development in accordance with the approved General Plan.

Fresno County Airport Land Use Compatibility Plan. This ALUCP is intended to protect and promote the safety and welfare of residents, businesses, and airport users near the public use airports and Naval Air Station Lemoore in Fresno county, while supporting the continued operation of these facilities. Specifically, the plan seeks to: ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents; protect the public from the adverse effects of airport noise; and ensure that no structures or activities encroach upon, or adversely affect, the use of navigable airspace. The City of Fresno Development Code Priority of Plans section mentioned above (Section 15-104-B(4) clearly establishes the adopted Fresno County Airport Land Use Compatibility Plan as the plan that takes precedence over all of the City's other land use plans and the Development Code within the Airport Influence Areas defined in the Plan. In addition, a finding of consistency with the ALUCP is required for all entitlement approvals. All provisions of the ALUCP are required to be followed and take precedence over the City's land use plans. As a result, the potential conflicts with the ALUCP would be less than significant.

Federal Aviation Administration Federal Aviation Regulation Part 77. Future development in the vicinity of the three airports located within the Planning Area would be required to comply with Part 77 of the Federal Aviation Regulation (FAR) that defines airspace around civil airport. Implementation of Policy NS-5-a (see Section 4.11.5.4) within the approved General Plan would ensure consistency with this regulation. As a result, the potential conflicts with Federal Aviation Regulation Part 77 would be less than significant and no mitigation is required.

The Cortese-Knox-Hertzberg Local Government Reorganization Act. The approved General Plan includes various objectives and policies to provide for the future orderly growth and development of the Planning Area. The project includes retaining the sphere-of-influence boundary at its current location to prevent urban sprawl and impacting prime agricultural lands beyond the Planning Area. Since the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 governs the establishment and revision of local government boundaries, the continued implementation of the approved General Plan would provide for orderly growth to ensure that adequate services are available to serve the new development. The following policies within the approved General Plan would ensure consistency with the Act.

Relevant policies include Policy LU-1-c and Policies LU-1-e through LU-1-g, as described in Section 4.11.5.4. The continued implementation of these policies as development occurs would result in consistency with the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000.

California Land Conservation Act. Potential impacts associated with the Williamson Act are provided in Section 4.2, Agricultural Resources, of this Program EIR. The continued implementation of the General Plan could conflict with existing Williamson Act contracts because the majority of land under a Williamson Act contract in the Planning Area is designated for non-agricultural land uses under the approved General Plan. In order to reduce potential land use conflicts with existing Williamson Act contracts, the approved General Plan includes Objective RC-9 and Policies RC-9-a through RC-9-c (see Section 4.11.5.4), which would aim at limiting the premature conversion of

agricultural land within or adjacent to the Planning Area. The continued implementation of these policies as development occurs would result in consistency with the California Land Conservation Act. Therefore, impacts would be less than significant and no mitigation is required.

Fresno County Local Agency Formation Commission. As identified above, the approved General Plan includes policies to provide for the future orderly growth and development of the Planning Area. This orderly growth would be consistent with LAFCO's objectives to encourage orderly formation of local governmental agencies, preserve agricultural land resources and to discourage urban sprawl. Policies LU-1-a, LU-1-c, LU-1-e, and LU-1-g (see Section 4.11.5.4) within the approved General Plan result in consistency with LAFCO's general policies. Therefore, impacts would be less than significant and no mitigation is required.

City of Fresno Community Plans, Specific Plans, and Other Plans

Specific Plans and Community Plans approved after the approved General Plan was adopted in 2014 include:

- Downtown Neighborhoods Community Plan
- Fulton Corridor Specific Plan
- Southwest Fresno Specific Plan

Adoption of these plans also included amendment to the Planned Land Use Map (Figure LU-1) and the Dual Land Use Map (Figure LU-2) of the General Plan to maintain consistency. These plans have been subject to separate environmental impact assessment and impacts related to land use and planning were assessed in those documents, and mitigated as appropriate.

Therefore, the approved General Plan serves as a consolidated location for the implementation of current Community, Specific and other Plan types, and is consistent with the intent of the underlying purpose of the goals, policies and objectives of the portions of the Plans designed to avoid or mitigate environmental effects. While in a different format, the underlying goals, objectives, and policies serving as mitigation for applicable environmental effects have been carried forward, incorporated, or otherwise addressed in the approved General Plan. As such, continued implementation of the approved General Plan would not be inconsistent with these Plans, and potential impacts would be less than significant. No additional mitigation is required.

County of Fresno Land Use Element. The policies within the County of Fresno Land Use Element were reviewed to determine the consistency of the proposed project with the existing policies. As identified in Section 4.11.5.4 above, the County includes policies regarding development within the San Joaquin River Corridor to ensure adequate buffers are provided. Additional policies relate to planning and development within existing spheres-of-influence, orderly outward expansion of land uses, and minimization of potential land use conflicts. Furthermore, the County has policies related to cooperative planning between the City and the County. Based on a review of the County policies, the following policies within the approved General Plan would be consistent with the existing County policies and less than significant impacts would occur. No mitigation is required.

San Joaquin River Corridor. The County includes policies regarding the extraction of rock, sand, and gravel resources and buffers for development within the San Joaquin River Corridor. These include Policies LU-C.6 and LU-C.7. The continued implementation of Policies RC-10-b and LU-1-b (see Section 4.11.5.4) from the approved General Plan would result in land use consistency with the County's policies Impacts would be less than significant, and no mitigation is required.

Planning and Development. The County includes policies regarding planning and development within unincorporated areas. These policies include LU-G.1, LU-G.2, LU-G.7, and LU-G.11. The continued implementation of Policies LU-1-c, LU-1-e, LU-1-f, and LU-11-c (see Section 4.11.5.4) from the approved General Plan would result in land use consistency with the County's policies. Impacts would be less than significant, and no mitigation is required.

Orderly Outward Expansion. The County includes Policy LU-G.4, which encourages orderly outward expansion of urban development from city limits to unincorporated areas where the City has demonstrated a need for additional territory after documenting a good faith effort to implement an infill development program and minimize conversion of productive agricultural lands. The continued implementation of Policies LU-1-a, LU-1-c, and LU-1-g from the approved General Plan would result in land use consistency with the County's policies. Impacts would be less than significant, and no mitigation is required.

Minimization of Land Use Conflicts. The County includes policies regarding minimizing land use conflicts as development occurs. These include Policies LU-G.6 and LU-G.10. The continued implementation of Policy LU-1-b (see Section 4.11.5.4) from the approved General Plan would result in land use consistency with the County's policies, and potential impacts would be less than significant. No mitigation is required.

San Joaquin River Parkway Master Plan. The policies within the San Joaquin River Parkway Master Plan were reviewed to determine the consistency of the proposed project with the existing policies. As identified in Section 4.11.5, the Master Plan includes policies regarding development within the parkway and providing buffers. Based on a review of the Master Plan policies, the Policies RC-1-b, POSS-5-c, POSS-6-a, POSS-7-d, and LU-1-b (see Section 4.11.5.4) within the approved General Plan would be consistent with the existing Master Plan policies, and potential impacts would be less than significant. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.11.5.4, Local Land Use Plans and Policies.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.11.7.2 Cumulative Impacts

LU-3 The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to land use and planning.

As defined in Section 15130 of the *State CEQA Guidelines,* cumulative impacts are the incremental effects of an individual project when viewed in connection with the effects of past, current, and probable future projects within the cumulative impact area for land use. The cumulative impact area for land use for the proposed project is the Planning Area and surrounding areas including parts of Fresno County, Madera County, and Clovis. The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. The proposed Project would have a significant effect on the environment if, in combination with other projects, the proposed project would contribute to a significant cumulative impact related to land use and planning. Text changes to the Mobility and Transportation Element related to VMT analysis and the updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or changes in the distribution or types of land uses that would result in impacts related to land use and planning. However, impacts associated with the continued implementation of the approved General Plan are identified below.

The High Speed Rail project is a cumulative project that will be extended along the existing railroad tracks that currently separate communities within the Planning Area. The implementation of the High Speed Rail project would not separate established communities within the Planning Area due to the existing railroad tracks. Additionally, as identified above, the continued implementation of the approved General Plan would result in a less than significant impact related to the division of established communities with the continued implementation of the objectives and the policies within the approved General Plan. Therefore, the project's contribution to cumulative impacts associated with dividing established communities is not cumulatively considerable.

Development of cumulative projects in the vicinity of the Planning Area could have the potential to result in inconsistencies with the applicable policies and regulations established by the jurisdictions in which cumulative projects occur such as the County of Fresno. These potential inconsistencies could result in significant cumulative impacts related to conflicts with plans and policies within the jurisdictions of the proposed cumulative projects. However, as discussed above, the continued implementation of the approved General Plan would be consistent with federal, State, regional, and local plans. Since the continued implementation of the approved General Plan would be consistent with these plans, the potential environmental impacts associated with these plans from buildout of the approved General Plan would be considered less than significant. Therefore, the project and continued implementation of the approved General Plan would not result in a cumulatively considerable contribution to potential cumulative impacts. Therefore, the continued implementation of the approved General Plan would result in a less than cumulatively significant land use impact.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.11.5.4, Local Land Use Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

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4.12 MINERAL RESOURCES

4.12.1 Introduction

This section provides a discussion of the existing mineral resources in the Planning Area and in the surrounding area, and evaluates potential impacts that could result from continued implementation of the approved Fresno General Plan, text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan (proposed project).

4.12.2 CEQA Baseline

The City of Fresno (City) is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Travelled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the approved General Plan, explains that the PEIR will evaluate the continued implementation of the approved General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of SB 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the approved General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the approved General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. The approved General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the City's approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.12.3 Existing Environmental Setting

The study area for project impacts regarding mineral resources is the Planning Area because potential development under the City's approved General Plan is limited to areas within the Planning Area. As defined in Chapter 3.0, Project Description, the Planning Area is the geographic area for which the approved General Plan establishes policies about future growth. The Planning Area established by the City includes all areas within the city's current city limits, including the Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF), the areas within the current Sphere of Influence (SOI), and an area north of the city's most northeasterly portion of the city (referred to as the North Area).

Mineral resources, such as aggregate material, are necessary to support urban development, as all public and private projects utilize this material for roadway paving, structural elements, and hardscape, including sidewalks, curbing, and gutters. Within the Planning Area, mineral resources are concentrated along the San Joaquin River Corridor. The California Department of Mines and Geology classifies lands along the San Joaquin River Corridor as Mineral Resources Zones (MRZ) MRZ--1, MRZ-2, and MRZ-3; portions of the Planning Area classified as MRZ-2 indicate that mineral deposits are present or likely present.

The majority of the Planning Area within the existing city limits is urbanized, while areas located outside of the city limits but within the Planning Area are primarily rural. However, growth projections for the city's population indicate that demand for these aggregate materials will continue to increase as development occurs. Protection of mineral resources in the Planning Area is intended to assure that cost-effective locally available mineral resources (such as rock, gravel, and sand for concrete aggregate) are protected for future use by the construction industry.

Over time, the city's urbanized area has extended closer to classified mineral resource areas. This urbanization has caused land uses which are generally incompatible with surface mining and associated mineral processing activities to threaten opportunities for mineral extraction and processing. As discussed in Section 4.12.5, Regulatory Setting, the City regulates mining operations through objectives and policies identified in the approved General Plan, as well as the Surface Mining and Reclamation Ordinance. Regulation of mining operations in the Planning Area is intended to ensure that extraction of these resources is undertaken in a responsible manner that provides for beneficial end uses of surface mining sites.

4.12.4 Methodology

Consistent with the objectives of a programmatic EIR, the potential project-related impacts related to mineral resources were evaluated on a qualitative basis. Qualitative impacts were assessed by evaluating the project's potential for impacting mineral resources within the Planning Area based on mineral resources zones classified by the Surface Mining and Reclamation Act (SMARA).

4.12.5 Regulatory Setting

4.12.5.1 Federal Policies and Regulations

No federal policies or regulations pertaining to mineral resources are applicable to the proposed project.

4.12.5.2 State Policies and Regulations

Surface Mining and Reclamation Act. In 1975, the California Legislature enacted the Surface Mining and Reclamation Act (SMARA), which, among other things, provided guidelines for the classification and designation of mineral lands. Areas are classified on the basis of geologic factors without regard to existing land use and land ownership. The areas are categorized into four Mineral Resource Zones (MRZs):

- **MRZ-1:** An area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-2:** An area where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- **MRZ-3:** An area containing mineral deposits, the significance of which cannot be evaluated.
- **MRZ-4:** An area where available information is inadequate for assignment to any other MRZ zone.

Of the four categories, lands classified as MRZ-2 are of the greatest importance. Such areas are underlain by demonstrated mineral resources or are located where geologic data indicate that significant measured or indicated resources are present. MRZ-2 areas are designated by the State of California Mining and Geology Board as being "regionally significant." Such designations require that a Lead Agency's land use decisions involving designated areas are to be made in accordance with its mineral resource management policies and that it consider the importance of the mineral resource to the region or the State as a whole, not just to the Lead Agency's jurisdiction.

4.12.5.3 Local Policies and Regulations

City of Fresno General Plan. The approved General Plan is a set of policies and programs that form a blueprint for the physical development of the city. For a description of each of the elements within the approved General Plan, refer to Chapter 3.0, Project Description. The following goals and policies related to mineral resources are presented in the approved General Plan:

Resource Conservation and Resilience Element

Objective RC-10. Conserve aggregate mineral resources within the Planning Area, as identified by the Division of Mines and Geology, and allow for responsible extraction to meet Fresno's needs.

Policy RC-10-a: Meet Future Needs. Adopt land use and resource protection regulations that support mining of the high-quality, close-to-market aggregate resources to meet the needs of the Fresno Production-Consumption Region.

Policy RC-10-b: Zoning in San Joaquin Riverbottom. Maintain zoning consistent with on-going mineral extraction in the San Joaquin Riverbottom that also allows multiple open space uses in conformance with State law and the City's Surface Mining Ordinance.

Policy RC-10-c: Processing-Mining Link. Accommodate only those mineral processing activities in the San Joaquin Riverbottom that are associated and co-located with mining operations when such industrial activities will sunset with the mining operation and do not stimulate unplanned growth or conversion of multi-use open space to urban uses.

Policy RC-10-d: Manage MRZ-2 Areas. Prohibit land uses and development projects that preclude mineral extraction in potential high-quality mineral resource areas designated MRZ-2 by the California Department of Conservation Division of Mines and Geology.

Policy RC-10-e: Existing Permits. Honor surface mining permits approved by the County of Fresno upon annexation, provided that the mining operation is in compliance with the terms of its current permit(s) and State law. Require new permit applications in the event of noncompliance, permit expiration, or permit revocation, and ensure compliance with law or regulations.

Policy RC-10-f: Cooperate on Uniform Criteria. Work with the County of Fresno, the County of Madera, and the City of Clovis to develop uniform criteria applicable to existing, new, and altered mineral extraction sites in the San Joaquin Riverbottom.

City of Fresno Surface Mining and Reclamation Ordinance. The City's Surface Mining and Reclamation Ordinance (Section 12-5.5 of the Municipal Code) is intended to protect and allow recovery of mineral deposits in the Planning Area. Protection and recovery of mineral deposits is prioritized in order to promote the continued economic well-being of the city. However, since mining and mineral processing activities can have substantial adverse environmental impacts, the Surface Mining and Reclamation Ordinance allows the City to mitigate environmental impacts, if necessary, because discretionary projects are evaluated for project-specific impacts related to mineral resources at the time they are proposed. In general, the purpose of the Surface Mining and Reclamation Ordinance is to maximize recovery of mineral resources while also minimizing threats to the public health and safety, potential environmental damage, and nuisance effects of mining and mineral processing activities.

4.12.6 Significance Criteria

The thresholds for impacts to mineral resources used in this analysis are consistent with Appendix G of the *State CEQA Guidelines.* The proposed project may be deemed to have a significant impact with respect to mineral resources if it would:

MIN-1 Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

MIN-2 Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

4.12.7 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to mineral resources that could result from continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and the updates to the Greenhouse Gas Reduction Plan. Future discretionary projects facilitated by the proposed project will be evaluated for project-specific mineral resource impacts at the time they are proposed. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with continued implementation of the approved General Plan and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less than significant level. Cumulative impacts are also addressed.

4.12.7.1 Project Impacts

The following discussion describes the potential impacts related to mineral resources that could result from continued implementation of the approved General Plan, implementation of the text changes to the Mobility and Transportation Element, and the updates to the Greenhouse Gas Reduction Plan. This programmatic EIR contemplates continued implementation of the General Plan; future discretionary projects facilitated by the proposed project will be evaluated for project-specific impacts to mineral resources at the time they are proposed.

MIN-1 The proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and the updates to the Greenhouse Gas Reduction Plan includes an update to the greenhouse gas emissions inventory for the City, and a series of recommended reduction measures, such as consideration of project design features, to demonstrate consistency with the Greenhouse Gas Reduction Plan Update Consistency Checklist. Updates to the Greenhouse Gas Reduction Plan do not change the distribution or intensity of land uses and, therefore, would not result in any physical improvements that would result in impacts to mineral resources in the Planning Area. However, impacts associated with the continued implementation of the approved General Plan are identified below.

Within the Planning Area, mineral resources are concentrated along the San Joaquin River Corridor. The California Department of Mines and Geology classifies lands along the San Joaquin River Corridor as MRZ-1, MRZ-2, and MRZ-3; portions of the Planning Area classified as MRZ-2 indicate that mineral deposits are present or are likely present.

The mineral resources present in the Planning Area are comprised of aggregate materials and are being removed via surface mining operations. Due to the zoning and General Plan designations in these areas, current mining operations in the Planning Area are considered legal non-conforming uses, and it is anticipated that these uses will continue until the resources are substantially removed and it is no longer economically feasible to mine the areas. The approved General Plan designates these areas as Open Space, and mining activities require City approval of a conditional use permit,

which would help limit development in areas designated MRZ-2 and preserve these areas for the extraction of mineral deposits. Further, enforcement of the City's Surface Mining and Reclamation Ordinance would ensure that impacts to mineral resources remain less than significant.

The City's approved General Plan contains the following objectives and policies aimed at limiting impacts to mineral resources:

> ***Objective RC-10.*** Conserve aggregate mineral resources within the Planning Area, as identified by the Division of Mines and Geology, and allow for responsible extraction to meet Fresno's needs.
>
> > **Policy RC-10-a: Meet Future Needs.** Adopt land use and resource protection regulations that support mining of the high-quality, close-to-market aggregate resources to meet the needs of the Fresno Production-Consumption Region.
> >
> > **Policy RC-10-b: Zoning in San Joaquin Riverbottom.** Maintain zoning consistent with on-going mineral extraction in the San Joaquin Riverbottom that also allows multiple open space uses in conformance with State law and the City's Surface Mining Ordinance.
> >
> > **Policy RC-10-c: Processing-Mining Link.** Accommodate only those mineral processing activities in the San Joaquin Riverbottom that are associated and co-located with mining operations when such industrial activities will sunset with the mining operation and do not stimulate unplanned growth or conversion of multi-use open space to urban uses.
> >
> > **Policy RC-10-d: Manage MRZ-2 Areas.** Prohibit land uses and development projects that preclude mineral extraction in potential high-quality mineral resource areas designated MRZ-2 by the California Department of Conservation Division of Mines and Geology.
> >
> > **Policy RC-10-e: Existing Permits.** Honor surface mining permits approved by Fresno County upon annexation, provided that the mining operation is in compliance with the terms of its current permit(s) and State law. Require new permit applications in the event of noncompliance, permit expiration, or permit revocation, and ensure compliance with law or regulations.
> >
> > **Policy RC-10-f: Cooperate on Uniform Criteria.** Work with Fresno County, Madera County, and the City of Clovis to develop uniform criteria applicable to existing, new, and altered mineral extraction sites in the San Joaquin Riverbottom.

Implementation of the above objective and policies, as well at enforcement of the City's Surface Mining and Reclamation Ordinance, would reduce impacts to mineral resources. Further, portions of the Planning Area designated MRZ-2 located along the San Joaquin River Corridor would be preserved for mineral extraction due to the General Plan Open Space designation. As a result, future development under the approved General Plan would result in less than significant impacts to mineral resources. Therefore, continued implementation of the approved General Plan would not result in the loss of availability of a known mineral resource that would be of value to the region and

the residents of the state. No mitigation is required. **Applicable Laws, Regulations, Relevant Land Use Policies**

- Surface Mining and Reclamation Act
- Surface Mining and Reclamation Ordinance
- Refer to the approved General Plan policies and objectives identified in Section 4.12.5.3, Local Policies and Regulations, above

Level of Significance Without Mitigation: Less Than Significant Impact.

MIN-2 The proposed project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and updates to the Greenhouse Gas Reduction Plan would not change the distribution or intensity of land uses and, therefore, would not result in any physical improvements that would result in impacts to mineral resources in the Planning Area. However, impacts associated with the continued implementation of the approved General Plan are identified below.

Refer to Impact Discussion MIN-1. Current mining activities in the Planning Area are expected to continue in mineral resource areas containing aggregate materials. With continued implementation of General Plan Objective RC-10 and Policies RC-10-a through RC-10-f, future development under the approved General Plan would result in less than significant impacts to mineral resources. Further, portions of the Planning Area designated MRZ-2 located along the San Joaquin River Corridor would be preserved for mineral extraction due to the General Plan Open Space designation. Therefore, continued implementation of the approved General Plan would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. No mitigation is required.**Applicable Laws, Regulations, Relevant Land Use Policies:**

- Surface Mining and Reclamation Act
- Surface Mining and Reclamation Ordinance
- Refer to the approved General Plan policies and objectives identified in Section 4.12.5.3, Local Policies and Regulations, above

Level of Significance Without Mitigation: Less Than Significant Impact.

4.12.7.2 Cumulative Impacts

MIN-3 The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to mineral resources.

The study area for the analysis of cumulative impacts to mineral resources is the Planning Area and the portions of Fresno county located outside the Planning Area as well as portions of the city of Clovis and the county of Madera that contain mineral resources. This analysis will be based on a summary of projections approach as provided in Section 15130(b)(1)(B) of the *State CEQA Guidelines.*

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements that would result in cumulative impacts to mineral resources. However, impacts associated with the continued implementation of the approved General Plan are identified below.

Cumulative development located outside of the Planning Area, such as development that would occur within the city of Clovis, the county of Fresno, and the county of Madera, would not result in the potential to impact mineral resources. The entire city of Clovis is classified as MRZ-3, indicating that mineral deposits are present, but the significance cannot be determined from available data. The northern portions of the San Joaquin River Corridor fall within Madera county. As discussed in Impact Discussion MIN-1, the California Department of Mines and Geology classifies lands along the San Joaquin River Corridor as MRZ-1, MRZ-2, and MRZ-3; portions of the Planning Area classified as MRZ-2 indicate that mineral deposits are present or likely present. The County of Madera Municipal Code contains the Surface Mining and Reclamation of Mined Lands Ordinance (Title 19), which is similar to the City of Fresno's Surface Mining and Reclamation Ordinance discussed above. Enforcement of the County's Ordinance related to surface mining would ensure that impacts to mineral resources remain less than significant. Within Fresno county, the Kings River Resource Area (southeast of the Planning Area) is another area rich with mineral deposits (lands in this area are primarily classified as MRZ-2). The Kings River area is currently being used for mining operations and mineral extraction. As required by Fresno County's Municipal Code (Section 17.04.110), all subdivisions within a quarter-mile of an MRZ-2 must include a condition within the subdivision map stating that residents may experience inconveniences and discomfort associated with the operations involved in the extraction of mineral resources. With enforcement of the above regulations, the proposed project, in combination with past, present, and reasonably foreseeable projects in both the Planning Area and the areas surrounding the Planning Area, would result in less than significant cumulative impacts to mineral resources. Therefore, future development in accordance with the continued implementation of the approved General Plan would result in less than cumulative significant impacts with respect to mineral resources.

Applicable Laws, Regulations, Relevant Land Use Policies:

- Surface Mining and Reclamation Act
- Surface Mining and Reclamation Ordinance
- Refer to the approved General Plan policies and objectives identified in Section 4.12.5.3, Local Policies and Regulations, above

Level of Significance Without Mitigation: Less Than Significant Impact.

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4.13 NOISE

4.13.1 Introduction

This section provides a discussion of the existing noise environment in the Planning Area and in the surrounding area, and evaluates the potential for changes in noise that could result from the continued implementation of the approved Fresno General Plan, text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan (proposed project).

4.13.2 CEQA Baseline

The City of Fresno (City) is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Travelled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the approved General Plan, explains that the PEIR will evaluate the continued implementation of the approved General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of SB 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the approved General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the approved General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. The approved General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the City's approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.13.3 Methodology

4.13.3.1 Characteristics of Sound

Noise is usually defined as unwanted sound and consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally related to annoyance, while loudness can affect our ability to hear through hearing damage. Pitch is the number of complete vibrations, or cycles per second, of a wave, resulting in the tone's range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment and is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves, combined with the reception characteristics of the human ear. Sound pressure refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be measured precisely with instruments. The project analysis defines the noise environment of the planning area in terms of sound pressure levels and the project's effect on sensitive land uses.

4.13.3.2 Measurement of Sound

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. Table 4.13-1 contains a list of typical acoustical terms and definitions. Figure 4.13-1 shows representative outdoor and indoor noise levels in units of dBA.

A decibel (dB) is a unit of measurement which indicates the relative intensity of a sound. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. Audible increases in noise levels generally refer to a change of 3 dB or more, as this level has been found to be barely perceptible to the human ear in outdoor environments. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense, 30 dB is 1,000 times more intense. Each 10-dB increase in sound level is perceived as approximately a doubling of loudness.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise sensitive receptor of concern.

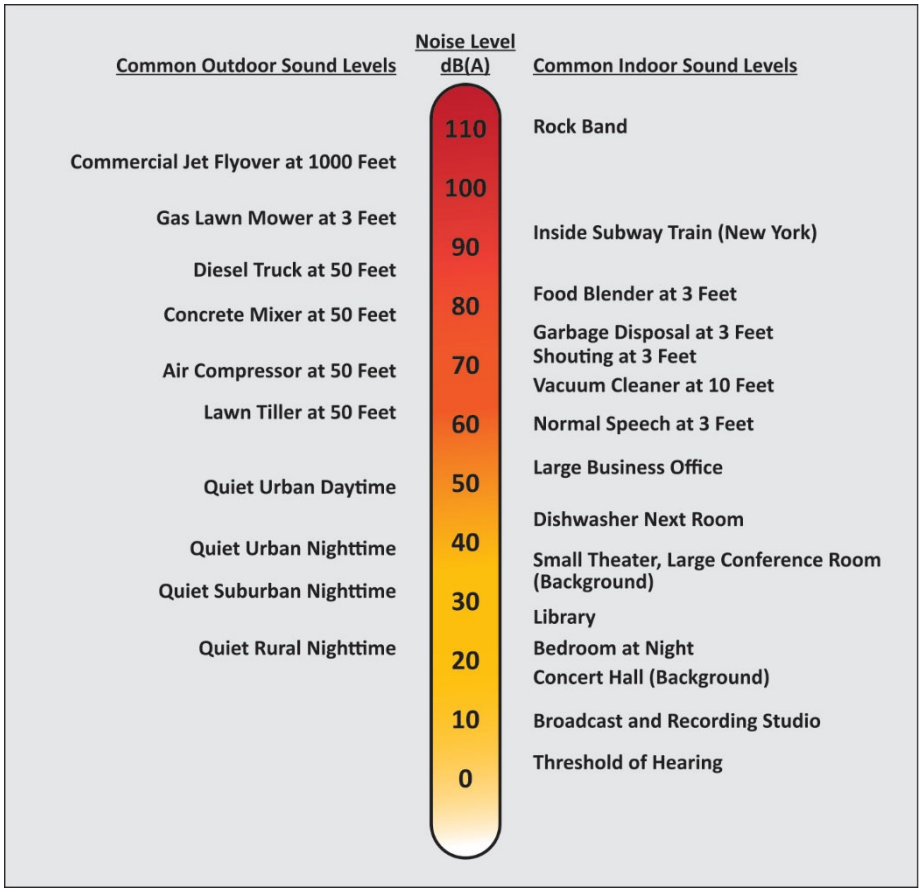
Table 4.13-1: Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit of level that denotes the ratio between two quantities proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of five decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L_{max}, L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Harris, Cyril. *Handbook of Acoustical Measurements and Noise Control* (1998).

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq}, the community noise equivalent level (CNEL), and the day-night average level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours. CNEL and L_{dn} are within one dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours. Typical A-weighted sound levels from various sources are described in Figure 4.13-1.

Figure 4.13-1: Typical A-Weighted Sound Levels



Source: Compiled by LSA (2016).

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by L_{max} for short-term noise impacts. L_{max} reflects peak operating conditions, and addresses the annoying aspects of intermittent noise.

Noise standards in terms of percentile exceedance levels, L_n, are often used together with the L_{max} for noise enforcement purposes. When specified, the percentile exceedance levels are not to be exceeded by an offending sound over a stated time period. For example, the L_{10} noise level represents the level exceeded ten percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the lowest noise level experienced during a monitoring period. It is normally referred to as the background noise level. For a relatively steady noise, the measured L_{eq} and L_{50} are approximately the same.

Noise impacts can be described in three categories. The first is audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 dBA or greater, since, as described earlier, this level of noise change has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1.0 and 3.0 dBA. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1.0 dBA that are inaudible to the human ear. A change in noise level of at least 5 dBA would be required before any noticeable change in human response would be expected and a 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response. Only audible changes in existing ambient or background noise levels are considered potentially significant.

4.13.3.3 Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure (typically more than 8 hours, as defined by the Occupational Safety and Health Administration [OSHA]) to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions (thereby, affecting blood pressure and functions of the heart and the nervous system). In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear, even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 160 to 165 dBA will result in dizziness or loss of equilibrium.

4.13.3.4 Vibration

Vibration refers to groundborne noise and perceptible motion. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors, where the motion may be discernible, but without the effects associated with the shaking of a building there is less adverse reaction. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as motion of building surfaces, rattling of items on shelves or hanging on walls, or a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Building damage is not a factor for normal transportation projects, including rail projects, with the occasional exception of blasting and pile driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less. This is an order of magnitude below the damage threshold for normal buildings.

To distinguish vibration levels from noise levels, the unit is written as “vibration velocity decibels” (VdB). Human perception to vibration starts at levels as low as 67 VdB and sometimes lower. Annoyance due to vibration in residential settings starts at approximately 70 VdB. Groundborne vibrations are almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of the building, the motion does not provoke the same adverse human reaction.

Typical sources of groundborne vibration are construction activities (e.g., blasting, pile driving and operating heavy-duty earthmoving equipment), steel-wheeled trains, and occasional traffic on rough roads. Problems with groundborne vibration and noise from these sources are usually localized to areas within approximately 100 feet (ft) of the vibration source, although there are examples of groundborne vibration causing interference out to distances greater than 200 ft.[1] When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. Groundborne noise is not likely to be a problem because noise arriving via the normal airborne path usually will be greater than groundborne noise.

Groundborne vibration has the potential to disturb people as well as damage buildings. Although it is very rare for train-induced groundborne vibration to cause even cosmetic building damage, it is not uncommon for construction processes such as blasting and pile driving to cause vibration of sufficient amplitudes to damage nearby buildings.[2] Groundborne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV).

Factors that influence groundborne vibration and noise include the following:

- **Vibration Source:** Vehicle suspension, wheel types and condition, track/roadway surface, track support system, speed, transit structure, and depth of vibration source
- **Vibration Path:** Soil type, rock layers, soil layering, depth to water table, and frost depth
- **Vibration Receiver:** Foundation type, building construction, and acoustical absorption

Among the factors listed above, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of groundborne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock.

Experience with groundborne vibration indicates that: (1) vibration propagation is more efficient in stiff, clay soils than in loose, sandy soils; and (2) shallow rock seems to concentrate the vibration energy close to the surface and can result in groundborne vibration problems at large distances from the source. Factors such as layering of the soil and depth to the water table can have significant effects on the propagation of groundborne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils.

In extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. For buildings considered of particular historical significance or that are particularly fragile

[1] Federal Railroad Administration. 2012. *High-Speed Ground Transportation Noise and Vibration Impact Assessment.* September.

[2] Ibid.

structures, the damage threshold is approximately 96 VdB; the damage threshold for other structures is 100 VdB.[3]

4.13.4 Existing Environmental Setting

The study area for project impacts regarding noise is the City of Fresno Planning Area and the immediate surrounding areas including the county of Fresno, county of Madera, and city of Clovis because potential development under the proposed project could affect areas inside and outside the Planning Area.

The study area for the analysis of cumulative noise impacts is similar to the study area for project impacts. The study area for cumulative noise impacts is the City of Fresno Planning Area and the immediate surrounding county of Fresno, county of Madera, and city of Clovis areas because cumulative development in the areas immediately surrounding the City of Fresno Planning Area could combine with development under the proposed project and result in cumulative noise impacts.

4.13.4.1 Existing Noise Levels

Generally, the three primary sources of substantial noise that affect the city of Fresno and its residents are all transportation-related and consist of local streets and regional highways; airport operations at the Fresno Yosemite International, the Fresno-Chandler Downtown, and the Sierra Sky Park Airports; and railroad operations along the Burlington Northern Santa Fe (BNSF) Railway and the Union Pacific Railroad lines.

The existing noise conditions in the Planning Area were measured at nine locations from May 30 to June 1, 2012. Noise monitoring sites were selected to be representative of typical residential, commercial, and industrial sites within the Planning Area, as well as arterial roadways, elevated and below-grade freeways, and railroad crossings with and without train horn soundings. At each of the nine long-term 24-hour noise monitoring sites, day-night statistical noise level trends were recorded to develop DNL values. Descriptions of each location and the measured noise levels are provided in Table 4.13-2.

Table 4.13-2: Measured Existing Noise Levels from Approved General Plan

Location	Distance from Noise Source Centerline (feet)	Measured Noise Level (dBA L_{dn})
Railroad crossing at Shields Avenue	100	84
Along Railroad near W Barstow Avenue	100	74
SR 41 between W Barstow Avenue and W Shaw Avenue	100	76
SR 180 near N Peach Avenue	100	76
E Shaw Avenue near N Cedar Avenue	100	72
N Blackstone Avenue near E Ashlan Avenue	100	70
S Elm Avenue near E Jensen Avenue	100	68
N Valentine Avenue between W Ashlan Avenue and W Holland Avenue	100	67
S Fruit Avenue north of Church Avenue	100	65

Source: City of Fresno General Plan (2014).

[3] Harris, C.M. 1998. *Handbook of Acoustical Measurements and Noise Control*.

4.13.4.2 Roadways

Those areas in the city that experience sound levels greater than 60 dBA L_{dn} are typically near major vehicular traffic corridors. Highway traffic noise levels typically depend on three factors: (1) the volume of traffic, (2) the average speed of traffic, and (3) the vehicle mix (i.e., the percentage of trucks versus automobiles in the traffic flow). Vehicle noise includes noises produced by the engine, exhaust, tires, and wind generated by taller vehicles. Other factors that affect the perception of traffic noise include the distance from the highway, terrain, vegetation, and natural and structural obstacles. While tire noise from automobiles is generally located at ground level, truck noise sources can be located as high as 10 to 15 feet above the roadbed due to tall exhaust stacks and higher engines.

Freeway traffic is the dominant noise source in Fresno. The freeways in Fresno consist of State Route 41 (SR-41), which has approximately 129,469 vehicles per day, State Route 99 (SR-99), which has approximately 107,105 vehicles per day, State Route 68 (SR-68), which has approximately 104,468 vehicles per day and State Route 180 (SR-180), which has approximately 124,142 vehicles per day. Although most noise sensitive land uses adjacent to these freeways are mitigated by existing sound walls, topography or buildings, there are still some noise sensitive land uses that currently exceed the City's 60 dBA L_{dn} noise standard. In addition to the freeways, there are places throughout the city where traffic volumes on every roadway classification are high enough to create noise levels that currently exceed the City's 60 dBA L_{dn} noise standard at the sensitive land uses.

Airport Operations. There are currently three airports located within the city of Fresno and consist of Fresno Yosemite International Airport, Fresno-Chandler Downtown Airport (also known as the "Fresno-Chandler Executive Airport"), and Sierra Sky Park Airport. CNEL Noise contours have been developed and are provided in the Land Use Policy Plan prepared for the airport (refer to Section 4.13.5.3, Local Regulations and Policies, below). The Airport Land Use Compatibility Plan includes CNEL noise contours based on projected airport and aircraft operations. These noise contours are used to determine land use compatibility and locations for noise mitigation measures.

Commercial jet aircraft operations are limited to the Fresno Yosemite International Airport. The Air National Guard is also stationed there and operates military jets and other aircraft. Private and commercial operations with smaller aircraft use the Fresno Chandler Downtown Airport, while only small private aircraft use the Sierra Sky Park Airport.

Railroad Operations. The two major rail lines that traverse the city are the Union Pacific Railroad line, which is generally located along SR-99, and the BNSF Railway, which diverges from SR-99 in the southwest and travels through downtown (behind City Hall) to the northwest. The Union Pacific line is generally located within a heavy commercial and industrial corridor, although residential uses occur in the vicinity of the line north of Shaw Avenue. The Union Pacific line limits its use to only freight traffic.

South of the Downtown, the BNSF Railway is bound by industrial uses, while north of the Downtown the line is generally located within a residential area. The BNSF Railway carries both freight and passenger traffic (Amtrak).

Stationary Noise Sources. Stationary noise sources can also have an effect on the population, and unlike mobile, transportation-related noise sources, these sources generally have a more permanent and consistent impact on people. These stationary noise sources involve a wide spectrum of uses and activities, including various industrial uses, commercial operations, agricultural production, school playgrounds, high school football games, HVAC units, generators, lawn maintenance equipment, and swimming pool pumps.

Even with incorporation of the best available noise control technology, noise emanating from industrial uses can be substantial and exceed local noise standards. These noise sources can be continuous and may contain tonal components that may be annoying to nearby receptors. Although industrial uses in the city of Fresno are typically located in industrial districts near freeways and commercial uses, and away from residences and other sensitive noise receptors, noise sources associated with commercial uses such as automotive repair facilities, recycling centers, and loading docks may occur in the vicinity of residential uses.

4.13.5 Regulatory Setting

The Planning Area encompasses the city of Fresno and its sphere of influence (SOI). Noise regulations are addressed through the efforts of various federal, State, and local government agencies. The agencies responsible for regulating noise are discussed below.

4.13.5.1 Federal Policies and Regulations

United States Environmental Protection Agency. In 1972, Congress enacted the United States Noise Control Act. This act authorized the United States Environmental Protection Agency (USEPA) to publish descriptive data on the effects of noise and establish levels of sound "requisite to protect the public welfare with an adequate margin of safety." These levels are separated into health (hearing loss levels) and welfare (annoyance levels). For protection against hearing loss, 96 percent of the population would be protected if sound levels are less than or equal to 70 dBA during a 24-hour period of time. At 55 dBA L_{dn}, 95 percent sentence clarity (intelligibility) may be expected at 11 ft, with no community reaction. However, 1 percent of the population may complain about noise at this level and 17 percent may indicate annoyance. The USEPA cautions that these identified levels are guidelines, not standards.[4]

Federal Vibration Impact Standards. Vibration impact criteria included in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual[5] are used in this analysis for groundborne vibration impacts on human annoyance, as shown in Table 4.13-3. The criteria presented in Table 4.13-4 account for variation in project types as well as the frequency of events, which differ widely among projects. It is intuitive that when there will be fewer events per day, it should take higher vibration levels to evoke the same community response.

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4 U.S. Environmental Protection Agency. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*.

5 Federal Transit Administration. 2018. Office of Planning and Environment. *Transit Noise and Vibration Impact Assessment*. September.

Table 4.13-3: Groundborne Vibration and Noise Impact Criteria

Land Use Category	Groundborne Vibration Impact Levels (VdB re 1 micro-inch/sec)		Groundborne Noise Impact Levels (dB re 20 micro-Pascals)	
	Frequent [1] Events	Infrequent [2] Events	Frequent [1] Events	Infrequent [2] Events
Category 1: Buildings in which low ambient vibration is essential for interior operations (i.e., vibration-sensitive manufacturing, hospitals with vibration sensitive equipment, and university research operation).	65 VdB[3]	65 VdB[3]	--[4]	--[4]
Category 2: Residences and buildings in which people normally sleep.	72 VdB	80 VdB	35 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime uses.	75 VdB	83 VdB	40 dBA	48 dBA

Source: Federal Transit Administration (FTA). *Transit Noise and Vibration Impact Assessment Manual* (September 2018).

[1] Frequent events are defined as more than 70 events per day.

[2] Infrequent events are defined as fewer than 70 events per day.

[3] This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

[4] Vibration-sensitive equipment is not sensitive to groundborne noise.

dB = decibels
dBA = A-weighted decibels
HVAC = heating, ventilation, and air conditioning
inch/sec = inch(es) per second
re = relative
VdB = vibration velocity decibels

This is accounted for in the criteria by distinguishing between projects with frequent and infrequent events, in which the term “frequent events” is defined as more than 70 events per day.

4.13.5.2 State Regulations and Policies

The State of California has established regulations that help prevent adverse impacts to occupants of buildings located near noise sources. Referred to as the *State Noise Insulation Standard*, it requires buildings to meet performance standards through design and/or building materials that would offset any noise source in the vicinity of the receptor. State regulations include requirements for the construction of new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings that are intended to limit the extent of noise transmitted into habitable spaces. These requirements are found in the California Code of Regulations, Title 24 (known as the Building Standards Administrative Code), Part 2 (known as the California Building Code), Appendix Chapters 12 and 12A. For limiting noise transmitted between adjacent dwelling units, the noise insulation standards specify the extent to which walls, doors, and floor-ceiling assemblies must block or absorb sound. For limiting noise from exterior noise sources, the noise insulation standards set an interior standard of 45 dBA CNEL in any habitable room with all doors and windows closed. In addition, the standards require preparation of an acoustical analysis demonstrating the manner in which dwelling units have been designed to meet this interior standard, where such units are proposed in an area with exterior noise levels greater than 60 dBA CNEL.

In addition, Chapter 5, Section 5.507 of the California Green Building Standards Code includes nonresidential mandatory measures, which require that buildings exposed to a noise level of 65 dB

L_{eq}-1-hour during any hour of operation shall have building, addition, or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite Sound Transmission Class (STC) rating of at least 45 (or Outdoor/Indoor Transmission Class [OITC] 35) with exterior windows of a minimum STC of 40 (or OITC 30).

The State has also established land use compatibility guidelines for determining acceptable noise levels for specified land uses.

4.13.5.3 Local Regulations and Policies

The following is a summary of the applicable policies included in the City's approved General Plan and Municipal Code that are related to noise and applicable to the proposed project.

City of Fresno General Plan. The approved General Plan is a set of policies and programs that form a blueprint for the physical development of the city. For a description of each of the elements within the approved General Plan, refer to Chapter 3.0, Project Description. The following objectives and policies related to noise are presented in the Noise Element of the approved General Plan. In addition, the Noise Element sets noise standards for transportation and stationary noise sources as shown in Table 4.13-4 and Table 4.13-5 below.

Noise Element

Table 4.13-4: Transportation (Non-Aircraft) Noise Sources

Noise-Sensitive Land Use[1]	Outdoor Activity Areas[2]	Interior Spaces	
	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{eq} dB[2]
Residential	65	45	-
Transient Lodging	65	45	-
Hospitals, Nursing Homes	65	45	-
Theaters, Auditoriums, Music Halls	-	-	35
Churches, Meeting Halls	65	-	45
Office Buildings	-	-	45
Schools, Libraries, Museums	-	-	45

Source: City of Fresno General Plan (2014).

[1] Where the location of outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.

[2] As determined for a typical worst-case hour during periods of use.

Table 4.13-5: Stationary Noise Sources

	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly Equivalent Sound Level (L_{eq}), dBA	50	45
Maximum Sound Level (L_{max}), dBA	70	60

Source: City of Fresno General Plan (2014).

[1] The Planning and Development Director, on a case-by-case basis, may designate land uses other than those shown in this table to be noise-sensitive, and may require appropriate noise mitigation measures.

[2] As determined at outdoor activity areas. Where the location of outdoor activity areas is unknown or not applicable, the noise exposure standard shall be applied at the property line of the receiving land use. When ambient noise levels exceed or equal the levels in this table, mitigation shall only be required to limit noise to the ambient plus five dB.

Objective NS-1. Protect the citizens of the City from the harmful and annoying effects of exposure to excessive noise.

Policy NS-1-a: Desirable and Generally Acceptable Exterior Noise Environment. Establish 65 dBA Ldn or CNEL as the standard for the desirable maximum average exterior noise levels for defined usable exterior areas of residential and noise-sensitive uses for noise, but designate 60 dBA Ldn or CNEL (measured at the property line) for noise generated by stationary sources impinging upon residential and noise-sensitive uses. Maintain 65 dBA Ldn or CNEL as the maximum average exterior noise levels for non-sensitive commercial land uses, and maintain 70 dBA Ldn or CNEL as maximum average exterior noise level for industrial land uses, both to be measured at the property line of parcels where noise is generated which may impinge on neighboring properties.

Commentary: The Noise Ordinance will define usable exterior areas for single family and multiple family residential and noise sensitive uses to include rear yards and other outdoor areas intended to accommodate leisure or active use, excluding front or side yard areas, and front or side porches. Balconies or roof decks facing front and side yards shall be included in designated areas to be protected from noise where these spaces are used to calculate compliance with required outdoor living area as required by adopted development standards.

Policy NS-1-b: Conditionally Acceptable Exterior Noise Exposure Range. Establish the conditionally acceptable noise exposure level range for residential and other noise sensitive uses to be 65 dB Ldn or require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the desirable and conditionally acceptable exterior noise level and the required interior noise level standards set in Table 9-2.

Policy NS-1-c: Generally Unacceptable Exterior Noise Exposure Range. Establish the exterior noise exposure of greater than 65 dB Ldn or CNEL to be generally unacceptable for residential and other noise sensitive uses for noise generated by sources in Policy NS-1-a, and study alternative less noise-sensitive uses for these areas if otherwise appropriate. Require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the generally desirable or generally acceptable exterior noise level and the required 45 dB interior noise level standards set in Table 9-2 as conditions of permit approval.

Policy NS-1-d: Allowable Exterior Noise Environment for BRT and Activity Centers. Exclude residential and noise sensitive uses located along Bus Rapid Transit corridors or within Activity Centers identified by this General Plan, from exterior noise standards in Policies NS-1-a through NS-1-c where it is determined application of noise mitigation measures will be detrimental to the realization of the General Plan's mixed use policies.

Commentary: Interior noise level standards of Table 9-2 will still apply.

Policy NS-1-e: Update Noise Ordinance. Update the Noise Ordinance to ensure that noise exposure information and specific standards for both exterior and interior noise and measurement criteria are consistent with this General Plan and changing conditions within the city and with noise control regulations or policies enacted after the adoption of this element.

Policy NS-1-f: Performance Standards. Implement performance standards for noise reduction for new residential and noise sensitive uses exposed to exterior community noise levels from transportation sources above 65 dB Ldn or CNEL, as shown on Figure NS-3: Future Noise Contours, or as identified by a project-specific acoustical analysis based on the target acceptable noise levels set in Tables 9-2 and Policies NS-1-a through NS-1-c.

Policy NS-1-g: Noise mitigation measures which help achieve the noise level targets of this plan include, but are not limited to, the following:

- Façades with substantial weight and insulation;
- Installation of sound-rated windows for primary sleeping and activity areas;
- Installation of sound-rated doors for all exterior entries at primary sleeping and activity areas;
- Greater building setbacks and exterior barriers;
- Acoustic baffling of vents for chimneys, attic and gable ends;
- Installation of mechanical ventilation systems that provide fresh air under closed window conditions.

The aforementioned measures are not exhaustive and alternative designs may be approved by the City, provided that a qualified Acoustical Consultant submits information demonstrating that the alternative design(s) will achieve and maintain the specific targets for outdoor activity areas and interior spaces.

Policy NS-1-h: Interior Noise Level Requirement. Comply with the State Code requirement that any new multifamily residential, hotel, or dorm buildings must be designed to incorporate noise reduction measures to meet the 45 dB Ldn interior noise criterion, and apply this standard as well to all new single-family residential and noise sensitive uses.

Policy NS-1-i: Mitigation by New Development. Require an acoustical analysis where new development of industrial, commercial or other noise generating land uses (including transportation facilities such as roadways, railroads, and airports) may result in noise levels that exceed the noise level exposure criteria established by Tables 9-2 and 9-3 to determine impacts, and require developers to mitigate these impacts in conformance with Tables 9-2 and 9-3 as a condition of permit approval through appropriate means. Noise mitigation measures may include:

- The screening of noise sources such as parking and loading facilities, outdoor activities, and mechanical equipment;
- Providing increased setbacks for noise sources from adjacent dwellings;
- Installation of walls and landscaping that serve as noise buffers;
- Installation of soundproofing materials and double-glazed windows; and
- Regulating operations, such as hours of operation, including deliveries and trash pickup.

Alternative acoustical designs that achieve the prescribed noise level reduction may be approved by the City, provided a qualified Acoustical Consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces. As a last resort, developers may propose to construct noise walls along roadways when compatible with aesthetic concerns and neighborhood character. This would be a developer responsibility, with no City funding.

Policy NS-1-j: Significance Threshold. Establish, as a threshold of significance for the City's environmental review process, that a significant increase in ambient noise levels is assumed if the project would increase noise levels in the immediate vicinity by 3 dB Ldn or CNEL or more above the ambient noise limits established in this General Plan Update.

Commentary: When an increase in noise would result in a "significant" impact (increase of three dBA or more) to residents or businesses, then noise mitigation would be required to reduce noise exposure. If the increase in noise is less than three dBA, then the noise impact is considered insignificant and no noise mitigation is needed.

By setting a specific threshold of significance in the General Plan, this policy facilitates making a determination of environmental impact, as required by the California Environmental Quality Act. It helps the City determine whether (1) the potential impact of a development project on the noise environment warrants mitigation, or (2) a statement of overriding considerations will be required.

Policy NS-1-k: Proposal Review. Review all new public and private development proposals that may potentially be affected by or cause a significant increase in noise levels, per Policy NS-1-i, to determine conformance with the policies of this Noise Element. Require developers to reduce the noise impacts of new development on adjacent properties through appropriate means.

Policy NS-1-l: Enforcement. Continue to enforce applicable State Noise Insulation Standards and Uniform Building Code noise requirements, as adopted by the City.

Policy NS-1-m: Transportation Related Noise Impacts. For projects subject to City approval, require that the project sponsor mitigate noise created by new transportation and transportation-related stationary noise sources, including roadway improvement projects,

so that resulting noise levels do not exceed the City's adopted standards for noise-sensitive land uses.

Policy NS-1-n: Best Available Technology. Require new noise sources to use best available control technology to minimize noise emissions.

Commentary: Noise from mechanical equipment can be reduced by soundproofing materials and sound-deadening installation; controlling hours of operation will also reduce noise impacts during the morning or evening.

Policy NS-1-o: Sound Wall Guidelines. Acoustical studies and noise mitigation measures for projects shall specify the heights, materials, and design for sound walls and other noise barriers. Aesthetic considerations shall also be addressed in these studies and mitigation measures such as variable noise barrier heights, a combination of a landscaped berm with wall, and reduced barrier height in combination with increased distance or elevation differences between noise source and noise receptor, with a maximum allowable height of 15 feet. The City will develop guidelines for aesthetic design measures of sound walls, and may commission area wide noise mitigation studies that can serve as templates for acoustical treatment that can be applied to similar situations in the urban area.

Commentary: While acoustical studies need to be site-specific in order to appropriately assess particular settings, having prototypical design measures and noise control templates that can be applied for similar situations and contexts can facilitate infill and other development.

Policy NS-1-p: Airport Noise Compatibility. Implement the land use and noise exposure compatibility provisions of the adopted Fresno Yosemite International Airport Land Use Compatibility Plan, the Fresno-Chandler Executive Airport Master and Environs Specific Plan, and the Sierra Sky Park Land Use Policy Plan to assess noise compatibility of proposed uses and improvements within airport influence and environs areas.

City of Fresno Municipal Code

Chapter 10, Article 1 (Noise Regulations), of the Fresno Municipal Code establishes excessive noise guidelines and exemptions. The following portions of the Municipal Code are applicable to the proposed project:

SEC. 10-102. Definitions. (b) Ambient Noise. "Ambient noise" is the all-encompassing noise associated with a given environment, being usually a composite of sounds from many sources near and far. For the purpose of this ordinance, ambient noise level is the level obtained when the noise level is averaged over a period of fifteen minutes, without inclusion of the offending noise, at the location and time of day at which a comparison with the offending noise is to be made. Where the ambient noise level is less than that designated in this section, however, the noise level specified herein shall be deemed to be the ambient noise level for that location.

District	Time	Sound Level Decibels
Residential	10:00 p.m. to 7:00 a.m.	50
Residential	7:00 p.m. to 10:00 p.m.	55
Residential	7:00 a.m. to 7:00 p.m.	60
Commercial	10:00 p.m. to 7:00 a.m.	60
Commercial	7:00 a.m. to 10:00 p.m.	65
Industrial	anytime	70

SEC. 10-105. Excessive Noise Prohibited. No person shall make, cause, or suffer or permit to be made or caused upon any premises or upon any public street, alley, or place within the city, any sound or noise which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing or working in the area, unless such noise or sound is specifically authorized by or in accordance with this article. The provisions of this section shall apply to, but shall be limited to, the control, use, and operation of the following noise sources:

(a) Radios, musical instruments, phonographs, television sets, or other machines or devices used for the amplification, production, or reproduction of sound or the human voice.

(b) Animals or fowl creating, generating, or emitting any cry or behavioral sound.

(c) Machinery or equipment, such as fans, pumps, air conditioning units, engines, turbines, compressors, generators, motors or similar devices, equipment, or apparatus.

(d) Construction equipment or work, including the operation, use or employment of pile drivers, hammers, saws, drills, derricks, hoists, or similar construction equipment or tools.

SEC. 10-107. School, Hospitals, and Churches. No person shall create any noise on any street, sidewalk, or public place adjacent to any school, institution of learning, or church while the same is in use, or adjacent to any hospital, which noise unreasonably interferes with the workings of such institution or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed in such street, sidewalk, or public place indicating the presence of a school, church, or hospital.

SEC. 10-109. Exceptions. The provisions of this article shall not apply to:

(a) Construction, repair or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the city or other governmental agency, or to site preparation and grading, provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday.

(b) Emergency work.

(c) Any act or acts which are prohibited by any law of the State of California or the United States.

Airport Land Use Commission of Fresno County. The Airport Land Use Commission of Fresno County adopted the Fresno County Airport Land Use Compatibility Plan (ALUCP) on December 3, 2018. This document represents an update of the state-mandated ALUCP for the environs of the nine public use airports in Fresno county. The Fresno County public use airports include Coalinga Municipal, Firebaugh, Fresno Chandler Executive, Fresno Yosemite International, Harris Ranch, Reedley Municipal, Selma, Sierra Sky Park, and William Robert Johnston Municipal. The ALUCP includes policies designed to regulate the compatibility of land uses surrounding the airport and associated operations. In addition, the ALUCP provides compatibility policies and sets Airport/Land Use Noise Compatibility Criteria to avoid establishment of new noise- sensitive land uses and exposure of the users to levels of aircraft noise that can disrupt activities involved and establishes noise contours for the purpose of evaluating noise compatibility of land use.

4.13.6 Significance Criteria

The thresholds for noise impacts used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. The proposed project may be deemed to have a significant impact with respect to noise if it would:

NOI-1 Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards.

NOI-2 Generate excessive groundborne vibration or groundborne noise levels.

NOI-3 For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

4.13.7 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to noise that could result from continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and the updates to the Greenhouse Gas Reduction Plan. Future discretionary projects facilitated by the proposed project will be evaluated for project-specific impacts to noise at the time they are proposed. Each discussion begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of the discussion presents the impacts associated with continued implementation of the approved General Plan and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less than significant level. Cumulative impacts are also addressed.

4.13.7.1 Project Impacts

The following discussion describes the potential impacts related to noise that could result from continued implementation of the approved General Plan.

NOI-1 The proposed project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards.

Short-Term Construction Impacts. Construction noise generated from development activities associated with continued implementation of the approved General Plan would typically occur intermittently and vary depending upon the nature or phase (e.g., demolition, land clearing, grading, excavation, erection) of construction. Noise produced by construction equipment such as earthmovers, material handlers, and portable generators can reach high levels. Generally, the grading phase of construction involves the most equipment and generates the highest noise levels, although noise ranges are usually similar across all construction phases.

Typical construction equipment noise levels are provided in Table 4.13-6. As shown, noise levels generated by individual pieces of construction equipment generally range from approximately 77 dBA to 90 dBA L_{max} at 50 feet. Typical operating cycles vary by equipment type and specific activity, although cycles generally involve two minutes of full power, followed by three to four minutes at lower settings. Depending on the equipment required and duration of use, average-hourly noise levels associated with construction activity typically ranges from roughly 65 to 90 dBA L_{eq} at 50 feet. The highest noise levels are generally associated with grading and excavation phases.

Table 4.13-6: Typical Construction Noise Levels

Equipment	Typical Noise Level (dBA L_{max}) 50 feet from Source
Backhoe/Front-End Loader	80
Compactor	80
Concrete Mixer Truck	85
Dozer	85
Grader	85
Excavator/Scraper	85
Air Compressor	80
Gradall	85
Crane, Mobile	85
Generator	82
Truck (Dump/Flat Bed)	84
Jack Hammer	85
Paver	85
Pneumatic Tool	85
Pump	77
Roller	85
Concrete Saw	90

Source: Roadway Construction Noise Model (FHWA 2006).

Implementation of the project would include the demolition and construction of various uses throughout the Planning Area, including single- and multi-family residential, commercial, industrial, mixed use, and public facilities, as well as ancillary infrastructural improvements such as roadways and water delivery and wastewater conveyance pipelines.

As set forth by Chapter 10, Article 1, Section 10-109 – Exemptions, the provisions of Article 1 – Noise Regulations of the Fresno Municipal Code shall not apply to:

> Construction, repair or remodeling work accomplished pursuant to a building, electrical, plumbing, mechanical, or other construction permit issued by the city or other governmental agency, or to site preparation and grading, provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday.

Thus, although development activities associated with buildout of the Planning Area could potentially result in a temporary or periodic increase in ambient noise levels in the project vicinity, construction activity would be exempt from City of Fresno noise regulations, as long as such activity is conducted pursuant to an applicable construction permit and occurs between 7:00 a.m. and 10:00 p.m., excluding Sunday. Therefore, short-term construction impacts associated with the exposure of persons to or the generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies would be less than significant.

Long-Term Project Impacts. As shown in Table 4.13-7, based on existing noise, as well as on existing and future noise modeling, noise levels in excess of existing standards set forth by the City of Fresno currently occur and would continue to occur throughout the city, potentially affecting residential and other noise-sensitive uses.

As shown in Table 4.13-7, future noise levels along many major roadway segments would exceed the City's existing 60 dBA CNEL standard for adjacent residential uses, and in certain instances, future noise levels along some major roadway segments may even exceed the City's current 65 dBA CNEL and 70 dBA CNEL for commercial and industrial uses, respectively. Future development activities within the city would result in higher land use densities, which would result in increased traffic volumes and increases in commercial and industrial uses that would incrementally increase noise levels in some areas. Substantial noise level exposures can also be expected from aircraft and trains.

> ***Roadways.*** Future noise exposure contours for each of the City of Fresno's roadway classifications were modeled by applying the Federal Highway Administration's (FHWA) noise modeling procedure, using roadway, speed, and traffic mix data from the City of Fresno, and projected traffic volumes based on existing and existing plus project and other anticipated traffic volume levels. The existing and existing plus project traffic volumes are based on the maximum traffic volumes anticipated to be experienced for each roadway classification.
>
> In order to quantify the traffic noise impacts along the analyzed roadways, the roadway noise contours were calculated. Noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway. For analysis comparison purposes, the noise levels are calculated at the right-of-way of each roadway type, which is the nearest

location where development may occur to each roadway. In establishing noise contours for land use planning, noise attenuation afforded by buildings, roadway elevations, and depressions, and the barrier effect of natural terrain features were not accounted for. The result is a worst-case estimate of the existing and future noise environment. The developed noise contours for the City of Fresno are conservative, meaning that the contours are modeled with minimal noise attenuation by natural barriers and buildings.

Table 4.13-7 shows the anticipated noise levels for each roadway type for existing and existing plus project at the 50 feet from the centerline of the outermost lane. The distance from the centerline to the 60-, 65-, and 70-dBA noise levels have been calculated and are shown in Table 4.13-8 with the noise calculation spreadsheets provided in Appendix I.

Table 4.13-7: Traffic Noise Contours

Roadway	Scenario	dBA CNEL 50 feet from Centerline of Outermost Lane	Distance to Contour (feet)		
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
2-Lane Collector	Existing	64.1	< 50	< 50	104
2-Lane Collector	Existing Plus Project	64.7	< 50	53	115
2-Lane Arterial	Existing	67.8	< 50	94	200
2-Lane Arterial	Existing Plus Project	68.5	< 50	104	224
2-Lane Super Arterial	Existing	67.6	< 50	91	195
2-Lane Super Arterial	Existing Plus Project	67.8	< 50	94	202
4-Lane Collector	Existing	67.6	< 50	100	212
4-Lane Collector	Existing Plus Project	68.4	54	112	238
4-Lane Arterial	Existing	68.2	58	116	247
4-Lane Arterial	Existing Plus Project	69.0	64	131	278
4-Lane Super Arterial	Existing	66.3	< 50	89	186
4-Lane Super Arterial	Existing Plus Project	68.7	62	125	265
4-Lane Expressway	Existing	70.0	74	153	326
4-Lane Expressway	Existing Plus Project	71.9	97	203	436
Scenic Arterial	Existing	65.8	< 50	83	172
Scenic Arterial	Existing Plus Project	66.3	< 50	89	185
6-Lane Arterial	Existing	67.2	62	116	239
6-Lane Arterial	Existing Plus Project	68.4	71	136	286
6-Lane Super Arterial	Existing	68.1	69	131	274
6-Lane Super Arterial	Existing Plus Project	70.3	89	179	380
6-Lane Expressway	Existing	73.5	138	288	617
6-Lane Expressway	Existing Plus Project	74.0	150	315	674
SR-41 Freeway	Existing	79.8	356	763	1,643
SR-41 Freeway	Existing Plus Project	80.9	419	900	1,937
SR-99 Freeway	Existing	79.0	314	673	1,448
SR-99 Freeway	Existing Plus Project	80.3	384	824	1,775
SR-168 Freeway	Existing	78.9	309	662	1,424
SR-168 Freeway	Existing Plus Project	80.1	371	796	1,714
SR-180 Freeway	Existing	79.7	346	742	1,597
SR-180 Freeway	Existing Plus Project	81.3	446	959	2,065

Source: LSA (January 2020).

Table 4.13-7 shows that roadways would generate noise levels that would exceed the City's 65 dBA CNEL standard for sensitive land uses. General Plan Policy NS-1-g, requires the implementation of noise reduction performance standards for new noise sensitive uses and requires consideration of the following noise reduction measures:

- Façades with substantial weight and insulation;
- Installation of sound-rated windows for primary sleeping and activity areas;
- Installation of sound-rated doors for all exterior entries at primary sleeping and activity areas;
- Greater building setbacks and exterior barriers;
- Acoustic baffling of vents for chimneys, attic and gable ends; and
- Installation of mechanical ventilation systems that provide fresh air under closed window conditions.

Many of the noise reduction features provided in Policy NS-1-g are dependent on the project design and are not feasible to quantify on a programmatic level. In addition, to reduce traffic noise at outdoor living areas, typical noise mitigation would include the construction of a stand-alone sound wall, which reduces noise levels by approximately 5 to 10 dBA. However, building a sound wall to mitigate noise levels may not be feasible because a sound wall would limit access to properties.

As addressed above, future development activities within the Planning Area would result in increased traffic volumes, thus incrementally increasing noise levels in some areas. Future noise levels along existing roadways and highways are projected to increase by 0.2 to 2.4 dB. New roadways, significantly expanded roadways, or sparsely populated areas where significant new development is expected to occur may result in noise increases of more than 10 dB. Such increases in noise level can subsequently increase annoyance to populations and communities adjacent to the roadways. Future noise contours for vehicles are provided in Figure NS-3 of the approved General Plan.

Intervening structures or other noise-attenuating obstacles between a roadway and a receptor may reduce roadway noise levels at the receptor, but such potential reductions cannot be assumed in the noise contouring modeling. In order to determine the proposed project's contribution to roadway noise, each of the City of Fresno's roadway classifications were modeled by applying the Federal Highway Administration's (FHWA) noise modeling procedure, using roadway, speed, and traffic mix data from the City of Fresno, and the greatest project increase anticipated for each roadway type. The proposed project's incremental increase to existing conditions is shown in Table 4.13-8.

Table 4.13-8 shows that the proposed project would increase roadway noise by as much as 2.4 dBA CNEL. The project contributions to roadway noise would not reach the 3 dB CNEL noise

increase threshold provided in General Plan Policy NS-1-j. This would be considered a less-than-significant impact.

Table 4.13-8: Project Traffic Noise Contributions

Roadway	dBA CNEL 50 feet from Centerline of Outermost Lane			Potential Significant Impact?
	Existing	Existing Plus Project	Project Contribution	
2-Lane Collector	64.1	64.7	0.6	No
2-Lane Arterial	67.8	68.5	0.7	No
2-Lane Super Arterial	67.6	67.8	0.2	No
4-Lane Collector	67.6	68.4	0.8	No
4-Lane Arterial	68.2	69.0	0.8	No
4-Lane Super Arterial	66.3	68.7	2.4	No
4-Lane Expressway	70.0	71.9	1.9	No
Scenic Arterial	65.8	66.3	0.5	No
6-Lane Arterial	67.2	68.4	1.2	No
6-Lane Super Arterial	68.1	70.3	2.2	No
6-Lane Expressway	73.5	74.0	0.5	No
SR-41 Freeway	79.8	80.9	1.1	No
SR-99 Freeway	79.0	80.3	1.3	No
SR-168 Freeway	78.9	80.1	1.2	No
SR-180 Freeway	79.7	81.3	1.6	No

Source: LSA (January 2020).

However, substantial noise level exposures could be expected from aircraft, trains, and stationary sources. In an effort to address noise impacts in the Planning Area, the approved General Plan includes Policy NS-1-a through NS-1-p, which are designed to reduce noise impacts. In conjunction with Policy NS-1-a, which required an update to the City's Noise Ordinance to set noise levels from 65 dB to 70 dB as the "conditionally unacceptable" range for residential uses, and those above 70 dB as "generally unacceptable", the maximum allowable noise exposure for noise-sensitive land uses such as residential, transient lodging, hospitals/nursing homes, and churches/meeting halls would be set at 65 dB from 60 dB. Increasing this noise level threshold of noise-sensitive land uses would be consistent with the intensification of land uses in the city under the continued implementation of the approved General Plan, as noise control would be an increasing consideration for infrastructure and new development, particularly for infill residential projects. As a result of the continuing urbanization of the city and the future development of the approved General Plan Planning Area, a 65 dB CNEL threshold for noise-sensitive land uses would be appropriate based on the changing character of the city.

Coupled with this revised noise level threshold, implementation of the Policy NS-1-a through Policy NS-1-p, which includes several structural design measures proven to reduce the effects of noise, would in most instances, reduce noise impacts to less than significant levels. However, these proposed policies and the measures that they would implement are ultimately limited, as even advanced policies and measures are limited in what they can do to remediate or reduce the magnitude of noise effects on many existing noise-sensitive land uses in areas with current high noise exposures or where substantial noise increases are expected. Thus, the continuing

exposure of existing noise-sensitive land uses to noise levels in excess of standards established by the City, or to substantial noise increases as a result of future growth associated with the continued implementation of the approved General Plan, would result in a significant unavoidable permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Stationary Noise Sources. Stationary noise sources can also have an effect on the population, and unlike mobile, transportation-related noise sources, these sources generally have a more permanent and consistent impact on people. These stationary noise sources involve a wide spectrum of uses and activities, including various industrial uses, commercial operations, agricultural production, school playgrounds, high school football games and marching bands, HVAC units, generators, lawn maintenance equipment, and swimming pool pumps.

Even with incorporation of the best available noise control technology, noise emanating from industrial uses can be substantial and exceed local noise standards. These noise sources can be continuous and may contain tonal components that may be annoying to nearby receptors. Although industrial uses in the city of Fresno are typically located in industrial districts near freeways and commercial uses and away from residences and other sensitive noise receptors, noise sources associated with commercial uses such as automotive repair facilities, recycling centers, and loading docks may occur in the vicinity of residential uses.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.13.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact NOI-1: The proposed project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards.

Mitigation Measures: No mitigation measures beyond implementation of General Plan policies are feasible.

Level of Significance With Mitigation: Significant and Unavoidable Impact.

NOI-2 The proposed project would generate excessive groundborne vibration or groundborne noise levels.

Ground vibration generated by construction equipment and transportation sources spreads through the ground and diminishes in strength with distance. The effects of ground vibration can vary from no perceptible effects at the lowest levels, low rumbling sounds and detectable vibrations at moderate levels, and slight damage to nearby structures at the highest levels. At the highest levels of vibration, damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely results in structural damage.

Construction activities associated with projects that could occur under the approved General Plan could result in exposure of sensitive land uses to excessive groundborne vibration and noise levels. Problems, such as disturbance, due to groundborne vibration and noise from these sources are usually contained to areas within about 100 feet of the vibration source.[6] Typically, the main effect of groundborne vibration and noise is to cause annoyances for occupants of nearby buildings.

Continued implementation of the approved General Plan would allow for infill development in more densely developed areas where offsite structures would be more prevalent. Even during these occurrences, the mandatory buffers set forth by the City of Fresno Development Code (e.g., setbacks, easements, right-of-ways) would ensure that in most cases onsite and offsite structures would be separated by at least 25 feet, and thus construction activities would be buffered by at least 25 feet from existing offsite structures. However, if construction activities would occur within 25 feet of existing structures, short-term construction impacts associated with groundborne vibration would be potentially significant. Therefore, implementation of Mitigation Measure NOI-2 would be required to increase the distance between heavy construction equipment and the surrounding structures to a minimum of 25 feet. Implementation of Mitigation Measure NOI-2, would ensure that construction vibration level would be below the threshold of 0.2 in/sec PPV for building damage and would reduce impacts to a less-than-significant level.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.13.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact NOI-2: The proposed project would generate excessive groundborne vibration or groundborne noise levels.

Mitigation Measure NOI-2 **Construction Vibration.** The use of heavy construction equipment within 25 feet of existing structures shall be prohibited.

Level of Significance With Mitigation: Less Than Significant Impact.

NOI-3 ***For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the proposed project would not expose people residing or working in the project area to excessive noise levels.***

One public commercial airport, Fresno Yosemite International Airport, and two public general aviation airports, Fresno-Chandler Downtown Airport, and Sierra Sky Park Airport, are located in the Planning Area. As required by the Caltrans Division of Aeronautics, the Fresno County Airport Land

[6] U.S. Department of Transportation, 1995. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment.* April.

Use Commission (ALUC) must prepare an ALUCP (refer to the heading "Airport Land Use Commission of Fresno County" under Section 4.13.5.3, Regulatory setting, above) for each public and public use airport within its jurisdiction. An ALUCP guides local jurisdictions in determining appropriate compatible land uses with detailed findings and policies. The Airport Land Use Commission of Fresno County adopted the Fresno County ALUCP, which represents an update of the state-mandated ALUCP for the environs of the nine public use airports in Fresno county. The City of Fresno General Plan, other City land use plans, and all City land use decisions must be compatible with the adopted ALUCP. The ALUCP includes CNEL noise contours based on projected airport and aircraft operations. The purpose of these noise contours are to minimize the effect of airport and aircraft noise on the adjacent community by determining land use compatibility and locations for noise mitigation measures during the planning, design, and development process.

The Fresno County ALUCP establishes land uses that are either acceptable or unacceptable within each CNEL noise contour based on the noise sensitivity of the particular use. Noise-sensitive land uses such as residential uses are typically only acceptable in areas outside the 65 dB CNEL and greater noise contours. It is within these areas that the Fresno County ALUC has determined that residential uses can occur while still minimizing the effects of adjacent and overhead aircraft noise on noise-sensitive receptors. Any land use decision made within the jurisdictional boundary of the ALUCP, and based upon policies set forth by the approved General Plan, must be consistent with the ALUCP, including the land use compatibility policies based on CNEL noise contours, as required by law.

Currently, there are no private airstrips operating within the Planning Area. A few private airstrips potentially occur outside of the Planning Area boundary, although the operational status of these airstrips is presently undetermined. These dirt-surfaced airstrips are associated with agricultural operations in the Planning Area vicinity and were/are likely used by smaller aircraft to apply pesticides to fields. If still in use, these airstrips would not support more than a few smaller aircraft operating intermittently throughout the growing season. Conversely, due to infrastructural limitations, these airstrips are not physically capable of supporting large-scale flight operations, larger aircraft fleets, or consistent aircraft flights that would result in generation of substantial noise effects on the adjacent and surrounding areas. As a result, any noise potentially produced by these airstrips would not result in a substantial noise levels within the Planning Area.

To address aircraft noise impacts, Policy NS-1-p requires that the City approve only noise-compatible land uses and limit noise-sensitive land use, including residential uses, as defined by the applicable ALUCP. In the event that residential uses or similar noise-sensitive land use are proposed for areas susceptible to aircraft noise levels exceeding those levels that are typically considered acceptable, Policy NS-1-p conditionally allows development of such uses following preparation of a noise study and implementation of mitigation measures.

Along with compliance with the applicable ALUCP and the land use compatibility policies contained within, Policy NS-1-p reduces impacts from adjacent and overhead aircraft noise on noise-sensitive land uses to acceptable levels. Therefore, impacts associated with noise produced by public, public use, or private airports in the Planning Area vicinity would be less than significant.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.13.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.13.7.2 Cumulative Impacts

NOI-4 The proposed project, in combination with past, present, and reasonably foreseeable projects, would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards.

Short-Term Construction Impacts. Buildout of the Planning Area, along with construction of related projects in the Planning Area vicinity, would introduce construction activities to the Planning Area that could potentially result in temporary or periodic increases in ambient noise levels. Construction activities would typically occur intermittently and vary depending upon the nature or phase of construction, although noise ranges are usually similar across all construction phases. Depending on the equipment required and duration of use, average-hourly noise levels associated with construction activities typically ranges from roughly 65 to 90 dBA L_{eq} at 50 feet.

Hypothetically, if several different projects were constructed simultaneously within the same immediate vicinity, there would be potential for cumulative temporary noise effects, since construction noise from individual projects could compound. However, this scenario is highly unlikely. A more reasonable assumption is that future construction activities would occur at different locations throughout the Planning Area and the Planning Area vicinity. Although scheduling of some of construction activities would likely overlap, projects would not be constructed simultaneously, but instead would occur over a number of years. This distribution of individual projects would reduce the potential for compounding of construction noise.

As previously addressed, site preparation, grading, and other construction activity conducted pursuant to a building or other construction permit issued by the City of Fresno or other governmental agency would be exempt for the provisions of Chapter 10, Article 1 – Noise Regulations, of the Fresno Municipal Code, provided such work occurs between 7:00 a.m. and 10:00 p.m., excluding Sunday. Additionally, the counties of Fresno and Madera and the City of Clovis have established similar provisions that exempt construction noise within their jurisdictions from their respective noise ordinances during daytime hours. As a result, construction noise generated along the Planning Area boundary but emanating into neighboring jurisdictions, and vice versa, should be excluded from both the noise provisions set forth by the City of Fresno and the surrounding jurisdictions, granted construction activities occur within specific parameters of each particular exception. Therefore, the proposed project contributions to cumulative construction noise would be less than cumulatively considerable and thus would result in a less than significant cumulative impact.

Long-Term Operational Impacts. Buildout of the Planning Area, along with construction of related projects in the Planning Area vicinity, would result in increased traffic volumes, thus incrementally increasing noise levels in some areas. Future noise levels along existing roadways and highways are projected to increase by approximately 0.2 to 2.4 dB, as shown on Table 4.13-8. New roadways, significantly expanded roadways, or sparsely populated areas where significant new development is expected to occur may see noise levels increase by more than 10 dB. Substantial noise level exposures may also occur from aircraft, trains, and stationary sources.

In most instances, continued implementation of approved General Plan Policy NS-1-a through Policy NS-1-p would reduce noise impacts to less than significant levels. However, these proposed policies and the measures that they would implement are ultimately limited, as policies and measures are limited in what they can do to remediate or reduce the magnitude of noise effects on many existing noise-sensitive land uses in areas with current high noise exposures or where substantial noise increases are expected. Thus, the continuing exposure of existing noise-sensitive land uses to noise levels in excess of standards established by the City, or to substantial noise increases as a result of future growth according to the approved General Plan, would be considered a potentially significant impact. As a result, cumulative impacts associated with the long-term exceedance of standards established in the local general plan or noise ordinance or applicable standards of other agencies would potentially occur in the Planning Area vicinity, and therefore, continued implementation of the approved General Plan is deemed cumulatively considerable.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.13.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact NOI-4: The proposed project, in combination with past, present, and reasonably foreseeable projects, would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards.

Mitigation Measures: No mitigation measures beyond implementation of General Plan policies are feasible.

Level of Significance With Mitigation: Significant and Unavoidable Impact.

NOI-5: ***The proposed project, in combination with past, present, and reasonably foreseeable projects, would not generate excessive groundborne vibration or groundborne noise levels.***

Buildout of the Planning Area, along with construction of related projects in the Planning Area vicinity, would use construction equipment such as tractors, trucks, and jackhammers. Hypothetically, if several different projects were constructed simultaneously upon the same construction site within 25 feet of an existing structure, there would be potential for cumulative

ground vibration effects. However, this scenario is highly unlikely. A more reasonable assumption is that future construction activities would occur at different locations throughout the Planning Area and the Planning Area vicinity. Although scheduling of some of these construction activities would likely overlap, projects would not be constructed simultaneously, but instead would occur over a number of years. As a result, no cumulative impacts associated with ground vibration would occur in the Planning Area vicinity, and therefore, the continued implementation of the approved General Plan is not deemed cumulatively considerable.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.13.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

NOI-6: The proposed project, in combination with past, present, and reasonably foreseeable projects, would not expose people residing or working in the project area to excessive aircraft-related noise.

Buildout of the Planning Area, along with construction of related projects in the Planning Area vicinity, would introduce noise-sensitive land uses such as residential uses to areas potentially affected by public, public use, or private airport and aircraft noise. However, all development occurring within the Planning Area would be subject to the land use compatibility polices of the applicable ALUCP. The ALUCP includes CNEL noise contours based on projected airport and aircraft operations. The purpose of these noise contours are to minimize the effect of airport and aircraft noise on the adjacent community by determining land use compatibility and locations for noise mitigation measures during the planning, design, and development process. Any land use decision made within the jurisdictional boundary of an applicable ALUCP (regardless of whether within or outside the Planning Area) and based upon policies set forth by the approved General Plan must be consistent with the ALUCP, including the land use compatibility policies based on CNEL noise contours, as required by law. Because of infrastructural limitations, all of the private airstrips in the Planning Area vicinity are not physically capable of supporting large-scale flight operations, larger aircraft fleets, or consistent aircraft flights that would result in generation of substantial noise effects on the adjacent and surrounding areas. Additionally, continued implementation of General Plan Policy NS-1-p would further reduce airport-related noise effects within the Planning Area and reduce any potential contribution to cumulative airport noise effects. As a result, no cumulative impacts associated with airport and aircraft noise would occur in the Planning Area vicinity, and therefore, the continued implementation of the approved General Plan is not deemed cumulatively considerable.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.13.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.14 POPULATION AND HOUSING

4.14.1 Introduction

This section provides an evaluation of the potential environmental effects related to population and housing associated with continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan. The analysis includes a review of population, employment, employees, and housing.

4.14.2 CEQA Baseline

The City of Fresno (City) is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Travelled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014).

The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the approved General Plan, explains that the PEIR will evaluate the continued implementation of the approved General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to a) technical revisions to the Mobility and Transportation Element, including the addition of VMT policies consistent with the requirements of SB 743 and b) the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the approved General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the approved General Plan, however, text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. This would cause the approved General Plan to be out of conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the City's approved General Plan and zoning documents, as no changes to the planned land uses are proposed. Development under the approved General Plan would be the same as the proposed project analyzed in the PEIR, thus the physical changes to the environment would be the same under both scenarios.

4.14.3 Existing Environmental Setting

The study area for project impacts regarding population and housing is the Planning Area because potential development under the approved General Plan is limited to areas within the Planning Area. As defined in Chapter 3.0, Project Description, the Planning Area is the geographic area for which the approved General Plan establishes policies about future growth. The Planning Area established by the City includes all areas within the city's current city limits, including the Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF), the areas within the current Sphere of Influence (SOI), and an area north of the city's most northeasterly portion of the city (referred to as the North Area).

In 1885, the city of Fresno was incorporated and had a population of 10,000 by 1890. Based on 2018 population estimates by the United States Census Bureau, Fresno was the fifth largest city in the state of California with 530,093.[1] Centrally located within the Central San Joaquin Valley, Fresno is the financial, industrial, trade, and commercial capital in the region.

Population projections for Fresno county were identified in the Fresno County 2050 Growth Projections prepared for the Fresno Council of Governments (Fresno COG) in May 2017. The population estimates for the county are provided in Table 4.14-1. The Fresno County 2050 Growth Projections only forecasted population to 2050, but based on the growth forecasted for the previous five years (i.e., between 2040 and 2045), a similar growth rate was used to forecast growth between 2050 and 2055. In addition, a similar growth rate was used to project the population for one additional year to 2056.

Table 4.14-1: Population Estimate for City of Fresno Planning Area

Year	Population Estimate for County of Fresno	Population Estimate for City of Fresno Planning Area
2015	972,300[a]	583,380[b]
2020	1,047,440[a]	628,464[b]
2025	1,122,840[a]	673,704[b]
2030	1,191,850[a]	715,110[b]
2035	1,258,860[a]	755,316[b]
2040	1,323,070[a]	793,842[b]
2045	1,383,690[a]	830,214[b]
2050	1,447,090[a]	868,254[b]
2055	1,519,445[c]	911,667[b]
2056	1,535,095[d]	921,057[b]

Source: City of Fresno (2019).

[a] Fresno County 2050 Growth Projections, Fresno Council of Governments, Table 1.

[b] Planning Area population estimate is 60 percent of the County's population.

[c] Estimated County Population in 2055 based upon previous 5 year growth increments of approximately 5%.

[d] The one-year growth increment used for 2056 was approximately 1.03%, which was generally a similar increment if the growth. increment was extended over 5-years, and it was based upon the previous 5-year growth of approximately 5%.

[1] United States Census Bureau. QuickFacts. Fresno city, California. Website: www.census.gov/quickfacts/fact/table/fresnocitycalifornia/PST045218 (accessed February 28, 2020).

Historically, the population within the City of Fresno Planning Area has been approximately 60 percent of the population within the county of Fresno. This population percentage of 60 percent was used by Fresno COG to forecast the population within the Planning Area after 2015. Table 4.14-1 provides a population forecast for the Planning Area. Based on the Planning Area's population representing approximately 60 percent of the county's forecast population and the city's projected population at full buildout of the approved General Plan (921,057 people), buildout of the Planning Area was determined to occur in the year 2056.

4.14.3.1 Employees to Housing Ratio

An important indicator of providing adequate housing within a community is to determine the number of employees who currently reside there compared to the number of occupied housing units. As shown in Table 4.14-2 below, the employees to occupied housing ratio estimates for Fresno County in 2017 have increased since the year 2000 from 1.19 to 1.36. This data shows that the number of employees residing within each occupied housing unit has increased in Fresno county from 2000 to 2017.

Table 4.14-2: Employees per Occupied Housing Unit in Fresno County

Year	Number of Employees Living in Fresno County	Number of Occupied Housing Units in Fresno County	Employees per Occupied Housing Unit Ratio
2000	301,306[1]	252,940[3]	1.19
2010	363,891[2]	289,391[3]	1.26
2015	397,209[2]	296,305[4]	1.34
2017	411,529[2]	301,824[4]	1.36

Sources:

[1] United States Census Bureau. American Fact Finder. Table DP-3. Fresno County, California. Website: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_00_SF1_QTH1&prodType=table (accessed September 25, 2019).

[2] United States Census Bureau. American Fact Finder. Table DP03. Fresno County, California. Website: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_10_1YR_DP03&prodType=table (accessed September 25, 2019).

[3] United States Census Bureau. American Fact Finder. Table QT-H1. Fresno County, California. Website: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_00_SF1_QTH1&prodType=table (accessed September 25, 2019).

[4] United States Census Bureau. American Fact Finder. Table DP04. Fresno County, California. Website: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_17_5YR_DP04&prodType=table (accessed September 25, 2019).

4.14.3.2 Jobs to Housing Ratio

An additional housing indicator for Fresno county is to determine the number of jobs within the county compared to the total number of housing units within the county. Employment and housing estimates for the county were identified in the Fresno County 2050 Growth Projections. The Fresno County 2050 Growth Projections only forecasted job and housing growth to 2050, but based on the growth forecasted for the previous five years (i.e., between 2040 and 2045), a similar growth rate was used to forecast growth between 2050 and 2055. In addition, a similar growth rate was used to project the job and housing growth for one additional year to 2056. As shown in Table 4.14-3 below, the projected job estimate under buildout conditions within Fresno county is 533,812 jobs by 2056. The projected total number of housing units in the county under full buildout conditions is 450,832

housing units by 2056. The jobs per housing unit ratio is projected to decrease from 1.24 in 2015 to 1.18 in 2056 indicating that there will be fewer jobs per housing unit under projected conditions.

Table 4.14-3: Number of Jobs per Housing Unit in Fresno County

Year	Number of Jobs in Fresno County	Total Number of Housing Units in Fresno County	Jobs Per Housing Unit Ratio
2015	372,400[a]	299,450[b]	1.24
2020	398,100[a]	328,300[b]	1.21
2025	422,000[a]	348,120[b]	1.21
2030	441,200[a]	362,860[b]	1.22
2035	460,100[a]	375,290[b]	1.23
2040	476,800[a]	388,930[b]	1.23
2045	491,300[a]	405,260[b]	1.21
2050	506,300[a]	424,480[b]	1.19
2055	529,056[c]	446,254[d]	1.19
2056	533,812[e]	450,832[f]	1.18

Sources:

[a] Fresno County Council of Governments. 2017. Fresno County 2050 Growth Projections. Table 1.

[b] Fresno County Council of Governments. 2017. Fresno County 2050 Growth Projections. Table 9.

[c] Number of Jobs in Fresno County in 2055 is based upon previous 5-year growth increments of approximately 4.49%.

[d] Total Number of Housing Units in Fresno County in 2055 is based upon previous 5-year growth increments of approximately 5.13%

[e] The one-year growth increment used for 2056 was approximately 1.03%, which was generally a similar increment if the growth increment was extended over 5-years, and it was based upon the previous 5-year growth of approximately 5%.

[f] The one-year growth increment used for 2056 was approximately 0.90%, which was generally a similar increment if the growth increment was extended over 5-years, and it was based upon the previous 5-year growth of approximately 5%.

When comparing the number of employees and jobs in Tables 4.14-2 and 4.14-3, the data shows that in the year 2015, there were a greater number of employees who lived in Fresno county (397,209 employees) compared to the number of jobs in Fresno county (372,400). Therefore, some employees who lived in Fresno county travelled outside the county to their place of employment.

4.14.4 Methodology

The potential project-related impacts related to population and housing were evaluated on a qualitative basis due to the programmatic nature of this EIR. Qualitative impacts were assessed by evaluating the project's potential for impacting population and housing within the Planning Area based on information regarding the current population and housing within the county.

4.14.5 Regulatory Setting

4.14.5.1 State Policies and Regulations

2017 Legislative Housing Package. In 2017, Governor Jerry Brown signed a housing package that consisted of 15 bills aimed at addressing the State's affordable housing crises. While each of these bills takes different approaches to increasing the supply of affordable housing units, several bills aim to facilitate privately funded housing by streamlining local and environmental review processes for certain types of high-priority housing developments.

Senate Bill 35. Senate Bill (SB) 35 requires cities and counties to follow a streamlined local review process for particular housing projects if the city or county has failed to meet established goals for accommodating a fair share of new housing development, as identified in the City's Regional Housing Needs Assessment (RHNA). SB 35 requires cities and counties to streamline the review and approval of certain affordable housing projects by providing a ministerial process to approve such processes, thereby removing the requirement for CEQA review.

Under this process, a project applicant may request a streamlined review and a ministerial approval if a project meets specific eligibility criteria. Eligible projects include the following:

- Urban Infill: The project is located in an urban area with 75 percent of the site's perimeter already developed.
- Number of Units: The project includes at least two residential units.
- Designated for Residential Uses: General Plan and/or Zoning Classification that allows for residential or mixed-use development with at least two-thirds of the total square footage as residential.
- Location: The project cannot be located on a property that is within any of the following areas: coastal zone, prime farmland, wetlands, very high fire hazard severity zone, hazardous waste site, delineated earthquake fault zone, flood plain, floodway, community conservation plan area, habitat for protected species, under a conservation easement, or located on a qualifying mobile home site.
- Demolition of Residential Units: The development would not demolish any housing units that have been occupied by tenants in the last 10 years; are subject to rent or price control; or are subject to a covenant, ordinance, or law that restricts rents to affordable persons and facilities of moderate, low, and/or very low incomes.
- Historic Buildings: The project would not demolish a historic structure, as listed on a national, State, or local historic register.
- Consistent with Objective Planning Standards: The project meets all objective General Plan, Zoning, and Design Review standards in effect at the time an application is submitted. SB 35 defines objective standards as those that involve no personal or subjective judgment by a public official and are verifiable by reference to an external benchmark or criterion.
- Prevailing Wages: If the development is not in its entirety a public work, all construction workers shall be paid at least the general prevailing rate of per diem wages for the type of work and geographic area.
- Skilled and Trained Workforce Provisions: A skilled and trained workforce must complete the development if the project consists of 75 or more units that are not 100 percent subsidized affordable housing.

- Subdivisions: The project does not involve a subdivision subject to the California Subdivision Map Act, unless the project either receives a low-income housing tax credit and is subject to prevailing wages, or is subject to requirements to pay prevailing wages and to use a skilled and trained workforce.

- Parking: The project must provide at least one parking space per unit; however, a project may not be subject to parking requirements under the following conditions: (1) the project is located within a half mile of a public transit stop, (2) is located in an architecturally and historically significant historic district, (3) on-street parking permits are required, but are not offered to the development occupants, or (4) there is a car share vehicle located within one block of car share stations.

SB 35 also requires local jurisdictions to report more complete information about their progress in meeting housing goals to the California Department of Housing and Community Development.

Senate Bill 540. Senate Bill 540 (SB 540) allows local governments to create Workforce Housing Opportunity Zones, which are defined as areas within a city or county that are designated for expedited housing development. In order to create Workforce Housing Opportunity Zones, cities or counties must require that at least half of the housing units are affordable to households with low or moderate incomes. Within the zones, local governments must also complete environmental and planning reviews in advance so that individual housing projects subsequently proposed within the zones are not subject to project-specific reviews or environmental challenges. Qualified housing projects must also pay prevailing wages to construction workers. Local governments that create these zones may also apply for state grants or zero-interest loans to cover the costs of completing the needed planning and environmental review processes.

Assembly Bill 73. Assembly Bill 73 (AB 73) allows cities and counties to create Housing Sustainability Districts. These districts are similar to Workforce Housing Opportunity Zones in SB 540, but are different in that they must include at least 20 percent affordable units.

4.14.5.2 Local Policies and Regulation

City of Fresno General Plan. The approved General Plan is a set of policies and programs that form a blueprint for the physical development of the city. For a description of each of the elements within the approved General Plan, refer to Chapter 3.0, Project Description. The following objectives and policies related to population and housing are contained in the City's Housing Element:

Housing Element. Housing Elements are the only elements of general plans that require approval and certification by a state agency, the California Department of Housing and Community Development (HCD). Due to the nature of economic cycles related to real estate, housing elements are on a 5-to-8-year cycle, and are often updated independent of the general plan. The City of Fresno Housing Element was updated in 2017 and certified by HCD in the same year. It contains objectives, policies and programs aimed at promoting the conservation and construction of safe, decent, and affordable housing for all community residents.

Regional Housing Needs Allocation (RHNA). The California General Plan law requires each city and county to have land zoned to accommodate its fair share of the regional housing need. HCD allocates a numeric regional housing goal to the Fresno Council of Governments (COG). Fresno COG is then mandated to distribute the numerical goal among the County and its 15 incorporated cities. This share for the Fresno COG region is known as the Regional Housing Needs Allocation (RHNA). The major goal of the RHNA process is to ensure a fair distribution of new housing construction among cities in the region and the County so that every community may plan for a mix of housing types for all income levels. The City of Fresno's RHNA for the current Housing Element cycle (2015-2023) is as noted below:

Regional Housing Needs Allocation

Income Category	Number of Units Required	Percent Total
Extremely Low (0-30 percent AMI)[a]	2,833	12%
Very Low (31-50 percent AMI)	2,833	12%
Low (51-80 percent AMI)	3,289	14%
Moderate (81-120 percent AMI)	3,571	15%
Above Moderate (>120 percent AMI)	11,039	47%
Total Units Needed	23,565	100%

Source: 2017 Housing Element, Table 3-1; Fresno Council of Governments (2014).

[a] Note: Pursuant to AB 2634, local jurisdictions are also required to project the housing needs of extremely low-income households (0-30% AMI). In estimating the number of extremely low-income households, a jurisdiction can use 50% of the very low-income allocation. Therefore, the City's very low-income RHNA of 5,666 units is split into 2,833 extremely low-income and 2,833 very low-income units.

AMI = Area Median Income

In addition, the City of Fresno has a RHNA from the previous housing element cycle due to not providing adequate zoned land during that period. That RHNA is shown below:

Unaccommodated 2008 RHNA Obligation

	Extremely and Very Low Income (0-50% AMI)	Low Income (51-80% AMI)	Moderate Income (81- 120% AMI)	Above Moderate Income (121%+ AMI)	Total
2008 RHNA	4,912	3,304	3,651	9,100	20,967
Credits from the 2008 Housing Element and 2009 Housing Element Amendment (as approved by HCD)	1740[a]	--	--	548[a]	2,288
Remaining 2008 RHNA	3,172	3,304	3,651	8,552	
Unaccommodated 2008 Lower-Income RHNA[b]	6,476		N/A		

Source: 2017 Housing Element, Table 3-3

[a] Includes only credits approved by HCD.

[b] If a jurisdiction failed to make adequate sites available to accommodate the RHNA in the previous planning period, AB 1233 (Government Code Section 65584.09) requires only the lower income RHNA to be rolled over to the subsequent planning period.

2017 Housing Element Policies

Objective H-1: Provide adequate sites for housing development to accommodate a range of housing by type, size, location, price, and tenure.

Policy H-1-a: Implement land use policies and standards that allow for a range of residential densities and products that will enable households of all types and income levels the opportunity to find suitable ownership or rental housing.

Policy H-1-b: Encourage development of residential uses in strategic proximity to employment, recreational facilities, schools, neighborhood commercial areas, and transportation routes.

Policy H-1-c: Promote the development of affordable and special needs housing near transit and/or smart growth areas.

Objective H-2: Assist in the development of adequate housing to meet the needs of extremely low-, very low-, low-, and moderate-income households.

Policy H-2-a: Facilitate housing development that is affordable to extremely low-, very low-, low-, and moderate-income households by providing technical assistance, regulatory incentives and concessions, and financial resources as funding permits.

Policy H-2-b: Encourage both the private and public sectors to produce or assist in the production of housing, with particular emphasis on housing affordable to persons with disabilities, elderly, large families, female-headed households with children, and people experiencing homelessness.

Policy H-2-c: Continue to utilize federal and State subsidies to the fullest extent to meet the needs of lower-income residents, including extremely low-income residents.

Policy H-2-d: Support regional efforts to address homelessness, including the Fresno-Madera Continuum of Care.

Policy H-2-e: Support and coordinate with agencies and service providers offering foreclosure services.

Policy H-2-f: Promote and encourage sustainable development and green building practices for all new residential development and for the retrofitting of existing housing.

Objective H-3: Address, and where possible, remove any potential governmental constraints to housing production and affordability.

Policy H-3-a: Review and adjust as appropriate residential development standards, regulations, ordinances, departmental processing procedures, and residential fees related to rehabilitation and construction that are determined to be a constraint on the development of housing.

Policy H-3-b: Educate applicants on how to navigate the development approval process and otherwise facilitate building permit and development plan processing for residential construction.

Policy H-3-c: Facilitate timely development plan and building permit processing for residential construction.

Policy H-3-d: Provide incentives and regulatory concessions for residential projects constructed specifically for lower- and moderate-income households.

Policy H-3-e: Encourage the new construction of housing in the Central City, Inner City, and other targeted areas.

Objective H-4: Conserve and improve the condition of Fresno's existing housing stock.

Policy H-4-a: Enforce adopted code requirements that set forth acceptable health and safety standards for the occupancy of existing housing.

Policy H-4-b: Advocate and facilitate the conservation and rehabilitation of substandard residential properties by homeowners and landlords.

Policy H-4-c: Utilize Code Compliance resources to bring substandard units into compliance with City codes and to improve overall housing conditions in Fresno.

Policy H-4-d: Educate the public regarding the need for property maintenance and rehabilitation, code enforcement, crime watch, neighborhood conservation and beautification, and other related issues.

Policy H-4-e: Continue to facilitate access to rehabilitation programs that provide financial and technical assistance to low- and moderate-income households for the repair and rehabilitation of existing housing with substandard conditions.

Policy H-4-f: Facilitate the removal of existing housing—including illegal, nonconforming, and blighted properties—that poses serious health and safety hazards to residents and adjacent structures.

Policy H-4-g: Assist in the preservation of all units at risk of converting from affordable housing to market rate housing.

Objective H-5: Continue to promote equal housing opportunity in the City's housing market regardless of age, disability/medical condition, race, sex, marital status, ethnic background, source of income, and other factors.

Policy H-5-a: Prohibit discrimination in the sale, rental, or financing of housing based on race, color, ancestry, religion, national origin, sex, sexual orientation, gender identity, age, disability/medical condition, familial status, marital status, source of income, or any other arbitrary factor.

Policy H-5-b: Assist in the enforcement of fair housing laws by providing support to organizations that can receive and investigate fair housing allegations, monitor compliance with fair housing laws, and refer possible violations to enforcing agencies.

Policy H-5-c: Provide equal access to housing for special needs residents such as people experiencing homelessness, elderly individuals, and persons with disabilities.

Policy H-5-d: Promote the provisions of disabled-accessible units and housing for persons with mental and physical disabilities.

Policy H-5-e: Ensure that all development applications are considered, reviewed, and approved without prejudice to the proposed residents, contingent on the development application's compliance with all entitlement requirements.

Policy H-5-f: Accommodate persons with disabilities who seek reasonable waiver or modification of land use controls and/or development standards pursuant to procedures and criteria set forth in the Development Code.

Policy H-5-g: Create equitable and affordable housing options throughout the City that provide incentives to residents for finding housing in high opportunity areas and to developers for building affordable housing in high opportunity areas.

Policy H-5-h: Consult with a wide range of groups throughout the community and consider environmental justice issues in the development and update of regulations, guidelines and other local programs.

Policy H-5-i: Increase or maintain resources to establish and support outreach, public education and community development activities through community-based and neighborhood organizations.

4.14.6 Significance Criteria

The thresholds for impacts to population and housing used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. The proposed project may be deemed to have a significant impact with respect to population and housing if it would:

POP-1 Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);

POP-2 Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

4.14.7 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to population and housing that could result from continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and the updates to the Greenhouse Gas Reduction Plan. Future discretionary projects facilitated by continued implementation of the approved General Plan will be evaluated for project-specific impacts to population and housing at the time they are proposed. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with continued implementation of the approved General Plan and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less than significant level. Cumulative impacts are also addressed.

4.14.7.1 Project Impacts

This programmatic EIR contemplates continued implementation of the approved General Plan; future discretionary projects facilitated by continued implementation of the approved General Plan will be evaluated for project-specific impacts to population and housing at the time they are proposed.

POP-1 ***The project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).***

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element indicate that potential environmental impacts relative to VMT will be required after July 1, 2020, and would not result in any physical improvements that would induce unplanned population growth in the area. Similarly, updates to the Greenhouse Gas Reduction Plan include an update to the greenhouse gas emissions inventory for the City, and a series of recommended reduction measures, such as consideration of project design features, to demonstrate consistency with the Greenhouse Gas Reduction Plan Update Consistency Checklist. Updates to the Greenhouse Gas Reduction Plan do not change the distribution or intensity of land uses and, therefore, would not result in any physical impacts that would affect population and housing. However, impacts associated with the continued implementation of the approved General Plan are identified below.

The population in the Planning Area would increase due to the anticipated development resulting from continued implementation of the approved General Plan. However, this projected

development was considered in the MEIR and the approved General Plan and is not a result of any new land uses being proposed. The approved General Plan is anticipated to accommodate a total of 921,057 persons within the Planning Area by the buildout year of 2056. In addition, continued implementation of the approved General Plan is projected to accommodate a total of approximately 336,000 residential units by the buildout year of 2056.

New jobs in the Planning Area would be created by development of commercial, industrial and other employment generating uses. As shown in Table 4.14-4, the jobs to housing ratio in 2015 was 1.15. Based on data from the traffic model prepared for the approved General Plan, it is estimated that there are currently 221,305 jobs in the Planning Area. Based on traffic model, it is projected that there will be approximately 189,500 new jobs, or approximately 410,794 total jobs within the Planning Area by the buildout year of 2056 as shown in Table 4.14-4. Therefore, it is projected that there will be approximately 1.22 jobs for every housing unit in the buildout year of 2056. The jobs-to-housing ratios for 2015 and 2056 shows that more jobs are projected to be available for each housing unit in 2056 as compared to 2015. As shown in Table 4.14-3, the ratio of jobs per housing unit decreases in Fresno County from 1.24 in 2015, to 1.18 in 2056. As shown in Table 4.14-4, the jobs per housing unit ratio is project to increases from 1.18 in 2015 to 1.25 in 2056. This attributed to more jobs being created within the urban area associated with the Planning Area as opposed to jobs created in Fresno County.

Table 4.14-4: Projected Jobs to Housing Ratio for the City of Fresno Planning Area

2015 Jobs to Housing Ratio for the Planning Area[a]			Projected (2056) Jobs to Housing Ratio for the Planning Area		
Housing Units	**Jobs**	**Jobs to Housing Ratio**	**Housing Units at Buildout**	**Jobs at Buildout**	**Job to Housing Ratio**
195,429	231,560[a]	1.18	336,000[b]	421,060[c]	1.25

Source: LSA (2019).

[a] Fresno County Council of Governments. 2017. Fresno County 2050 Growth Projections.

b General Plan, Table 1-2

c Traffic Impact Analysis anticipates adding 189,500 jobs by build out of the approved General Plan. 231,560 jobs plus 189,500 jobs equals 421,060 jobs.

An additional indicator of whether a community provides a balance of jobs and housing is to determine the number of employees that live in an area compared to the number of occupied housing units. As shown in Table 4.14-5, the county of Fresno employees to housing ratio for the year 2015 was assumed to be constant in the future years. This ratio was approximately 1.34 employees for each housing unit within the county in 2015 as shown in Table 4.14-2, above. It is assumed that this employee to housing ratio was similar to the ratio for the Planning Area in 2015. Furthermore, the employee to housing ratio of 1.34 is assumed to be constant in the future years until buildout of the approved General Plan.

Table 4.14-5: Projected Occupied Housing Units and Employees Residing in Fresno County and the City of Fresno Planning Area

Year	Employees Living in the Area		Occupied Housing		Employees to Housing Ratio	
	County	Planning Area	County	Planning Area	County	Planning Area
2015	3369,162[a]	240,924[b]	275,494[a]	179,795[c]	1.34[d]	1.34[e]
2020	404,728[f]	259,226[f]	302,036[g]	193,452[h]	1.34[I]	1.34[e]
2030	447,334[f]	298,608[f]	333,831[g]	222,842[h]	1.34[I]	1.34[e]
2040	479,473[f]	343,974[f]	357,816[g]	256,697[h]	1.34[I]	1.34[e]
2050	523,299[f]	396,232[f]	390,522[g]	295,695[h]	1.34[I]	1.34[e]
2055	550,142[f]	426,330[f]	410,554[g]	318,157[h]	1.34[I]	1.34[e]
2056	555,786[f]	432,807[f]	414,766[g]	322,990[h]	1.34[I]	1.34[e]

Sources: Fresno County Council of Governments. 2017. Fresno County 2050 Growth Projections

[a] Obtained from Table 4.14-2.

[b] Derived from the proposed occupied housing and multiplying the projected employees to housing ratio of 1.34

[c] Assumes a 92 percent occupancy of the 195,429 total housing units obtained from Table 4.14-4

[d] Obtained from Table 4.14-2.

[e] Assumes the same employees to housing ratio within the Planning Area as the employee to housing ratio within the county of Fresno.

[f] Derived by multiplying the total occupied housing units by the employee to housing ratio.

[g] Based on a total housing unit growth projections from Table 9 of Fresno County 2050 Growth Projections from 2015 to 2050, and an occupancy rate of 92 percent of the total housing units. Estimated total housing unit growth in 2055 is based upon previous 5 year growth increments of approximately 5%. The one-year growth increment used for 2056 was approximately 1.03%, which was generally a similar increment if the growth increment was extended over 5-years, and it was based upon the previous 5-year growth of approximately 5%.

[h] Based on a total housing unit growth of 140,571 (336,000 units in 2056 minus 195,429 units in 2015), an annual housing unit growth rate of 1.519 percent, and an occupancy rate of 92 percent of the total housing units.

[I] Assumes a constant employees to housing ratio between 2015 and 2056.

The projected occupied housing is based on an average occupancy of total units throughout the county in 2015.[2] The average occupancy was approximately 92 percent and approximately 8 percent vacancy. The projected occupied housing within the county after 2015 was based on using the average occupancy of 92 percent and the total number of units provided in the Fresno County 2050 Growth Projections 2015 to 2050 prepared in 2017. The 2015 estimate of occupied units for the Planning Area was based on a 92 percent occupancy of the total units within the Planning Area.

As shown in Table 4.14-5, the total employees who are projected to reside in the county in 2056 is 555,786 and the total employees who are projected to reside in the Planning Area is 432,807. Based on the information in Tables 4.14-4 and 4.14-5, there are a greater number of employees who reside in the Planning Area in 2015 and 2056 compared to the number of jobs that are provided in 2015 and 2056. In 2015, approximately 9,364 employees[3] who reside in the Planning Area leave the Planning Area for employment. In 2056, approximately 11,747 employees[4] who are projected to reside in the Planning Area leave the Planning Area for employment. Although the number of employees who are projected to leave the Planning Area for employment increases from 2015 to 2056, the continued implementation of the approved General Plan would improve the employees to

[2] United States Census Bureau. 2011-2015 ACS 5-Year Estimates Table DP04.

[3] Calculation: 240,924 - 231,560 jobs = 9,364 employees

[4] Calculation: 432,807 employees - 421,060 jobs = 11,747 employees

jobs ratio due to the overall increase in employees and jobs in the Planning Area. A balanced ratio is 1.0 which means each employee who resides in an area has an opportunity to obtain a job in the same area. As the approved General Plan continues to be implemented, the jobs to employees ratio for the Planning Area improves from 0.96 in 2015 to 0.97 in 2056. This improvement provides a closer balance of the number of jobs provided in the Planning Area compared to the number of employees who reside within the Planning Area.

Since there is an improvement, continued implementation of the approved General Plan would provide a beneficial effect on the jobs to employees ratio and would not result in a significant inducement of employment growth such that future employees could not be reasonably accommodated by the projected number of additional housing units in the Planned Area. Because future employees would be accommodated by the projected housing growth, the proposed project would result in a less than significant inducement of housing.

Therefore, continued implementation of the approved General Plan would result in a less than significant inducement of population growth because the project would result in a less than significant inducement of housing and employment. No mitigation would be required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.14.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

POP-2 The project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element indicate that potential environmental impacts relative to VMT will be required after July 1, 2020, and would not result in any physical improvements that would displace people or housing. Similarly, updates to the Greenhouse Gas Reduction Plan includes an update to the greenhouse gas emissions inventory for the City, and a series of recommended reduction measures, such as consideration of project design features, to demonstrate consistency with the Greenhouse Gas Reduction Plan Update Consistency Checklist. Updates to the Greenhouse Gas Reduction Plan do not change the distribution or intensity of land uses and, therefore, would not result in any physical impacts that would affect population and housing. However, impacts associated with the continued implementation of the approved General Plan are identified below.

The proposed project would result in the development of vacant land in accordance with the approved General Plan. Development could also occur within areas that would be redeveloped. For redevelopment projects, the continued implementation of the approved General Plan could potentially result in removal of existing residential units. However, the continued implementation of the approved General plan would also result in the development of a net increase of new housing

units when compared to the existing inventory. Therefore, implementation of the project would result in an increase of housing units available as replacement for those units that could potentially be removed during future development under the continued implementation of the approved General Plan. Prior to any displacement that would occur at a project level, a relocation analysis must be prepared in accordance with federal and/or State law (e.g. CEQA).

Additionally, the Fresno General Plan 2017 Housing Element includes the following policies to reduce housing impacts: Objective H-1, Policies H-1-a through H-1-c, Objective H-2, Policies H-2-a through H-2-f, Objective H-3, Policies H-3-a through H-3-e, Objective H-4, Policies H-4-a through H-4-g, Objective H-5, and Policies H-5-a through H-5-i.

As such, continued implementation of the approved General Plan would not necessitate construction of replacement housing due to the development of a net increase of new housing units. Moreover, continued implementation of the approved General Plan and Housing Element policies would further reduce potential housing impacts to a less than significant level by facilitating housing development that is affordable to extremely low-, very low-, low-, and moderate-income households by providing technical assistance, regulatory incentives and concessions, and financial resources as funding permits. In doing so, impacts related to displacement of housing would be reduced as housing opportunities are more readily available to all segments of the population. No mitigation would be required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Housing Element Objective H-1, Policies H-1-a through H-1-c, Objective H-2, Policies H-2-a through H-2-f, Objective H-3, Policies H-3-a through H-3-e, Objective H-4, Policies H-4-a through H-4-g, Objective H-5, and Policies H-5-a through H-5-i, identified in Section 4.14.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.14.7.2 Cumulative Impacts

POP-3 The proposed project would not contribute to a significant cumulative impact related to population and housing.

The study area for the analysis of cumulative population and housing impacts is the Planning Area and the portions of Fresno county located outside the Planning Area. This analysis is based on a summary of projections approach as provided in Section 15130(b)(1)(B) of the *State CEQA Guidelines*.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element indicate that potential environmental impacts relative to VMT will be required after July 1, 2020, and would not result in any physical improvements that would result in cumulative impacts to population and housing. Similarly, updates to the Greenhouse Gas Reduction Plan include an update to the greenhouse gas emissions inventory

for the City, and a series of recommended reduction measures, such as consideration of project design features, to demonstrate consistency with the Greenhouse Gas Reduction Plan Update Consistency Checklist. Updates to the Greenhouse Gas Reduction Plan do not change the distribution or intensity of land uses and, therefore, would not result in any physical impacts that would cumulatively affect population and housing. However, impacts associated with the continued implementation of the approved General Plan are identified below.

Cumulative development within the county of Fresno is projected to increase employees who reside in the county as shown in Table 4.14-5 and will also increase the amount of jobs in the Planning Area. Continued implementation of the approved General Plan would increase the total number of employees leaving the Planning Area (from 23,227 to 28,473 from 2015 to 2056), but would improve the overall jobs to employees ratio in the Planning Area (from 0.91 to 0.94 from 2015 to 2056). Therefore, the project's contribution to the potential inducement of growth would not be cumulatively considerable, and thus the project would result in a less than cumulatively significant growth inducement impact. No mitigation is required.

Cumulative development within the county of Fresno is projected to occur on vacant land and in areas that would be redeveloped. Based on housing projections discussed above, the county is anticipated to substantially increase housing development. Therefore, cumulative development would result in less than significant impacts on the displacement of existing housing that would necessitate the development of more housing than projected for Fresno county. As described above, the continued implementation of the approved General Plan would result in a less than significant housing impact because future development under the approved General Plan is projected to provide adequate housing for future employees and their families within the Planning Area. Therefore, the project contribution to potential cumulative housing impacts within the county would not be cumulatively considerable, and thus would be less than significant. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.14.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.15 PUBLIC SERVICES AND RECREATION

4.15.1 Introduction

This section addresses potential impacts to public services such as police protection, fire protection, schools, parks/recreation, and other public facilities resulting from continued implementation of the approved Fresno General Plan, the Greenhouse Gas Reduction Plan update, and text changes to the Mobility and Transportation Element (proposed project).

4.15.2 CEQA Baseline

The City of Fresno (City) is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Traveled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the General Plan and explains that the PEIR will evaluate the continued implementation of the General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of SB 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the environmental effects of the proposed project would be essentially the same as if the text changes to the General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or update to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as set forth under the current General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, and updates to the Greenhouse Gas Reduction Plan would not occur. The General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the City's approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.15.3 Existing Environmental Setting

The study area for project impacts regarding public services is the City of Fresno Planning Area because potential development under the approved General Plan is limited to areas within the

Planning Area. As defined in Chapter 3.0, Project Description, the Planning Area is the geographic area for which the approved General Plan establishes policies about future growth. The Planning Area established by the City includes all areas within the city's current city limits, including the Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF), the areas within the current Sphere of Influence (SOI), and an area north of the city's most northeasterly portion of the city (referred to as the North Area).

4.15.3.1 Fire Protection

City of Fresno Fire Department. The City of Fresno Fire Department (Fire Department) provides fire suppression, fire prevention, hazardous material mitigation, rescue, and emergency medical services to 325 square miles through five divisions. The five divisions that comprise the City's Fire Department are the Operations Division; the Prevention and Support Services Division; the Training, Emergency Medical Services, and Safety Division; the Personnel and Investigations Division; and the Business and Fiscal Services Division.[1] In 2007, the Fire Department merged operational services with the Fig Garden Fire Protection District (FGFPD). As of July 2019 the Fire Department no longer provides contractual fire protection for the North Central Fire Protection District (NCFPD). However, there are new automatic aid contracts in place for the NCFPD areas within the Fresno's sphere of influence, and mutual aid contracts for the areas outside Fresno's sphere of influence.

As established in Section 3.0, Project Description, the Planning Area contains 545,000 residents. The 2018 Fire Department staffing consisted of 334 sworn firefighting personnel, 18 sworn non-safety personnel, and 23 civilian positions.[2] Daily staffing for the Fire Department and FGFPD service area consists of a minimum of 80 on-duty firefighters. Other services provided by the Fire Department include hazardous material services, swift water rescue, and heavy rescue apparatus.

The City of Fresno participates in aid agreements with surrounding emergency response agencies within Fresno county to ensure that the nearest responding fire agency responds to an emergency regardless of jurisdiction within which it is located. The combination of these agreements and the City of Fresno Fire Department's own resources ensure that a high quality of fire suppression, fire protection, and emergency medical services are provided to the residents within the Planning Area. Emergency medical response is provided by the Fire Department, but emergency transport (such as ambulance service) is provided by private carriers/companies.

The Fire Department aims to provide response to the scene of an emergency within four minutes from the time the station receives notification. In 2018, depending on the specific service area, the Fire Department was able to respond to structure fires within four minutes 72 percent of the time, and to calls for medical aid within four minutes 64 percent of the time.[3] Given the Planning Area

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1 Fresno Fire Department. 2018. *Annual Report*. Available online at: www.fresno.gov/fire/wp-content/uploads/sites/6/2019/01/FFDAnnualReport18_7.pdf (accessed February 28, 2020).

2 Ibid.

3 Ibid.

population of 545,000 and the 2018 number of sworn fire-fighting personnel, the Fire Department has a staffing level of 0.6 firefighters per 1,000 persons.[4]

Non-emergency services provided by the Fire Department includes the review of building permits and subdivision maps to ensure proper location and access to fire suppression equipment, and annual business safety inspections.

In 2007, the NCFPD, whose service area is located to the west of the Planning Area, entered into a service agreement with the Fresno Fire Department for fire service and protection. As of July 2019 the service agreement was no longer in place and the Fire Department no longer provides contractual fire protection for the North Central Fire Protection District. There are new automatic aid contracts in place for the NCFPD areas within the sphere of influence, and mutual aid contracts for the areas outside the sphere of influence. The North Central Fire Protection District serves approximately 50,000 residents over 230 square miles, and includes several fire stations, none of which are located within the Planning Area. Three NCFPD fire stations (Station Nos. 21, 22, and 23) were part of the merger between the Fresno Fire Department and the NCFPD.

The Fresno County Fire Protection District service area includes 2,655 square miles and 220,000 citizens, and 19 stations throughout the San Joaquin Valley. Station 87 is located within the southern portion of the Planning Area. Station 89 is located outside of the Planning Area to the south, but provides service to residents and businesses within the unincorporated communities in the southern portion of the Planning Area.

Fire protection is provided to the community of Fig Garden through the Fig Garden Fire Protection District (FGFPD) contract with the Fresno Fire Department. The 30-year contract began in 2006, and as a result, FGFPD Station No. 80 (originally a Fresno County Fire Protection District Station) was changed to Fresno Fire Department Station No. 20. Station No. 20 is staffed with three firefighters and one fire investigator every day. Station No. 20 is located within the Planning Area in the unincorporated area of Fig Garden.

City of Fresno Fire Hazards. Although the city of Fresno, the Planning Area, and greater region is bound by high and very high fire hazard severity zones,[5] the city itself and the Planning Area does not contain high or very high fire hazard zones and is categorized as having a moderate or no fire hazard. This is largely attributable to the non-vegetated/built-out nature of the city and Planning Area. Fire activity is more likely to occur in the form of a structure or an urban fire, and a wildland fire is unlikely to affect the area. Some small areas along the San Joaquin River Bluff in the northern portion of the city of Fresno are prone to wildfire due to the relatively steep terrain and vegetation.

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4 545,000 / 1,000 = 545; 334 / 545 = 0.6128

5 High and Very High Hazard Severity Zones are classification zones established by the California Department of Forestry and Fire Protection (CAL FIRE) Maps. Website: osfm.fire.ca.gov/divisions/wildfire-prevention-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/ (accessed February 12, 2020).

Table 4.15-1: Existing City of Fresno Fire Stations

Station No.	Address (Fresno)	Equipment/Personnel
ARFF (Airport)	5065 E. Anderson	The ARFF Team consists of 19 Fire Control and five certified team members. This station provides ARFF response, hazardous materials response, first responder calls, and response to all structure fires within airport boundaries.
1	1264 N. Jackson	[TBD]Engine No. 1, operated by a crew of four; Hazmat No. 1, staffed by a member of Engine No. 1's crew; Battalion No. 1, 2006 Chevrolet command vehicle
2	7114 N West	Engine No. 2, operated by a crew of three; Water Tender No. 2, staffed by a crew member from Engine No. 2, holds 3,000 gallons of water
3	1406 Fresno	Engine No. 3, operated by a crew of four; Water Tender No. 3, staffed by a firefighter from Engine No. 3, holds 2,000 gallons of water
4	3065 E Iowa	Truck No. 4, operated by a crew of four; Heavy Rescue 4, staffed by a firefighter engineer from Truck 4
5	3131 N Simpson	Engine No. 5, operated by a crew of four.
6	4343 E Gettysburg	Engine No. 6, operated by a crew of three.
7	2571 S Cherry	Engine No. 7, operated by a crew of three; Patrol No. 7, staffed by a firefighter from the engine crew
8	1428 S Cedar	Engine No. 8, operated by a crew of four; Comm. Unit No. 8; staffed by a member of the Engine No. 8 crew
9	2340 N Vagedes	Engine No. 9, operated by a crew of four
10	5545 Aircorp Way	Truck No. 10, operated by a crew of three
11	5544 N Fresno	Truck No. 11, operated by a crew of four; Battalion No. 3, 2008 Toyota Command Vehicle
12	2874 W Acacia	Engine No. 12, operated by a crew of four
13	815 E Nees	Engine No. 13, operated by a crew of three; Rescue No. 13, staffed by a member of the Engine crew; Rescue Boat No. 1, 2004 Polaris Spirit Inflatable; Rescue Boat No. 2, 2006 Zodiac Grand Raid Mark 2
14	6239 N Polk	Engine No. 14, operated by a crew of three; Truck No. 14, operated by a crew of three; Brush Rig No. 14; operated by the truck crew
15	5630 E Park Circle	Engine No. 15, operated by a crew of three; OES No. 314, used for the "Office of Emergency Services," or as a reserve engine when needed
16	2510 N Polk	Engine No. 16, operated by a crew of three
17	10512 N Maple	Engine No. 17, 2005 Smeal, which pumps 1,500 gallons of water per minute, and is equipped with a 730 gallon water tank and operated by a crew of three; Patrol Rig No. 17, used for vegetation fires and is staffed by the engine crew
18	5938 N La Ventana	Engine No. 18; operated by a crew of three
19	3187 W Belmont	Truck No. 19; operated by a crew of three; Battalion No. 2, 2008 Chevrolet NCFPD Command Vehicle
20	4537 N Wishon (FGFPD)	Engine No. 20, operated by a crew of three; Battalion No. 3, 2006 Chevrolet Command Vehicle

Source: City of Fresno Fire Department Station Locations (2019) (website: https://www.fresno.gov/fire/station-locations/).
FGFPD = Fig Garden Fire Protection District
NCFPD = North Central Fire Protection District

4.15.3.2 Police Protection

The Planning Area contains numerous agencies that provide police protection services: the City of Fresno Police Department, the Fresno County Sheriff's Department, the California Highway Patrol, Fresno State Police Department, and Fresno City College Police Department.

City of Fresno Police Department. The City of Fresno Police Department (Police Department) provide a full range of police services, including: uniformed patrol response to calls for service, crime prevention, tactical crime enforcement (such as gang/violent crime suppression), as well as traffic enforcement/accident prevention. Other services and special units include the Explosive Ordinance Disposal Unit (EOD), Internal Affairs, the K9 Unit, horse-mounted Mounted Patrol, Skywatch, Specialized Weapons and Tactics (SWAT), and the Records Bureau. The Department consists of four divisions: The Support Division, the Investigations Division, the Patrol Division, and the Administration Division. The Police Department has a target staffing ratio of 1.5 unrestricted officers per 1,000 residents. Given the 2018 staffing level of 825 sworn officers[6] and the Planning Area population of 545,000, the staffing ratio is currently 1.5 officers per 1,000 residents. However, of the 825 sworn officers, 64 are restricted. As a result, the staffing ration is currently 1.4 unrestricted officers per 1,000 residents, and the Police Department's Standard is currently not being met.

The Police Department Patrol Division is divided into five policing districts. The Southwest Policing District is located south of McKinley Avenue and West of East Avenue and SR 99. The Northwest Policing District is located north of McKinley Avenue to the San Joaquin River to and west of Blackstone Avenue to the western city limits. The Southeast Policing District is located south of Ashlan Avenue (east of Clovis Avenue), south of McKinley Avenue between East Avenue and Clovis Avenue, and east of SR 99 south of Church Avenue to the southern city limits. The Northeast Policing District is located north of McKinley Avenue to the San Joaquin River and east of Blackstone Avenue to the city of Clovis. The Central Policing District encompasses the area south of Ashlan to Belmont and from SR99 to First Street.

The Police Department operates six police stations within the city, listed below:

- Headquarters: 2323 Mariposa Mall, Fresno CA 93721
- Southwest: 1211 Fresno Street, Fresno, CA 93706
- Southeast: 1617 South Cedar Avenue, Fresno, CA 93702
- Northeast: 1450 East Teague Avenue, Fresno, CA 93720
- Northwest: 3080 West. Shaw Avenue, Fresno, CA 93711
- Central: 3502 North Blackstone Avenue, Suite 201, Fresno, CA 93726

Fresno County Sheriff's Department. The Fresno County Sheriff's Department (Sheriff's Department) provides law enforcement/crime prevention to the unincorporated portions of the metropolitan area and Fresno County. The Sheriff's Department is divided into four Patrol Areas. The unincorporated communities within the Planning Area are Calwa, Malaga, Mayfair, Sunnyside, Fig Garden, and Tarpey. These areas are served by the Sheriff's Department Patrol Area 2. Patrol Area 2 serves communities within the boundaries of American Avenue to the Madera county line,

[6] Fresno, City of. 2018-2019 Adopted Budget.

and Chateau Fresno to McCall Avenue. The Area 2 Sheriff's Department office is located at 5717 E. Shields Avenue, which is located in the southeast portion of the Planning Area.

Other Law Enforcement Agencies. Other law enforcement agencies that serve the Planning Area include the California Highway Patrol, Fresno State Police Department, and Fresno City College Police Department. The California Highway Patrol (CHP) is responsible for providing uniform traffic law enforcement throughout the State highway system. CHP assists the City of Fresno by providing law enforcement within the city under Special Programs. The CHP offices within the Planning Area are the CHP Central Division office (located at 5179 North Gates Avenue, in the northwestern portion of the Planning Area) and the CHP Area office (located at 1382 West Olive Avenue, also located in the northwest portion of the Planning Area). The CHP Central Division office oversees the Area offices that are located throughout the San Joaquin Valley.

The Fresno State Police Department is responsible for providing safety and security for students, staff, and faculty within the Fresno State University campus, which is located in the northeast portion of the Planning Area. Their jurisdiction extends one mile beyond the University's boundary. Additionally, Fresno City College is served by its own Police Department that serves the campus community. The Fresno City College Police Department provides a full range of police-related services, and immediate response to all medical and fire emergencies on campus[7].

4.15.3.3 Schools

The Planning Area includes various schools that provide primary, secondary, and post-secondary education.

Primary and Secondary Schools (Kindergarten through Twelfth Grades). The Planning Area, which includes areas with the city limits, the areas within the SOI, and an area north of the city's most northeasterly portion, is served by a number of school districts. These school districts are described below.

Fresno Unified School District (FUSD) contains seven sub-districts and 95 schools. With an enrollment of over 70,000 students, FUSD is the fourth largest school district in California. FUSD completed a District Master Plan in 2009 aimed at addressing overcrowding in the District's schools and proposes a new high school in the southern portion of the city of Fresno.

Clovis Unified School District (CUSD) is the city's second largest school District. Of CUSD's 50 schools/campuses, 33 are elementary schools, five are intermediate schools, and five are high schools. CUSD also has one adult school and six alternative education campuses. Approximately 40 percent of the students in CUSD are residents of the city of Fresno, and approximately 20 percent of the city of Fresno is located within CUSD's boundaries.[8] CUSD currently serves nearly 44,000

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7 Fresno City College. 2012. *Campus Security & Fire Report*. Available online at: retrieve.scccd.edu/2012_security_fire_report.pdf (accessed February 12, 2020).

8 Clovis Unified School District. 2019. Demographics. Website: www.cusd.com/Demographics.aspx (accessed February 12, 2020).

students, and has a maximum capacity of 49,915 students.[9] The District has a staff of approximately 6,400. CUSD predominantly serves Fresno's northeast and north-central areas, and the city of Clovis, which is not included in the Planning Area.

Central Unified School District (Central USD) serves the northwestern and west area (i.e., west of SR 99) as well as a large rural area west of the city. Central USD currently serves 16,286 students at 21 schools, and has experienced significant growth necessitating the expansion of facilities over the past decade.[10]

Sanger Unified School District (Sanger USD) serves the Sunnyside area of the city of Fresno, in addition to the city of Sanger and the surrounding unincorporated communities. Sanger High School, which services students currently living in the Sunnyside/southeast portion of Fresno, is located several miles east of Fresno. Sanger USD covers 180 square miles serves 11,360 students across 21 schools.[11]

Washington Unified School District serves a small portion of the southwest area of the city of Fresno through two schools (one elementary school and one combined elementary/intermediate school) located within the boundaries of the city of Fresno and the Planning Area.[12]

Post-Secondary Schools. Post-secondary schools are institutions that provide education after twelfth grade, or higher education. The academic institutions that provide higher education within the Planning area are California State University, Fresno (Fresno State University), Fresno Pacific University, Fresno City College, Willow International Community College Center, and a wide variety of vocational and technical schools that prepare students for the workplace.

Fresno State University, which is one of 23 campuses within the California State University system, had a fall 2018 total enrollment of 24,995 undergraduate and graduate students.[13] The 388-acre main-campus and 1,011-acre University Farm are located within the northeast portion of the city.

Fresno Pacific University is a private college with 30 undergraduate and graduate degree programs and nearly 4,000 students. The 44-acre campus is located in central southeast Fresno.

The State Center Community College District is comprised of three educational centers and serves 8,300 students from the communities of Fresno, Reedley, Oakhurst, Madera, and Clovis. Fresno City College, which provides general education programs for nearly 24,000 students intending to transfer

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9 Ibid.

10 Central Unified School District. 2018. Central Unified at a Glance. Available online at: 4.files.edl.io/e62d/03/11/19/173310-297d70f9-747a-475c-aba3-a2dbe6b19af0.pdf (accessed February 12, 2020).

11 Sanger Unified School District. 2019. About Our District. Website: www.sanger.k12.ca.us/district-resources/about (accessed February 12, 2020).

12 Washington Unified School District. 2019. Maps and Boundaries. Website:www.washingtonunified.org/district/maps (accessed February 12, 2020).

13 Fresno State University. 2018. Headcount Enrollment from Fall 2015 to Fall 2019. Website: tableau.fresnostate.edu/views/Enrollment/Headcount?:isGuestRedirectFromVizportal=y&:embed=y (accessed February 12, 2020).

to an undergraduate university or a vocational program. Willow International Community College Center, one of the State Center Community College District campuses, is located within the Planning Area and offers programs in general education to students who intend to transfer to a four-year institution or obtain a Certificate or Associates Degree.

4.15.3.4 Parks and Recreation

As identified in the City's Parks Master Plan,[14] the City of Fresno owns and operates a park system that includes more than 80 public parks, trails, regional parks, neighborhood parks, educational facilities, community pools, splash parks, and dual-use ponding basins. Many of the public parks include additional amenities. School facilities supplement the City's park system by adding acreage and facilities that are available for recreational use through Joint-Use agreements.

Overall, there are more than 9,000 acres of planned open space in the Planning Area, as shown in Table 4.15-2. Table 4.15-2 shows the acreage of all types of open space in the city. As depicted in this table, ponding basins, which are owned and operated by the Fresno Metropolitan Flood Control District (FMFCD) comprise a substantial portion of the open space in the city. Ponding basins account for 1,893 acres within the city and aid in either storm water drainage or year-round groundwater recharge basin.

Table 4.15-2: Planning Area Planned Open Space

Facility	Acreage
Multi-Use	4,067
Recreational	8
Ponding Basins	1,893
Airport Approach/Clear Zone	368
Golf Courses	982
Parks	1,688
Canals/Open Space	42
Lake/Water Feature	86
Total:	9,134

Source: City of Fresno (2019)

4.15.3.5 Other Public Facilities

Courts. The Planning Area contains two State and one federal court. The two State courts are a trial court (the Fresno County Superior Court) and the Appellate Court. The federal court is the U.S. District Court for the Eastern District of California, Eastern Division.

[14] City of Fresno. 2017. *Fresno Parks Master Plan*. December 14.

State Courts.

Fresno County Superior Court. Within the Planning Area, there are three Superior Court locations: the Fresno Superior Courthouse Downtown, the B.F. Sisk Courthouse, and the "M" Street Courthouse. One additional Superior Court location lies outside of the Planning Area to the south.

The Fresno Superior Courthouse Downtown is located at 1100 Van Ness Avenue. The Fresno Superior Courthouse Downtown hears criminal (felony, infraction, and misdemeanor), domestic violence, drug, juvenile dependency, and traffic cases.

The B. F. Sisk Courthouse is located at 1130 O Street. The B.F. Sisk Courthouse hears non-criminal cases, such as civil cases, conservatorship, restraining order, probate, small claims, and unlawful detainer cases. The B.F. Sisk Courthouse provides family court/family law services.

The "M" Street Courthouse is located at 2317 Tuolumne Street. The "M" Street Courthouse hears Criminal and Traffic infractions.

In addition to the three courthouses identified above, there is a Juvenile Delinquency Court immediately south of the Planning Area, located at 333 East American Avenue. All cases at this facility are matters involving juveniles, and include misdemeanor and felony criminal, drug, traffic, and school attendance cases.

5th District Court of Appeals. The State of California 5th District Court of Appeals is located in the city of Fresno at 2424 Ventura Street. The Fifth Appellate District represents nine central California counties, Kern, Kings, Madera, Mariposa, Merced, Stanislaus, Tulare, and Tuolumne. With the exception of death penalty cases, the Courts of Appeal have appellate jurisdiction when trial courts have original jurisdiction and in other cases prescribed by statute. Appeals filed in the trial court are reviewed and hear by the appellate district where the trial court is located.

Federal Court System. The U.S. District Court has a courthouse in the city of Fresno, located at 2500 Tulare Street. This federal district court is the Fresno Division within the Eastern District of California. This court hears civil, criminal, and miscellaneous actions arising in the counties of Calaveras, Fresno, Inyo, Kern, Kings, Madera, Mariposa, Merced, Stanislaus, Tulare, and Tuolumne. The Fresno Divisional Office is currently staffed with three district court judges, and four magistrate judges.[15]

Libraries. Libraries in the Planning Area are provided by the Fresno County Public Library System. This library system consists of thirty nine libraries and one Community Bookmobile throughout Fresno County.[16] Libraries within the Planning Area are shown in Table 4.15-3.

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15 U.S. District Court. 2019. Eastern District of California. All Judges. Website: www.caed.uscourts.gov/caednew/index.cfm/judges (accessed February 12, 2020).

16 Fresno County Public Library. 2019. All Branches at a Glance. Website: www.fresnolibrary.org/branch/all.html (accessed February 12, 2020).

Table 4.15-3: Libraries in the Planning Area

Library Name	Address
Woodward Park Regional Library	944 East Perrin Avenue, Fresno, CA 93720
Pinedale Branch Library	7170 North San Pablo Avenue, Fresno, CA 92650
Fig Garden Regional Library	3071 West Bullard Avenue, Fresno, CA 93711
Politi Branch Library	5771 North First Street, Fresno, CA 92710
Gillis Branch Library	629 West Dakota Avenue, Fresno, CA 93705
Talking Book Library for the Blind	Ted C. Wills Community Center, 770 North San Pablo Avenue, Fresno, CA 93728
Fresno County Central Library	2420 Mariposa Street, Fresno, CA 93721
Sunnyside Regional Library	5566 East Kings Canyon Road, Fresno, CA 93727
Mosqueda Branch Library	4670 East Butler Avenue, Fresno, CA 93720
West Fresno Branch Library	188 East California Avenue, Fresno, CA 93706
Senior Resource Center Library	2025 East Dakota Avenue, Fresno, CA 93726

Source: Fresno County Public Library, 2020. Website: www.fresnolibrary.org/branch/all.html

Hospitals. There are nine hospitals that are located within the city of Fresno Planning Area. These hospitals provide a variety of services. There are three hospitals that provide emergency services and one hospital that provides Level 1 trauma service. The location, services offered, and capacity of each of the hospitals are provided in Table 4.15-4.

As shown below, the hospital with the greatest capacity and widest range of services is the Community Regional Medical Center, located in Downtown Fresno. The total number of hospital beds available within the Planning Area is approximately 1,583.

Table 4.15-4: Hospitals in the City of Fresno Planning Area

Hospital Name	Location	Services Offered	Capacity
Fresno Surgical Hospital	6125 North Fresno Street Fresno CA 93710	General Acute Care Hospital	27 Beds
Fresno Heart and Surgical Hospital	15 East Audubon Drive Fresno, CA 93720	General Acute Care Hospital, Cardiac, Vascular, and Bariatric Surgical Services	57 Beds
St. Agnes Medical Center	1303 East Herndon Avenue Fresno, CA 93720	General Acute Care Hospital, Emergency Services	436 Beds
Kaiser Foundation Hospital – Fresno	7300 North Fresno Street Fresno, CA 93720	General Acute Care Hospital, Emergency Services	169 Beds
Community Regional Medical Center	2823 Fresno Street Fresno, CA 93721	General Acute Care Hospital, Emergency Services, Neuroscience Institute, Level 3 Neonatal ICU, Level 1 Trauma and Comprehensive Burns Center	685 Beds
Community Behavioral Health Center	7171 North Cedar Avenue Fresno, CA 93720	Inpatient and outpatient acute psychiatric care	61 Beds
Community Subacute and Transitional Care Center	3003 N. Mariposa Street Fresno, CA	Chronic Subacute Conditions	106 Beds
San Joaquin Valley Rehabilitation Hospital	7173 North Sharon Avenue Fresno, CA 93720	Outpatient and Inpatient Rehabilitation Services	62 Beds

Source: The Office of Statewide Health Planning and Development, 2020. Website: www.oshpd.ca.gov/facility-finder/

4.15.4 Methodology

The potential project-related impacts related to public services and recreation were evaluated on a qualitative basis due to the programmatic nature of this EIR. Qualitative impacts were assessed by evaluating the project's potential for impacting public services and recreational resources within the Planning Area based on information regarding the current service commitments and capacities of public service providers within the Planning Area.

4.15.5 Regulatory Setting

4.15.5.1 Fire Protection

City of Fresno General Plan. The following objectives and policies from the current General Plan are relevant to the provision of fire protection services within the Planning Area.

Public Utilities and Services Element

Objective PU-2. Ensure that the Fire Department's staffing and equipment resources are sufficient to meet all fire and emergency service level objectives and are provided in an efficient and cost effective manner.

PU-2-a: Unify Fire Protection. Pursue long-range transfer of fire protection service agreements with adjacent fire districts that, in concert with existing automatic aid agreements, will lead to the eventual unification of fire protection services in the greater Fresno area.

PU-2-b: Maintain Ability. Strive to continually maintain the Fire Department's ability to provide staffing and equipment resources to effectively prevent and mitigate emergencies in existing and new high-rise buildings and in other high-density residential and commercial development throughout the city.

PU-2-c: Rescue Standards. Develop appropriate standards, as necessary, for rescue operations, including, but not limited to, confined space, high angle, swift water rescues, and the unique challenges of a high speed train corridor.

PU-2-d: Station Siting. Use the General Plan, community plans, Specific Plans, neighborhood plans, and Concept Plans, the City's Geographic Information Systems (GIS) database, and a fire station location program to achieve optimum siting of future fire stations.

PU-2-e: Service Standards. Strive to achieve a community wide risk management plan that include the following service level objectives 90 percent of the time:

- First Unit on Scene – First fire unit arriving with minimum of three firefighters within 5 minutes and 20 seconds from the time the unit was alerted to the emergency incident.
- Effective Response Force – Provide sufficient number of firefighters on the scene of an emergency within 9 minutes and 20 seconds from the time of unit alert to arrival. The effective response force is measured as 15 firefighters for low risk fire incidents and 21

firefighters for high risk fire incidents and is the number of personnel necessary to complete specific tasks required to contain and control fire minimizing loss of life and property.

Objective PU-3. Enhance the level of fire protection to meet the increasing demand for services from an increasing population.

Policy PU-3-a: Fire Prevention Inspections. Develop strategies to enable the performance of annual fire and life safety inspection of all industrial, commercial, institutional, and multi-family residential buildings, in accordance with nationally recognized standards for the level of service necessary for a large Metropolitan Area, including a self-certification program.

Policy PU-3-b: Reduction Strategies. Develop community risk reduction strategies that target high service demand areas, vulnerable populations (e.g. young children, older adults, non-English speaking residents, persons with disabilities, etc.), and high life hazard occupancies.

Policy PU-3-c: Public Education Strategies. Develop strategies to re-establish and enhance routine public education outreach to all sectors of the community.

Policy PU-3-d: Review Development Applications. Continue Fire Department review of development applications, provide comments and recommend conditions of approval that will ensure adequate on-site and off-site fire protection systems and features are provided.

Policy PU-3-e: Building Codes. Adopt and enforce amendments to construction and fire codes, as determined appropriate, to systematically reduce the level of risk to life and property from fire, commensurate with the City's fire suppression capabilities.

Policy PU-3-f: Adequate Infrastructure. Continue to pursue the provision of adequate water supplies, hydrants, and appropriate property access to allow for adequate fire suppression throughout the City.

Policy PU-3-g: Cost Recovery. Continue to evaluate appropriate codes, policies, and methods to generate fees or other sources of revenue to offset the ongoing personnel and maintenance costs of providing fire prevention and response services.

City of Fresno Municipal Code

- **Section 12-4.901.** In order to implement the goals, objectives and policies of the City's approved General Plan, and to mitigate the impacts caused by future development in the city, certain fire department facilities must be constructed. The City Council has determined that a Fire Facilities Fee is needed in order to pay for (a) land acquisition for, and design, engineering, and construction of the public facilities designated in the Council resolution and reasonable costs of outside consultant studies related thereto; (b) to reimburse the City for designated public facilities construction by the City with funds (other than gifts or grants) from other sources together with accrued interest; (c) to reimburse developers who have designed and constructed designated

public facilities which are oversized and supplemental size, length, or capacity; and/or (d) to pay for and/or reimburse costs of program development and ongoing administration of the Fire Facilities Fee program. Table 4.15-5 below describes the Fire Facilities Fee by type of development as established in the City's Master Fee Schedule.

Table 4.15-5: Fire Facilities Fee Program

Type	Fee
Single-Family Residential/per unit	$1,893
Multi-Family Residential(>7.5 units/acre)/per unit	$1,429
Industrial (fee per 1,000 Sq. Ft. of building)	379
Retail (per 1000 sf of building)	$662
Office (per 1000 sf of building)	757

Source: City of Fresno Master Fee Schedule, Effective August 2019.

4.15.5.2 Police Protection

City of Fresno General Plan. The following objectives and policies from the approved General Plan are relevant to the provision of police services within the Planning Area.

Public Utilities and Services Element

Objective PU-1. Provide the level of law enforcement and crime prevention services necessary to maintain a safe, secure, and stable urban living environment through a Police Department that is dedicated to providing professional, ethical, efficient and innovative service with integrity, consistency and pride.

PU-1-b: Involvement in General Plan. Facilitate Police Department participation in the implementation of General Plan policies, including citizen participation efforts and the application of crime prevention design measures to reduce the exposure of neighborhoods to crime and to promote community security.

- Facilitate Police Department communication with citizen advisory committees.
- Refer appropriate development entitlements to the Police Department for review and comment.

PU-1-c: Safety Considerations in Development Approval. Continue to identify and apply appropriate safety, design and operational measures as conditions of development approval, including, but not limited to, street access control measures, lighting and visibility of access points and common areas, functional and secure on-site recreational and open space improvements within residential developments, and use of State licensed, uniformed security.

PU-1-d: New Police Station Locations. Consideration will be given to co-locating new police station facilities with other public property including, but not limited to, schools, parks, playgrounds, and community centers to create a synergy of participation in the neighborhood with the potential result of less vandalism and promotion of a better sense of security for the citizens using these facilities.

PU-1-e: Communication with Public. Maximize communication and cooperative efforts with residents and businesses in order to identify crime problems and optimize the effectiveness of crime prevention measures and law enforcement programs.

PU-1-g: Plan for Optimum Service. Create and adopt a program to provide targeted police services and establish long-term steps for attaining and maintaining the optimum levels of service - 1.5 unrestricted officers per 1,000 residents.

Commentary: The City's fiscal management strategies will affect planning for optimum service. The Economic Development and Fiscal Sustainability Element provides additional details.

City of Fresno Municipal Code

- **Section 12-4.801 of the Municipal Code.** In order to implement the goals, objectives and policies of the City's General Plan, and to mitigate the impacts caused by future development in the city, certain police facilities must be constructed. The City Council has determined that a Police Facilities Fee is needed in order to pay for (a) land acquisition for, and design, engineering, and construction of the public facilities designated in the Council resolution and reasonable costs of outside consultant studies related thereto; (b) to reimburse the city for designated public facilities construction by the city with funds (other than gifts or grants) from other sources together with accrued interest; (c) to reimburse developers who have designed and constructed designated public facilities which are oversized and supplemental size, length, or capacity; and/or (d) to pay for and/or reimburse costs of program development and ongoing administration of the Police Facilities Fee program. Table 4.15-6 below describes the Police Facilities Fee by type of development as established in the City's Master Fee Schedule.

Table 4.15-6: Police Facilities Fee Program

Type	Fee
Single-Family Residential/per unit	$618
Multi-Family Residential(>7.5 units/acre)/per unit	$466
Industrial (per 1,000 sf of building)	$313
Retail (per 1000 sf of building)	$658
Office (per 1000 sf of building)	$626

Source: City of Fresno Master Fee Schedule, Effective February 2017

4.15.5.3 Schools

Senate Bill 50. Senate Bill (SB) 50 (funded by Proposition 1A, approved in 1998) limits the power of cities and counties to require mitigation of school facilities impacts as a condition of approving new development and provides instead for a standardized developer fee. SB 50 generally provides for a 50/50 State and local school facilities funding match. SB 50 also provides for three levels of statutory impact fees. The application level depends on whether State funding is available, whether the school district is eligible for State funding, and whether the school district meets certain additional criteria involving bonding capacity, year-round school, and the percentage of moveable classrooms in use.

City of Fresno General Plan. The following objectives and policies from the approved General Plan are relevant to the provision of schools within the Planning Area.

Public Utilities and Services Element

Objective POSS-8. Work cooperatively with school districts to find appropriate locations for schools to meet the needs of students and neighborhoods.

POSS-8-a: Support School Districts' Programs. Support strategies and programs of school districts and the Fresno County Office of Education to provide access to and use of the highest quality educational programs and support services.

POSS-8-b: Appropriate School Locations. Support school locations that facilitate safe and convenient access by pedestrian and bicycle routes, are compatible with surrounding land uses, and contribute to a positive neighborhood identity and Complete Neighborhoods. Commit to the following:

- Work with representatives of public and private schools during the preparation and amendment of plans and the processing of development proposals to ensure that General Plan policies are implemented.
- Require school districts to provide necessary street improvements, pedestrian facilities, public facilities, and public services at each new school site as authorized by law.
- Continue to designate known school sites on the Land Use Diagram (Figure LU-1), and in community plans, Specific Plans, and other plans compatible with the locational criteria of each school district, and to facilitate safe and convenient walking and biking to schools in neighborhoods.
- Meet regularly with school district staff and trustees to provide ongoing communication and coordination of plans, projects, and priorities.
- Collaborate with school districts to plan and implement new school sites in a manner that supports and reinforces objectives to develop walkable Complete Neighborhoods.

POSS-8-c: Park and School Site Coordination. Pursue the cooperative development and use of school sites with adjacent neighborhood parks for both school activities and non-school related recreational activities.

Fresno County General Plan. The following policies from the Fresno County General Plan are relevant to the provision of schools within the Planning Area.

Public Utilities and Services Element

Policy PF-I.2: The County shall encourage school facility siting that establishes schools as focal points within the neighborhoods and community in areas with safe pedestrian and bicycle access.

Policy PF-I.4: The County shall work cooperatively with school districts in monitoring housing, population, and school enrollment trends and in planning for future school facility needs and shall assist school districts in locating appropriate sites for new schools.

Policy PF-I.6: The County strongly discourages the siting of schools in agricultural areas due to the growth-inducing potential of schools and conflicts with farming practices such as pesticide application.

Policy PF-I.8: The County and school districts should work closely to secure adequate funding for new school facilities. The County shall support the school districts' efforts to obtain appropriate funding methods such as school impact fees.

4.15.5.4 Parks

City of Fresno General Plan. The following objectives and policies from the approved General Plan are relevant to the provision of parks within the Planning Area.

Parks, Open Space, and Schools Element

Objective POSS-1. Provide an expanded, high quality and diversified park system, allowing for varied recreational opportunities for the entire Fresno community.

Commentary: The park system will be comprehensive; include greenways, trails and open space; allow for athletic, leisure and mobility opportunities; support planned land use intensities and patterns and buffers along transportation corridors; and accommodate groundwater and other resource management objectives.

POSS-1-a: **Parkland Standard**. Implement a standard of at least three acres of public parkland per 1,000 residents for Pocket, Neighborhood, and Community parks throughout the city, while striving for five acres per 1,000 residents for all parks throughout the city, subject to identifying additional funding for Regional Parks, Open Space/Natural Areas, and Special Use Parks/Facilities.

POSS-1-b: **Parks Implementation Planning**. Conduct ongoing planning to implement park policies established in this General Plan and continue to strive for well-maintained and fully accessible playgrounds, with accessible amenities, throughout the city.

- Keep an up-to-date inventory of existing and planned parks, including locations mapped on the Parks and Open Space Diagram;
- Plan for acquiring new parkland designated in the General Plan, as shown in Figure POSS-1;
- Establish a standard protocol for working with new development to arrange for parkland acquisition and dedication;
- Establish a protocol for working with established neighborhoods to provide needed parks, including the fostering of neighborhood and district associations to help plan, acquire, improve and care for public parks, and coordinating new City service facilities to provide new open space;
- Establish detailed design, construction, and maintenance standards;
- Prepare an assessment of the recreation needs of existing and future residents;
- Create an action plan defining priorities, timeframes, and responsibilities;
- Adopt and implement a comprehensive financing strategy for land acquisition, park development, operations, and maintenance;
- Identify opportunities for using existing or planned park space as passive stormwater storage, treatment, and conservation areas that also provide scenic and/or recreational opportunities;
- Identify opportunities for siting and using existing or planned park space as passive "purple pipe" waste water storage, treatment, and conservation areas that also provide scenic and/or recreational opportunities; and
- Update the Parks Master Plan.

POSS-1-c: Public Input in Park Planning. Continue to provide opportunities for public participation in the planning and development of park facilities and in creation of social, cultural, and recreational activities in the community.

POSS-1-d: Additional Parkland in Certain Areas. Strive to obtain additional parkland of sufficient size to adequately serve underserved neighborhood areas and along BRT corridors in support of new and intense residential and mixed use infill development.

- Identify, where appropriate, joint use opportunities in siting parks with other City service facility needs.

POSS-1-e: Criteria for Parks in Development Areas. Continue to use park size and service area criteria for siting new parks and planning for parks in Development Areas:

Park Type	Size Range (Acreage)	Population Served	Service Area Radius
Neighborhood	2.01 to 10	10,000–15,000	Up to 1 mile
Community	10.01 to 40	50,000–80,000	Up to 4 miles
Regional	More than 40[1]	100,000	100,000 residents

[1] Or when amenities provide regional service.

POSS-1-f: Parks and Open Space Diagram. Require parks to be sited and sized as shown on the Parks and Open Space Diagram (Figure POSS-1) of the General Plan, subject to the following:

- All new park designations carry dual land use designations, so that if a park is not needed, private development consistent with zoning and development standards may be approved. (See Figure LU-2: Dual Designation Diagram in the Urban Form, Land Use, and Design Element);

- Revised and/or additional park sites will be identified through subsequent implementation and planning in established neighborhoods and Development Areas;

- Locations for future park sites as shown on Figure POSS-1 are schematic to the extent that park sites may be relocated as necessity and opportunity dictate, and a General Plan amendment is not required if the park continues to serve the target areas as determined by the Planning Director; and

- A park may be located on any suitable land in the general vicinity of the sites depicted. However, the zoning of potential park sites must be made consistent with the General Plan.

Objective POSS-2. Ensure that adequate land, in appropriate locations, is designated and acquired for park and recreation uses in infill and growth areas.

POSS-2-b: Park and Recreation Priorities. Use the following priorities and guidelines in acquiring and developing parks and recreation facilities:

- Acquire and develop neighborhood park space in existing developed neighborhoods that are deficient of such space and in areas along BRT corridors that are designated as priorities for encouraging new mixed-use transit-oriented development;

- Provide accessible recreation facilities in established neighborhoods with emphasis on those neighborhoods currently underserved by recreation facilities;

Commentary: As funding permits, the City will strive to make all recreation facilities universally accessible for all residents. Guidelines should also consider the provision for universally accessible facilities in established neighborhoods.

- Improve established neighborhood parks with emphasis on those neighborhoods with the greatest need;
- Acquire and develop neighborhood and community parks in new Development Areas;
- Recognize community parks as a special need in areas that lack these facilities or are planned for transit supportive urban densities, and explore all potential sources of revenue to secure and develop appropriate sites including joint use facilities;
- Develop new special purpose parks, such as outdoor gym equipment, natural resource based trail parks, equestrian centers, dog parks, and amphitheaters, as well as alternative recreation facilities, such as community recreation centers, passive wildlife observation park, cultural heritage and diversity park, military veterans memorial park, and universal access open space park; and
- Acquire and develop park and open space in established neighborhoods and Development Areas, prioritizing existing neighborhoods with the greatest deficiencies, so that all residents have access to park or open space within one-half mile of their residence. Develop these facilities to be fully accessible to individuals with disabilities as required by law.

POSS-2-c: Review of Development Applications. Coordinate review of all development applications (i.e., site plans, conditional use permits, and subdivision maps) in order to implement the parks and open space standards of this Plan.

- Assure the provision of adequate active and passive open spaces and facilities as appropriate within residential subdivisions through Development Code requirements for mandatory dedication and improvement of land and/or development fees.

  Commentary: Revisions to the Quimby Act by AB 1359, allows fees paid pursuant to the act to be used in a neighborhood other than the neighborhood being developed if specific conditions can be met.

- Require the provision of appropriate outdoor living areas or private open space in multi-family residential developments not subject to the Subdivision Map Act.
- Request open space easements where feasible and warranted to secure appropriate public use of sensitive areas with scenic or recreation values, and for buffering space for sensitive areas.
- Require provision of appropriate open space areas in private projects, in the form of trails, enhanced landscaped setbacks, parks, and water features.

- Evaluate the merits of establishing a development bonus entitlement program in which development incentives (i.e., bonus densities, bonus floor area square footage) are provided for contributions to public recreational facilities on-site or in the vicinity of the development project.

POSS-2-d: Creation Opportunities near Freeway Corridors. Negotiate with Caltrans, other public agencies, and private property owners to develop remnant parcels along freeway corridors for appropriate recreational uses.

POSS-2-e: Open Space Dedication for Residential Development. Ensure new residential developments provide adequate land for parks, open space, landscaping, and trails through the dedication of land or otherwise providing for Pocket Parks, planned trails, and other recreational space, maintained by an HOA, CFD, or other such entity.

Objective POSS-3. Ensure that park and recreational facilities make the most efficient use of land; that they are designed and managed to provide for the entire Fresno community; and that they represent positive examples of design and energy conservation.

POSS-3-a: Centralized Park Locations. Site parks central and accessible to the population served, while preserving the integrity of the surrounding neighborhood.

POSS-3-b: Park Location and Walking Distance. Park Location and Walking Distance. Site Pocket and Neighborhood Parks within a half-mile walking distance of new residential development.

POSS-3-c: Link Parks with Walkways. Link public open space to adjacent, schools, and residential uses and Activity Centers through a series of landscaped linear walkways and bikeways that enhance and encourage pedestrian use.

POSS-3-e: Minimum Park Size for Active Recreation. Minimize City acquisition or acceptance of dedication of park sites less than two acres in size for active recreational uses, except where maintenance costs are secured through a CFD, HOA, or other such mechanism.

POSS-3-f: Park Design Guidelines. Park Design Guidelines. Create, maintain, and apply park design guidelines, with provisions for appropriate amenities for each park type, which may include:

- Minimum and maximum shade.
- Protections from shading by adjacent buildings.
- Accessibility to persons with disabilities.
- Street trees and landscaped median strips in adjacent arterial roads.
- Art and points of attraction.

- Landscape and hardscape features.
- Street furniture, signage, and lighting.
- Food sales and entertainment.
- Restroom facilities, play structures, and picnic shelters.
- Landscape design synthesis with input from civil engineers and hydrologists, educators and daycare providers, fitness trainers and coaches, police officers and experts in crime prevention through environmental design, as appropriate.
- Solar panels, new LED lighting, and water efficiency improvements. Sports field areas designed to allow periodic changes in field locations to minimize wear areas and provide sufficient fields to host regional, state, or national tournaments.
- Using topography to create interesting and visually appealing spaces and forms.
- Use of waterways as a key design influence, a focus of restoration, and an opportunity to provide for public enjoyment of views.
- Reflecting the agricultural and horticultural heritage of the site or area.
- Connecting with surrounding areas in a way that encourages expanded pedestrian activity.
- Creating individual places within a park that respond to the needs of a broad range of park users, from youth to the elderly.
- Creating places of delight that engage the senses.
- Creating places that engage the mind, by treating park features as opportunities for interpretation and questioning.
- Using sustainable design practices, and highlighting these as opportunities for learning.

POSS-3-g: Park Security and Design. Park Security and Design. Promote safety, attractiveness, and compatibility between parks and adjacent residential areas through design, maintenance, and enforcement of park regulations

- Require the installation of security lighting for parking, points of access, and building areas at all public recreation and park sites.
- Keep neighborhood eyes on parks to increase security.

POSS-3-h: Coordination with School Districts. Continue to coordinate with school districts to explore opportunities for joint use of both outdoor and indoor recreation facilities, such as playgrounds, play fields, and gymnasiums, for City recreation programs.

POSS-3-i: Joint Use with Drainage Facilities. Continue to seek joint use agreements for use of FMFCD stormwater drainage facilities.

Objective POSS-4. Pursue sufficient and dedicated funding for parks acquisition, operations, and maintenance.

POSS-4-a: Supplemental Revenue. Seek revenue sources to supplement General Fund support for basic park maintenance and basic recreational services.

POSS-4-b: Operation and Maintenance Financing. Continue to require new residential development to form lighting and landscaping maintenance districts or community facility districts or ensure other means of financing to pay for park operations and maintenance.

POSS-4-c: Improvements in Established Neighborhoods. Seek agreements with formal neighborhood associations and institutions for improvements and ongoing maintenance of parks in established neighborhoods.

City of Fresno Municipal Code

- Section 12-4.701 of the Municipal Code: In order to implement the Goals, objectives and policies of the City's General Plan, and to mitigate the impacts caused by future development in the city, certain park facilities must be constructed. The City Council has determined that a Park Facilities Fee is needed in order to pay for (a) land acquisition for, and design, engineering, and construction of the public facilities designated in the Council resolution and reasonable costs of outside consultant studies related thereto; (b) to reimburse the city for designated public facilities construction by the city with funds (other than gifts or grants) from other sources together with accrued interest; (c) to reimburse developers who have designed and constructed designated public facilities which are oversized and supplemental size, length, or capacity; and/or (d) to pay for and/or reimburse costs of program development and ongoing administration of the Park Facilities Fee program. Table 4.15-7 below describes the Park Facilities Fees under different fee programs by type of development, as established in the City's Master Fee Schedule.

Table 4.15-7: Park Facilities Fee Program

Type	Park Facility Impact Fee	Quimby Parkland Dedication Fee
Single-Family Residential/per unit	$4,027	$1,153
Multi-Family Residential/per unit	$3,037	$879

Source: City of Fresno Master Fee Schedule Effective February 2017.

4.15.5.5 Other Public Facilities

County of Fresno General Plan. The following policy policies from the County General Plan are relevant to the provision of library facilities within the Planning Area.

Public Facilities and Services Element, Section I: School and Library Facilities

Policy PF-I.9: The County shall promote provision of library services throughout the county and create new facilities as appropriate or expand existing facilities to meet additional demand from new growth.

4.15.6 Significance Criteria

The thresholds for impacts to public services and recreation facilities used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. The proposed project may be deemed to have a significant impact related to public services and recreation if it would:

PSR-1 Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services, police protection services, schools, parks and other public facilities.

PSR-2 Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated;

PSR-3 Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

4.15.7 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to public services and recreation that could result from continued implementation of the approved General Plan, the text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with the proposed project and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less than significant level. Cumulative impacts are also addressed.

4.15.7.1 Project Impacts

The following discussion describes the potential impacts related to public services and recreation that could result from the continued implementation of the approved General Plan, implementation of the text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan. This programmatic EIR contemplates continued implementation of the approved

General Plan; future discretionary projects facilitated by the Proposed Project will be evaluated for project specific public service and recreation impacts at the time they are proposed.

PSR-1 The proposed project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element related to VMT analysis and updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or change the distribution or intensity of land uses and, therefore, would not result in impacts to public services or recreational resources. However, impacts associated with the continued implementation of the approved General Plan are identified below.

Fire Protection. The City of Fresno Fire Department currently does not meet its target response time of four minutes for all calls for service. As previously established, in 2018, the Fire Department was able to respond to structure fires within four minutes 72 percent of the time, and to calls for medical aid within four minutes 64 percent of the time.[17]

As established in this programmatic EIR, the continued implementation of the approved General Plan would result in growth throughout the Planning Area. As discussed in Section 4.14, Population and Housing, the continued implementation of the approved General Plan would result in a potential population increase to approximately 780,600 residents within the Planning Area by horizon year 2035. Full buildout is projected to occur in approximately the year 2056. Due to the amount of new development planned within the Planning Area that would be facilitated by the continued implementation of the approved General Plan, new development would likely result in an increased demand for fire protection and fire suppression services in the Planning Area. This would require additional firefighting personnel and facilities to provide levels of service comparable to existing conditions, and to achieve target response times. Additional firefighting personnel may require new or physically altered facilities to accommodate increased staffing and equipment. Therefore, the continued implementation of the approved General Plan could potentially result in adverse physical impacts associated with the provision of new or altered facilities. Impacts typically associated with new or altered fire stations/facilities include air quality/greenhouse gas emissions, noise, traffic, and lighting. Due to the programmatic nature of this Program EIR, impacts resulting from future, yet unknown fire facilities will be evaluated at the time such facilities are proposed.

Future development facilitated by the continued implementation of the approved General Plan would be required to comply with the General Plan policies and objectives listed above in Section 4.15.5.1, and with Article 4.9, Section 12-4.901, Fire Facilities Fee, in the City of Fresno Municipal

[17] Fresno Fire Department. 2018. *Annual Report*. Available online at: www.fresno.gov/fire/wp-content/uploads/sites/6/2019/01/FFDAnnualReport18_7.pdf (accessed February 12, 2020).

Code. Additionally, future development would be subject to Development Impact Fees, which are collected for the provision of public service facilities and that will provide for future public service facilities as the City's population increases. Mitigation Measure PSR-1.1, is applicable and would reduce potential impacts resulting from the construction or expansion of fire protection facilities to a less than significant level.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives; and
- Article 4.9, Section 12-4.901, Fire Facilities Fee, of the City's Municipal Code.

Level of Significant Without Mitigation: Potentially Significant Impact.

Impact PSR-1.1: The proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities.

Mitigation Measure PSR-1.1 As future fire facilities are planned, environmental review of proposed facilities shall be completed to meet the requirements of CEQA. Typical impacts from fire facilities include air quality/ greenhouse gas emissions, noise, traffic, and lighting.

Level of Significance With Mitigation: Less Than Significant Impact.

Police Protection. As established in this programmatic EIR, the continued implementation of the approved General Plan would result in growth throughout the Planning Area. As discussed in Section 4.14, Population and Housing, the continued implementation of the approved General Plan would result in a potential population increase to approximately 780,600 residents within the Planning Area by horizon year 2035. Full buildout is projected to occur in approximately the year 2056. Due to the substantial amount of new development planned within the Planning Area that would be facilitated by the continued implementation of the approved General Plan, the resulting new development would result in an increased need for law enforcement staffing and police protection in the Planning Area. This would require additional police personnel and facilities to provide levels of service comparable to existing conditions, and to achieve target response times. The Fresno Police Department has a staffing ratio target of 1.5 officers per 1,000 residents. Based on this standard and on the projected population growth within the Planning Area, approximately 521 new Fresno Police Department officers would be required.[18] To accommodate the increase in personnel and to ensure service standards would continue to be met under the continued implementation of the approved General Plan, the construction or expansion of existing police facilities would be required. Therefore, the continued implementation of the approved General Plan could potentially result in adverse physical impacts associated with the provision of new or altered facilities. Impacts typically associated with new or altered fire stations/facilities include air quality/greenhouse gas emissions, noise, traffic, and lighting.

[18] 780,600 / 1000 = 780.6; 780.6 / 1.5 = 520.4 or 521 sworn police officers.

Future development facilitated by the continued implementation of the approved General Plan would be required to comply with the General Plan policies and objectives listed above in Section 4.15.4, and with Article 4.8, Section 12-4.801, Police Impact Fee, in the City of Fresno Municipal Code. Additionally, future development would be subject to Development Impact Fees, which are collected for the provision of police protection facilities and that will provide for future police protection facilities as the City's population increases. Mitigation Measure PSR-1.2, is applicable and would reduce potential impacts resulting from the construction or expansion of police protection facilities to a less than significant level.

Applicable Laws, Regulations, Relevant Land Use Policies

Identified in Section 4.15.5.2, Regulatory Setting, above:

- Refer to the approved General Plan objectives and policies; and
- Article 4.8, Section 12-4.801, Police Impact Fee, of the City's Municipal Code.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact PSR-1.2: The proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities.

Mitigation Measure PSR-1.2 As future police facilities are planned, environmental review of proposed facilities shall be completed to meet the requirements of CEQA. Typical impacts from police facilities include air quality/ greenhouse gas emissions, noise, traffic, and lighting.

Level of Significance With Mitigation: Less Than Significant Impact.

Schools. The impacts to schools within the Planning Area are determined by analyzing the projected increase in demand for school facilities resulting from the development projected under the continued implementation of the approved General Plan. As established in Section 4.14 of this programmatic EIR, Population and Housing, the continued implementation of the approved General Plan would result in a residential population increase, and in turn, an increase in the student population within the Planning Area. The continued implementation of the approved General Plan is projected to increase population in the Planning Area by the horizon year 2035 to approximately 780,600.

The continued implementation of the approved General Plan or updates to the Greenhouse Gas Reduction Plan do not include any physical improvements; however, continued implementation of the approved General Plan would allow for the future development of new housing units, which would result in increased school enrollment within the Planning Area. Although potential future growth of school enrollment is unknown, this growth could strain existing and/or planned school facilities in the Planning Area, the acquisition, modernization, or modification of school sites to accommodate additional facilities could be requires. Section 12-805, Dedication and Fees, of the

City's Municipal Code allows for school districts within the City to negotiate school impact fees with developers per square footage for residential units in order to fund school improvements.

As such, future discretionary projects facilities by the continued implementation of the approved General Plan would be required to comply with the provision of school developer fees for new or altered facilities, and new or expanded school facilities would be funded by fees collected by future development projects within the Planning Area. Additional school resources would also continue to be funded by an increase in tax revenue as a result of future population growth. Therefore, impacts of the proposed project related to student generation and the potential need for additional school facilities would be less than significant, and no mitigation would be required.

Future development facilitated by the continued implementation of the approved General Plan would be required to comply with the General Plan policies and objectives listed above in Section 4.15.5.3, and with Section 12-805, Dedication and Fees, in the City of Fresno Municipal Code. The following policy from the Fresno County General Plan are relevant to the provision of schools in the Planning Area:

- **Policy PF-I.8:** The County and school districts should work closely to secure adequate funding for new school facilities. The County shall support the school districts' efforts to obtain appropriate funding methods such as school impact fees.

Additionally, potential environmental impacts related to the construction of school facilities would be reduced to less-than-significant levels through the implementation of SB 50 and collection of school impact fees. Therefore, the proposed project would not contribute to any impacts related to schools, and no mitigation would be required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan objectives and policies; and
- City of Fresno Municipal Code, Section 12-805.

Level of Significance Without Mitigation: Less Than Significant Impact.

Parks. As previously discussed, the continued implementation of the approved General Plan would result in population growth in the Planning Area. Specifically, under the continued implementation of the approved General Plan, the projected population for the horizon year of 2035 is 780,600. Full buildout is projected to occur in approximately the year 2056. The projected growth would result in an increased demand for parks and recreational facilities.

The Parks Master Plan, adopted in December 2017, identified a level of service (LOS) goal for pocket, neighborhood and community parks of 3 acres of parks per 1,000 residents. For regional, open space/natural areas, and special use parks, a LOS goal of 2 acres of parks per 1,000 residents was identified. Based on the existing inventory and population projections, it was determined that, in order to meet the LOS standard of 3 acres of pocket, neighborhood and community parks per 1,000 residents in 2035, approximately 1,392 acres of parkland are needed to meet the LOS goal for

pocket, neighborhood and community parks. For regional, open space/natural areas, and special use parks, in order to meet the LOS standard of 2 acres of parks per 1,000 residents in 2035, approximately 359 acres of parkland are needed.

The development of new parks or the expansion of existing parks that would be required as a result of the continued implementation of the approved General Plan could result in significant adverse environmental impacts. Impacts likely to be associated with the construction and operation of new or expanded park facilities would be air quality/greenhouse gas emissions, noise, traffic, and lighting.

Future development facilitated by the continued implementation of the approved General Plan would be required to comply with the General Plan policies and objectives listed above in Section 4.15.4, and with Sections 12-4.509, Urban Growth Management Park Fees, and 12-4.701, Park Facilities Fee, in the City of Fresno Municipal Code. The approved General Plan includes several objectives in the Parks, Open Space and Schools Element, as included in above in Section 4.15.5.4, that are relevant to the provision of parkland in the Planning Area.

Additionally, Mitigation Measure PSR-1.3, as identified would reduce potential impacts resulting from the construction or expansion of park facilities to a less than significant level.

Applicable Laws, Regulations, Relevant Land Use Policies

Identified in Section 4.15.5.4, Regulatory Setting, above:

- Refer to the approved General Plan objectives and policies identified in Section 4.15.5.4, Regulatory Setting, above; and
- City of Fresno Municipal Code, Sections 12-4.509 and 12-4.701.

Level of Significance Without Mitigation: Potentially Significant impact.

Impact PSR-1.3: The proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered park and recreational facilities.

Mitigation Measure PSR-1.3 As future parks and recreational facilities are planned, environmental review of proposed facilities shall be completed to meet the requirements of CEQA. Typical impacts from park facilities include air quality/greenhouse gas emissions, noise, traffic, and lighting.

Level of Significance With Mitigation: Less Than Significant Impact.

Other Public Facilities. As previously discussed, the continued implementation of the approved General Plan is likely to induce growth and, therefore, an increase in the residential population within the Planning Area. As established in Section 4.14 of this programmatic EIR, Population and Housing, the continued implementation of approved General Plan is likely to result in an increase of approximately 780,600 residents within the Planning Area by horizon year 2035. An increase in the

permanent occupants within the Planning Area would result in an increased demand for other public facilities such as courts, libraries, and hospitals in order for these public facilities to continue to provide service levels comparable to existing conditions.

As future facilities such as courts, libraries, and hospitals are developed as part future discretionary projects resulting from the continued implementation of the approved General Plan, there could be significant adverse environmental impacts from the construction and operation of these facilities. Typical impacts associated with public facilities include air quality/greenhouse gas emissions, noise, traffic, and lighting. Future development of public facilities by the continued implementation of the approved General Plan would not be subject to any specific General Plan policies or objectives that could reduce or mitigate any environmental impacts, or to any specific ordinances in the City's Municipal Code. However, Mitigation Measure PSR-1.4, as identified at the time the General Plan was adopted, is still applicable and would reduce potential impacts resulting from the construction or expansion of other public facilities to a less than significant level.

Applicable Laws, Regulations, Relevant Land Use Policies

- No laws, regulations, or relevant land use policies apply to the construction or expansion of other public facilities such as courts, libraries, and hospitals.

Level of Significance Without Mitigation: Potentially Significant impact.

Impact PSR-1.4: The proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered public facilities.

Mitigation Measure PSR-1.4 As future public facilities are planned by the City of Fresno (e.g., court, library, and hospital facilities), environmental review of the proposed facilities shall be completed to meet the requirements of CEQA. Typical impacts from public facilities include air quality/greenhouse gas emissions, noise, traffic, and lighting.

Level of Significance With Mitigation: Less Than Significant Impact.

4.15.7.2 Cumulative Impacts

PSR-2 ***The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to public services and recreation.***

The study area for the analysis of cumulative impacts is the Planning Area and the portions of Fresno county located outside the Planning Area as well as portions of the city of Clovis and the county of Madera that participate in aid agreements with public service providers in the Planning Area or portions of those counties which utilize public services within the Planning Area. This analysis is based on a summary of projections approach as provided in Section 15130(b)(1)(B) of the *State CEQA Guidelines*. The applicable projections include growth projections from the Fresno County 2000 General Plan, Madera County General Plan (1995), and buildout projections from within the City of Clovis General Plan (2014).

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and the continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element related to VMT analysis and the Greenhouse Gas Reduction Plan update would not result in any physical improvements or change the distribution or intensity of land uses and, therefore, would not result in cumulative impacts to public services and recreational facilities.

Cumulative development within the Planning Area and in adjacent portions of the city of Clovis, the county of Fresno, the county of Madera, could result in potential cumulative impacts to public services and recreational facilities within the Planning Area. Cumulative development has the potential to increase the need for public services on a regional level; therefore, impacts to public service providers on a regional level could be cumulatively considerable.

Fire Protection. Cumulative development and growth that increases the demand for fire services and facilities could result in potentially significant impacts. Because fire district boundaries do not align with Planning Area or city boundaries, new or expanded fire protection facilities could be located within or outside of the Planning area. The construction and operation of new or expanded fire protection facilities could result in cumulatively significant adverse environmental impacts such as air quality/greenhouse gas emissions, noise, traffic, and lighting. Approved General Plan objectives PU-2 and PU-3, policies PU-2-a through PU-2-e and PU-3-a through PU-3-g, and Section 12-4.901 of the City's Municipal Code address cumulative development. Because cumulative impacts were planned for in these objectives, policies, and ordinances, potential impacts would be reduced. However, objectives, policies, and ordinances would not reduce potential cumulative impacts to a less than significant level. Therefore, impacts resulting from the increased need for new or expanded fire protection facilities are considered cumulatively considerable.

Police Protection. Cumulative development and growth that increases the demand for police protection services and facilities could result in potentially significant impacts. Because police protection boundaries do not align with Planning Area or city boundaries, new or expanded police protection facilities could be located within or outside of the Planning area. The construction and operation of new or expanded police protection facilities could result in cumulatively significant adverse environmental impacts such as air quality/greenhouse gas emissions, noise, traffic, and lighting. The approved General Plan Objective PU-1, Policies PU-1-a through PU-1-g, and Section 12-4.801 of the City's Municipal Code address cumulative development. Because cumulative impacts were planned for in these objectives, policies, and ordinances, potential impacts would be reduced. However, objectives, policies, and ordinances would not reduce potential cumulative impacts to a less than significant level. Therefore, impacts resulting from the increased need for new or expanded police protection facilities are considered cumulatively considerable.

Schools. Cumulative development and growth that increases the demand for school facilities could result in potentially significant impacts. Because school district boundaries do not align with Planning Area or city boundaries, new or expanded school facilities could be located within or outside of the Planning area. The construction and operation of new or expanded school facilities could result in cumulatively significant adverse environmental impacts such as air quality/ greenhouse gas emissions, noise, traffic, and lighting. The approved General Plan Objective POSS-8 and Policies POSS-8-a through POSS-8-c would assist in collecting SB 50 fees from developers for all

future development within the Planning Area. As a result, potential cumulative impacts related to construction of school facilities would be considered less than significant.

Parks. Cumulative development and growth that increases the demand for parks could result in potentially significant impacts. The construction and operation of new or expanded parks facilities could result in cumulatively significant adverse environmental impacts such as air quality/green-house gas emissions, noise, traffic, and lighting. Impacts resulting from the construction or expansion of parks would be offset by the City's Parks Facilities Fee, which requires that new development in the Planning Area pay a fair-share-fee to aid in the cost of the construction or the expansion of public parks. The approved General Plan includes Objective POSS-1 and Policies POSS-1-a through POSS-1-f and Objective POSS-2, Policies POSS-2-b, through POSS-2-d, Objective POSS-3, Policies POSS-3-a through POSS-3-c through POSS-3-I, and Policies POSS-4-a through POSS-4-c which would be relevant to the provision of parkland in the Planning Area. However, this would not reduce cumulative impacts to a less than significant level. Therefore, impacts resulting from the increased need for new or expanded parks and park facilities are considered cumulatively considerable.

Other Public Facilities. Cumulative development and growth that increases the demand for other public facilities (such as courts, libraries, and hospitals) could result in potentially significant impacts. Significant regional growth planned for within the cumulative study area would require the construction and/or expansion of existing public facilities such as courts, libraries, and hospitals. Furthermore, these types of public services are not limited to designated service areas, and those within the greater region and within the Planning Area would need to accommodate overall regional growth. The construction and operation of new or expanded public facilities could result in cumulatively significant adverse environmental impacts such as air quality/greenhouse gas emissions, noise, traffic, and lighting. Therefore, impacts resulting from the increased need for new or expanded parks and park facilities are considered cumulatively considerable.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the Fresno Municipal Code sections identified in Section 4.15.5, Regulatory Setting, above.
- Refer to the approved General Plan policies and objectives identified in Section 4.15.5, Regulatory Setting, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact PSR-2: Continued implementation of the approved General Plan, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to fire protection, police protection, schools, parks and other public facilities.

Mitigation Measures: Refer to Mitigation Measures PSR-1.1 through PSR-1.5, above.

Level of Significance With Mitigation: Less Than Significant Impact.

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4.16 TRANSPORTATION

4.16.1 Introduction

This section evaluates the potential environmental effects related to transportation associated with the continued implementation of the approved General Plan. The analysis includes a review of existing and proposed roadways and vehicle miles traveled (VMT), consistent with Senate Bill 743 which eliminated automobile Level of Service (LOS) from transportation analysis under CEQA and replaced it with VMT. This shift from LOS to VMT is intended to better align with other statewide transportation goals, including reduction of GHG emissions, the creation of multimodal networks, and the promotion of integrated land uses. This section is based on the Traffic Impact Analysis (TIA) prepared in 2019 and included as Appendix J of this Program EIR. The approved General Plan includes policies in the Mobility and Transportation Element that guide future transportation projects in the Planning Area.

4.16.2 CEQA Baseline

The City of Fresno is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Travelled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the approved General Plan, explains that the PEIR will evaluate the continued implementation of the approved General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of Senate Bill (SB) 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the city would occur as currently set forth under the General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. The General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the

approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.16.3 Existing Environmental Setting

4.16.3.1 Roadway Network

The roadway network in Fresno is generally a traditional grid-based network of north/south and east/west streets, except for the Downtown area, where the grid-based network is northeast/southwest. Build out of the street and roadway system within Fresno is not completed, and there is potential for expanding vehicle capacity on some roadways, which would increase opportunities for economic development, encourage a diversity of development types, and promote multi-modal mobility options.

The functionality of a street is related to traffic mobility and land access. Access to a roadway is correlated to the potential for conflicting vehicles and therefore the speed and capacity of the roadway. As such, higher-level facilities, such as freeways and expressways, have lower access and therefore fewer conflicting vehicles, which allows for higher speeds and capacities. Conversely, lower-level facilities, such as local streets, collectors, and minor arterials, have greater access and therefore greater potential for conflicting vehicles, which enforces lower speeds and capacities.

The following is a description of the functional classification groups of roadways according to the type of service they are intended to provide.

State Facilities. A State facility is a highway, or State Route (SR), upon which the rights of access are controlled and that provides separated grades at intersecting streets. The minimum right-of-way width and number of lanes are determined by the California Department of Transportation (Caltrans).

- **SR-99** is a northwest to southeast freeway that links Sacramento to Bakersfield, and the Central Valley to the Los Angeles area. SR-99 extends through Fresno from the southeastern city limits to the northwestern city limits. The freeway includes three lanes in each direction. Through Fresno, the southbound direction toward Downtown is generally the peak morning commute direction and northbound is the peak evening commute direction.

- **SR-41** is a north-south freeway in Fresno, connecting Kings County to the south and Madera County to the north, that extends from the southern city limits to the northern city limits. SR-41 is the main freeway that connects north Fresno with Downtown Fresno. The freeway includes three lanes in each direction. Through Fresno, the southbound direction toward Downtown is generally the peak morning commute direction and northbound is the peak evening commute direction.

- **SR-168** is a north-south freeway that connects northeastern Fresno and Clovis with Downtown Fresno. SR-168 connects Downtown Fresno to its terminus at the SR-180 interchange. The freeway includes three lanes in each direction. Through Fresno, the southbound direction is the peak morning commute direction and northbound is the peak evening commute direction.

- **SR-180** is an east-west freeway that connects southeast and southwest Fresno with Downtown Fresno. The freeway includes three lanes in each direction. The direction toward Downtown from both the eastern and western outer fringes of the City is the peak morning commute direction and the opposite direction is the peak evening commute direction.

Expressways. Expressways are generally four- or six-lane divided roadways primarily serving through and crosstown vehicle traffic, with major street intersections located at approximately 0.5 mile intervals and no driveways for direct motor vehicle access to abutting property. The posted speed limit along Expressways is generally 50 miles per hour (mph). Expressways typically experience high capacities and low accessibility. According to the Fresno General Plan Mobility and Transportation Element and Circulation Element, Expressways provided within Fresno are Friant Road and Herndon Avenue.

Super Arterials. Super Arterials are generally four- or six-lane divided roadways with a primary purpose of moving multiple modes of travel traffic to and from major traffic generators and among subregions. Super Arterials provide a select number of motor vehicle access points to adjacent properties or local streets between the major street intersections. The posted speed limit along Super Arterials is typically 50 mph. According to the Fresno General Plan Mobility and Transportation Element, Super Arterials include Herndon Avenue, Friant Road, Veterans Boulevard, Willow Avenue, Grantland Avenue, Copper Avenue, and Jensen Avenue.

Arterials. Arterials are generally two-, four-, or six-lane divided roadways, with the primary purpose of moving traffic within and between neighborhoods and to and from freeways and expressways. The typical posted speed limit along an Arterial is generally 40 mph.

Collectors. Collectors are generally two- or four-lane undivided roadways, with the primary function of connecting local streets and arterials and neighborhood traffic generators and providing access to abutting properties. Collectors typically have a center two-way left-turn lane. The posted speed limit of a Collector is commonly 40 mph.

4.16.3.2 Study Area Roadways

The TIA, included as Appendix J of this PEIR, includes a traffic operations analysis that was conducted on roadway segments generally reflective of the patterns of travel and representative of Fresno's overall transportation network and system. This includes all roadway segments that were forecast to operate at a deficient LOS under existing conditions and build out of the General Plan conditions. In total, 282 roadway segments were included in the study area, as listed in Table 2.A of the TIA.

4.16.3.3 Congestion

Congestion results when traffic demand approaches or exceeds the available capacity of the system. While this is a simple concept, it is not constant. Traffic demands vary significantly depending on the season of the year, the day of the week, and the time of day. Also, the capacity can change because of weather, work zones, traffic incidents, or special events.

Congestion can be classified as either recurring or nonrecurring. Recurring congestion most often occurs when the volume of traffic on a facility becomes more than that facility can handle. Non-recurring congestion is usually short in duration and is caused by such things as traffic accidents, weather, construction, or special events. One way to gauge the level of recurring congestion is grading a facility on its level of service.

4.16.3.4 Level of Service Definitions

A traffic operation analysis was conducted, and included in the TIA, based on roadway segments representative of Fresno's overall transportation network. Traffic operation analysis was conducted on major roadway segments categorized as Expressway, Super Arterial, Arterial, and Collector to obtain a general idea of traffic operation within a wide study area of Fresno. It should be noted that the entire roadway segment was assumed to have the same traffic characteristics. The roadway segment counts were conducted at a single location and were intended to be representative of the entire segment. Traffic operations on the study roadway segments were measured using a qualitative measure called level of service (LOS). LOS is a general measure of traffic operating conditions whereby a letter grade, from A (the best) to F (the worst), is assigned. This methodology does not consider potential impacts on walking, bicycling, and transit. Pedestrians, bicyclists, and transit riders are all users of the roadway system but may not be fully recognized in the traffic operations analysis and the calculation of LOS. The LOS grades are described below in Table 4.16-1, and shown in Figure 2.3 of the TIA.

Table 4.16-1: Level of Service Definitions

LOS	Description
A	Represents free-flow travel with an 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	Defines forced or breakdown conditions; this condition exists wherever the volume of traffic exceeds the capacity of the roadway. Long queues can form behind these bottleneck points with queued traffic traveling in a stop-and-go fashion

Source: City of Fresno (2014).

4.16.3.5 Level of Service Standard

The City includes four Traffic Impact Zones (TIZ), as shown in Figure 2.4 of the TIA, and each zone has a different LOS threshold standard. The four TIZs and their LOS threshold standards are defined below:

- **TIZ I:** TIZ I represents the Downtown Planning Area, and maintains a peak hour LOS standard of F or better for all the roadway segments.
- **TIZ II:** TIZ II represents the areas of the City that are generally built up, and maintains a peak hour LOS standard of E or better for all the roadway segments.
- **TIZ III:** TIZ III represents the areas near or outside the City limits but within the Sphere of Influence (SOI), and maintains a peak hour LOS standard of D or better for all the roadway segments.
- **TIZ IV:** TIZ IV represents the southern part of the City, and maintains a peak hour LOS standard of E or better for all the roadway segments.

Additionally, several roadway segments are within the City's SOI but are currently under the County of Fresno's (County) jurisdiction. The County maintains an LOS standard of D. Therefore, LOS D was used as the threshold for these roadway segments.

4.16.3.6 Existing Roadway Segment Traffic Volumes

The existing traffic volumes at the majority of the study area roadway segments (235 roadway segments out of 282 roadway segments) are based on the a.m. and p.m. peak-hour counts conducted by LSA and provided by the City in non-summer months between 2017 and 2019. Existing a.m. and p.m. traffic counts were taken from the average daily traffic counts where the peak-hour counts were not available. Existing traffic counts are provided in the TIA (Appendix A). In order to represent existing conditions in 2019 when updated traffic counts were taken, an annual growth rate was applied to the 2017 and 2018 counts. Growth rates for each of these roadway segments were determined based on the per year growth as calculated using the Fresno Council of Governments Regional Travel Demand Model (Fresno COG ABM).

To develop traffic volumes for the remaining 47 segments where existing traffic counts were not available, traffic count data provided by the City was adjusted to reflect existing (2019) roadway segment volumes. Roadway segments where traffic counts were available for existing (2019) conditions were compared with the existing volumes for the same roadway segments previously analyzed in the 2014 MEIR. This comparison establishes the growth along those roadway segments between the 2014 MEIR and existing (2019) conditions. The growth from those roadway segments is applied to the subject segment and the adjacent missing roadway segments to develop a citywide roadway segment dataset for existing (2019) conditions.

Table 2.D of the TIA shows the existing peak-hour traffic volumes at study area roadway segments.

4.16.3.7 Existing Roadway Segment Levels of Service

An LOS analysis was conducted at study area roadway segments to determine current roadway segment performance. As shown in Table 2.D of the TIA, all roadway segments are currently operating at their respective satisfactory LOS in both a.m. and pm. peak hours, with the exception of the following 12 roadway segments:

- Figarden Drive between San Jose Avenue and Bullard Avenue (LOS E in the p.m. peak hour).
- Marks Avenue between Dakota Avenue and Weber Avenue (LOS F in the p.m. peak hour).
- Maroa Avenue between Sample Avenue and Bullard Avenue (County of Fresno) (LOS E in the a.m. peak hour).
- Friant Road between SR-41 southbound off-ramp and SR-41 northbound off-ramp (LOS E in the p.m. peak hour).
- Friant Road between SR-41 northbound off-ramp and Audubon Drive (LOS D in the p.m. peak hour)
- Fowler Avenue between Kings Canyon Road and Belmont Avenue (LOS E in the a.m. peak hour)
- Fowler Avenue between SR-180 westbound ramps and Olive Avenue (LOS E in the a.m. peak hour).
- Temperance Avenue between Butler Avenue and Lowe Avenue (LOS F in the a.m. peak hour).
- Temperance Avenue between McKinley Avenue and Shields Avenue (LOS F in both peak hours).
- Gettysburg Avenue between Maple Avenue and Winery Avenue (LOS F in both peak hours).
- Dakota Avenue between Maroa Avenue and Del Mar Avenue (LOS F in the p.m. peak hour).
- Dakota Avenue between Angus Street and First Street (LOS F in the p.m. peak hour).

Figure 2.5 of the TIA (pages 1 through 7) illustrates the locations of the roadway segments and corresponding existing LOS for the a.m. peak hour. Figure 2.6 of the TIA (pages 1 through 7) illustrates the locations of the roadway segments and corresponding existing LOS for the p.m. peak hour.

4.16.3.8 Public Transportation

The City operates the Fresno Area Express (FAX), its primary transportation service provider. FAX's role is to provide dependable transit that runs smoothly and efficiently to serve the people of Fresno. FAX operates 17 fixed-route buses, including the Bus Rapid Transit (known as the "Q") and the FAX 15 routes, as well as paratransit services (Handy Ride), extended late-night services, and service to major regional destinations, including colleges, universities, shopping malls, and major employment centers. The FAX fixed-route system integrates with the City of Clovis' fixed-route system and other incorporated cities within the County through the Fresno County Rural Transit Agency (FRCTA) to serve the region. The FAX fixed-route system comprises routes that typically follow many of Fresno's major roadways, which are generally spaced with a one-half mile separation. Most of the FAX routes operate at 30-minute frequencies, with exception of the following:

- The Q providing 10-minute frequencies during peak periods and 15-minute frequencies during off-peak periods.
- Two routes providing 15-minute frequencies (the FAX 15 Routes 9 and 38).
- Several additional routes providing 20-minute frequencies all day.

Additionally, the FAX bus system provides connections to the Amtrak passenger rail station and the Greyhound bus station, both of which are located in Downtown. The FAX bus system will establish future connections to the approved High-Speed Rail Fresno station also located in Downtown. Public transportation serving Fresno is shown in Figure 2.7 of the TIA.

Demand-Response Service. Serviced through FAX, the demand-response service (Handy Ride) provides transportation for persons with disabilities. It is responsible for meeting the needs of eligible persons with disabilities who cannot functionally use the FAX fixed route bus system. The service area boundaries are generally Copper Avenue to the north, east to Willow Avenue, south to Ashlan Avenue, east to Temperance Avenue, south to Central Avenue, west to Polk Avenue, north to Griffith Way, west to Fair Street, east to Browning, north to the Fresno County line, and east to Copper Avenue.

Bus Rapid Transit. A first-phase Bus Rapid Transit (BRT) system began operating in 2018 to run along the Ventura Street/Kings Canyon Road and the Blackstone Avenue corridors, meeting in Downtown Fresno at Courthouse Park. The General Plan supports the proposed BRT system through its designation of complementary land uses and higher densities along key portions of its routes, such as higher-density development and mixed land uses that may gravitate toward use of BRT.

High-Speed Rail. The California High-Speed Rail (HSR) System will be a statewide system that will serve as a regional transportation system for Fresno and the surrounding communities. The HSR system would extend through the San Joaquin Valley, linking San Francisco with Los Angeles. Construction began in March 2018 in Madera County just north of Fresno, with a station to be located in Fresno's Downtown, along Mariposa Street. The HSR tracks through Fresno-Clovis Metropolitan Area would run generally parallel to the Union Pacific Railroad tracks.

Once implemented, the HSR system will increase the accessibility of Fresno to the major population and economic hubs of California. It will also provide an opportunity for redevelopment and infill development of the area around the HSR station that takes advantage of the proximity of the HSR station.

The City has proposed to accommodate the access and space requirements and the potential effects upon surrounding properties and land uses through Specific Plans in the Downtown Planning Area and a HSR Station Area Master Plan (incorporated into the Fulton Corridor Specific Plan, adopted in October 2016). As stated in the General Plan, when the HSR system is fully built, the City ultimately plans to link the FAX and BRT systems with the HSR station.

4.16.3.9 Pedestrian and Bicycle Circulation

Fresno has made a strong commitment to improving non-motorized travel. The City established a Bicycle-Pedestrian Advisory Committee in 2002 and subsequently completed the Bicycle, Pedestrian, and Trails Master Plan (BMP), which was presented to the City Council in 2010. Although the BMP was a separate document and not a part of the General Plan, the General Plan supported the BMP's aspirations for a comprehensive bicycle and pedestrian facilities network consisting of sidewalks, lanes, paths, and trails while recognizing that the BMP identified more facilities and programs than discussed in the General Plan.

Subsequent to the BMP (2010) and the General Plan (2014), the City Council adopted the Active Transportation Plan (ATP) in March 2017 as an update to the BMP. The ATP is a comprehensive guide outlining the vision for active transportation in Fresno and includes more robust planning for pedestrian travel and infrastructure than is presented in the BMP. The City has established the following goals as part of the ATP:

- To equitably improve the safety and perceived safety of walking and bicycling in the City;
- To achieve an increased number of walking and bicycling trips by creating user-friendly facilities;
- To improve the geographic equity of access to walking and bicycling facilities in the City; and
- To fill key gaps in the City's walking and bicycling networks.

Pedestrian Circulation. The presence of sidewalks and the quality of the pedestrian realm is a critical factor in the ability to walk around Fresno. Certain areas of Fresno lack continuous sidewalks, leaving pedestrians to share road space with cars. The City began addressing this problem with the "No Neighborhood Left Behind" program in 2005, which added new gutters, curbs, sidewalks, and streetlights to inner-city neighborhoods at a budget of $45 million over six years starting in fiscal year 2005, and has since been completed. With the integration of the ATP, the City has begun providing pedestrian treatments and supportive facilities. Strategies for a comprehensive pedestrian system include the implementation of interconnected sidewalks, continued addition of controlled crosswalks at traffic-controlled intersections, median refuge islands, bulb-outs, in-street and overhead pedestrian crossing signs, and rectangular rapid flashing beacons.

Accessible Design. Most of the city was built before the Federal Americans with Disabilities Act (ADA), which required streets to be accessible to persons in wheelchairs or with impaired mobility. In accordance with the ADA (1990), the City has been committed to ongoing efforts to ensure accessibility for all. In 2016, the ADA Transition Plan for the Right of Way (ROW) and the ADA Facilities Transition Plan were adopted, which set action plans and standards for ADA facilities within Fresno. Additional details on sidewalks and pedestrian treatments and support facilities in Fresno are provided in the ATP.

Bicycle Circulation. Bicycle facilities consist of the following four classifications:

- **Bike Paths (Class I)** are often referred to as shared-use paths or trails, or multiuse paths, which are off-street facilities that provide exclusive use for non-motorized travel, including bicyclists and pedestrians. Class I facilities are typically 10- to 12-foot wide concrete/asphalt paved surfaces with 2-foot wide shoulders. Bike paths have minimal cross flow with motorists and are typically located along landscaped corridors. Bike paths can be utilized for both recreational and commute trips. These paths provide an important recreational amenity for bicyclists, pedestrians, dog walkers, runners, skaters, and all residents using other non-motorized forms of travel.

- **Bike Lanes (Class II)** are designated on-street facilities that use striping, stencils, and signage to denote preferential or exclusive use by bicyclists. On-street bikes lanes are typically 5 feet wide and are adjacent to motor vehicle traffic. Bike lanes are intended to alert drivers about the predictable movements of bicyclists and provide adequate space for comfortable bicycle riding. Current City standards require Class II bike lanes on all new Collectors and Arterials; many existing Collectors are already constructed with Class II bike lanes.

- **Bike Routes (Class III)** are on-street pavement markings or signage that connect the bicycle roadway network. Class III bike routes can be utilized to connect bicycle lanes or paths along corridors that do not provide enough space for dedicated lanes on low-speed and low-volume streets.

- **Separated Bikeways (Class IV)** are designated on-street bicycle facilities separated by a physical boundary such as a vertical curb, a painted buffer with flexible posts, parked cars, a landscape area, or a fixed barrier. Cycle tracks are typically 7 feet wide with 3-foot wide shoulders and can include one-way or two-way lanes, accommodating a single direction of travel or both. Cycle tracks can be utilized along streets with high vehicular volumes and speeds, and located in areas with fewer driveways.

The ATP includes existing (2016) and 2010 citywide bicycle lane mile coverage identified for all bicycle classifications. As illustrated, Bike Paths (Class I) include 38 miles of coverage in 2016, compared to 14 miles during 2010. Bike Lanes (Class II) include 431 miles of coverage in 2016 compared to 226 miles in 2010. Bike Routes (Class III) include 22 miles of coverage in 2016 compared to 14 miles in 2010. Three Cycle Tracks (Class IV) projects are planned but not yet constructed within the City. Additional details on bicycle facilities in the City are provided in the ATP.

Rail/Highway Freight. Fresno is served by The San Joaquin Line, one of Amtrak's passenger rail services with connections between the San Joaquin Valley, the Sacramento Valley, the San Francisco Bay Area, and Los Angeles. Greyhound provides similar (more frequent) bus service to these regions. In 2019, the San Joaquin Line carried 1.1 million passengers.[1]

[1] Amtrak, Amtrak FY19 Ridership, Amtrak Route Ridership FY19 vs FY18. 2019. Available online at: media.amtrak.com/wp-content/uploads/2019/11/FY19-Year-End-Ridership.pdf (accessed February 7, 2020).

The city is served by two freight lines:

- **Burlington Northern and Santa Fe Railway Company (BNSF).** This rail corridor has one track and travels through northwest Fresno and the middle of Downtown.

- **Union Pacific Railroad (UPRR).** This corridor has two tracks and generally runs parallel to SR-99.

According to the 2007 City of Fresno Downtown Transportation and Infrastructure Study, about 50 freight trains pass through the two rail corridors daily as they travel through Downtown. SR-99 and the UPRR are both international trade facilities. Peak shipping months in the San Joaquin Valley are May through October.

Aviation. Fresno is served by three airports: Fresno Yosemite International Airport (FYI), Fresno Chandler Executive Airport, and Sierra Sky Park. Each of the three airports is described below.

- **Fresno Yosemite International Airport.** The City manages Fresno Yosemite International Airport (FYI) which is located in the eastern portion of the city along East Clinton Way, and is a joint use civilian/military airport. It is used by commercial air carriers, air cargo operators, charter operators, the State of California, general aviation, and the United States military. In 2019, the airport served approximately 1.6 million passengers.[2]

- **Fresno Chandler Executive Airport.** Fresno Chandler Executive Airport is located in the southwestern portion of the city, northwest of the intersection of West Kearny Boulevard and South Thorne Avenue. The airport is designated as a general aviation reliever airport for FYI. One small cargo carrier operates out of the facility, and nine general aviation businesses operate out of the airport. Approximately 180 general aviation aircraft are based at Fresno Chandler Executive Airport.

- **Sierra Sky Park.** Sierra Sky Park airport is located in the northern portion of the city adjacent to the San Joaquin River north of Herndon Avenue. The facility is a privately owned public use general aviation airport. Sierra Sky Park functions as a reliever airport for small general aviation aircraft, and includes a hangar and office complex.

4.16.4 Regulatory Setting

4.16.4.1 Federal Regulatory Setting

Federal Highway Administration. The Federal Highway Administration (FHWA) is a major agency of the United States Department of Transportation. In partnership with State and local agencies, the FHWA carries out federal highway programs to meet the nation's transportation needs. The FHWA administers and oversees federal highway programs to ensure that federal funds are used efficiently.

[2] Bureau of Transportation Statistics, Fresno Yosemite International. 2020. Website: transtats.bts.gov /airports.asp?pn=1&Airport=FAT&Airport_Name=Fresno (accessed February 7, 2020).

Americans with Disabilities Act of 1990. Titles I, II, III, IV, and V of the ADA have been codified in Title 42 of the United States Code, beginning at Section 12101. Title III prohibits discrimination on the basis of disability in "places of public accommodation" (businesses and nonprofit agencies that serve the public) and "commercial facilities" (other businesses). The regulation includes Standards for Accessible Design, which establish minimum standards for ensuring accessibility when designing and constructing a new facility or altering an existing facility.

Federal Transit Administration. The Federal Transit Administration (FTA) is an authority that provides financial and technical assistance to local public transit systems, including buses, subways, light rail, commuter rail, trolleys, and ferries. The FTA is funded by Title 49 of the United States Code, which states the FTA's interest in fostering the development and revitalization of public transportation systems. The FTA invests approximately $12 billion annually to support and expand public transit.

4.16.4.2 State Regulatory Setting

Assembly Bill 32 (Global Warming Act of 2006) and Senate Bill 375. Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006 (Act), requires California to reduce its greenhouse gas (GHG) emissions to levels presented in the year 1990 by 2020. In response, the California Air Resources Board (CARB) is responsible for creating guidelines for this Act. In 2008, CARB adopted its proposed Scoping Plan, which included the approval of Senate Bill (SB) 375 as a means of achieving regional transportation-related GHG targets. SB 375 provides guidance on how curbing emissions from cars and light trucks helps the State comply with AB 32.

Established through CARB, SB 375 lists four major components and requirements: (1) it requires regional GHG emissions targets; (2) it requires creating a Sustainable Communities Strategy (SCS) that provides a plan for meeting the regional targets; (3) it requires that regional housing elements and transportation plans be synchronized on 8-year schedules; and (4) it requires transportation and air pollutant emissions modeling techniques consistent with guidelines prepared by the California Transportation Commission (CTC).

California Air Resources Board. As previously described, as part of SB 375 compliance, CARB was required to set targets for GHG reductions for each Metropolitan Planning Organization (MPO) within California. CARB provides targets and thresholds for MPOs and assists with regional efforts to achieve the GHG emission reductions contained in each MPO's SCS. It should be noted that CARB does not provide a threshold for reducing VMT; however, reducing VMT is a strategy for achieving CARB GHG reduction targets.

The City has been committed to climate change and GHG/VMT reduction strategies; as such, both the Fresno Council of Governments (COG) and CARB authorities have teamed up to present thresholds with the goal of reducing GHG emissions. Fresno COG's current SCS, adopted in 2018, includes goals to achieve a 5 percent per capita GHG emissions reduction by 2020 and a 10 percent reduction by 2035, compared to 2005 levels. The SCS includes strategies for encouraging the achievement of these targets. Strategies include increasing transit and active transportation improvements, such as identifying future funding for additional BRT lines within Fresno and over 500 new lane miles of bicycle facilities. These improvements are intended to decrease distances

between residents and bicycle/walking facilities and therefore increase infill development. As stated in CARB's MPO Target Recommendations memo,[3] these improvements will result in an increase from 4.0 dwelling units per acre (du/ac) to 9.3 du/ac, caused by the projected increase in multifamily housing development from 22 percent to 47 percent by 2035.

The Fresno COG will be working on its third SCS, proposed for adoption in 2022, which will include goals and polices from the City of Fresno General Plan. In 2018, CARB adopted more aggressive SB 375 targets to support progress toward the 2017 Scoping Plan goals. As a result, the third SCS will include more ambitious SB 375 GHG emission reduction targets within Fresno consisting of 6 percent per capita reductions by 2020 and 13 percent reductions by 2035.

Assembly Bill 1358 (Complete Streets). The California Complete Streets Act (Act) requires general plans updated after January 30, 2011, to include Complete Streets policies so that roadways are designed to safely accommodate all users, including bicyclists, pedestrians, transit riders, children, the elderly, and persons with disabilities, as well as motorists. The goal of this Act is to encourage cities to rethink policies that emphasize automobile circulation and prioritize motor vehicle improvements, and come up with creative solutions that emphasize all modes of transportation. Complete Streets roadways allow for more transportation options, more non-single-occupancy vehicles, and less traffic congestion. Additionally, increased transit ridership, walking, and biking can reduce air pollution while improving the overall travel experience for road users.

While there is no standard for a Complete Streets design, it generally includes one or more of the following features: bicycle lanes, wide shoulders, well-designed and well-placed crosswalks, crossing islands in appropriate mid-block locations, bus pullouts or special bus lanes, audible and accessible pedestrian signals, sidewalk bulb-outs, center medians, street trees, planter strips, and groundcover. The City adopted a Complete Streets Policy on September 26, 2019.

Senate Bill (SB) 743. On September 27, 2013, Governor Jerry Brown signed SB 743 into law and codified a process that changed transportation impact analysis as part of CEQA compliance. SB 743 directs the California Office of Planning and Research (OPR) to administer new CEQA guidance for jurisdictions that removes automobile vehicle delay and LOS or other similar measures of vehicular capacity or traffic congestions from CEQA transportation analysis. Rather, it requires the analysis of VMT or other measures that "promote the reduction of greenhouse gas emissions, the development of multi-modal transportation networks, and a diversity of land uses," to be used as a basis for determining significant impacts to circulation in California. The goal of SB 743 is to appropriately balance the needs of congestion management with statewide goals related to reducing GHG emissions, encourage infill development, and promote public health through active transportation.

4.16.4.3 Regional Regulatory Setting

Fresno County Council of Governments. The Fresno COG is a voluntary association of local governments and a regional planning agency comprised of 16 member jurisdictions, including the

[3] CARB. 2018. Updated Final Staff Report, Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets, February 2018, Appendix A, MPO Target Recommendations and CARB Staff Recommendations.

City of Fresno. The members are represented by a Policy Board consisting of mayors of each incorporated city, and the Chairman of the County Board of Supervisors, or their designated elected official. The Policy Advisory Committee (PAC), composed of the Chief Administrative Officer of each member agency, assists the Board in its decision-making process. Others involved in the decision process include expert staff from member agencies, citizen and interest groups, and other stakeholders. The Fresno COG's purpose is to establish a consensus on the needs of the Fresno County area and further action plans for issues related to the Fresno County region. The current regional transportation plan, known as the Fresno County Regional Transportation Plan (RTP) (2042), was adopted in 2018. The RTP addresses GHG emissions reductions and other air emissions related to transportation, with the goal of preparing for future growth in a sustainable way. The plan specifies how funding will be sourced and financed for the region's planned transportation investments, ongoing operations, and maintenance. The goals, objectives, and policies of the RTP are established to direct the courses of action that will provide efficient, integrated multi-modal transportation systems to serve the mobility needs of people, including accessible pedestrian and bicycle facilities, and freight, while fostering economic prosperity and development, and minimizing mobile sources of air pollution. They are organized into six broad transportation mode based categories:

- General Transportation;
- Highway, Streets, and Roads;
- Mass Transportation;
- Aviation;
- Active Transportation; and
- Rail.

San Joaquin Valley Air Pollution Control District. The San Joaquin Valley Air Pollution Control District is the regional agency with the authority to develop and enforce regulations for the control of air pollution throughout the California Central Valley including emissions generated by transportation. The Central Valley is made up of eight counties: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Kern, and Tulare. The San Joaquin Valley Air Pollution Control District's goal is to improve the health and quality of life for all Valley residents through efficient, effective, and entrepreneurial air quality management strategies. The District's Governing Board approved the 2016 Plan for the 2008 8-Hour Ozone standard on June 16, 2016. The comprehensive strategy of this plan will reduce nitrogen oxide (NOx) emissions by over 60 percent between 2012 and 2031, and intends to bring the San Joaquin Valley into attainment of the Federal Environmental Protection Agency (EPA) 2008 8-Hour ozone standards.

Assembly Bill 617. In 2017 Governor Jerry Brown signed the Assembly Bill 617 (AB 617) into law to develop a new community focused program to more efficiently reduce exposure to air pollution, including air pollution generated by transportation, and to preserve public health. This Bill is administered by CARB and directs all local air districts to take measures to protect communities

disproportionally impacted by air pollution. Components of this Bill include: (1) Community-level air monitoring, (2) State strategy and community-specific emission reduction plans, (3) Accelerated review of retrofit pollution control technologies on industrial facilities subject to Cap-and-Trade, (4) Enhance emission reporting requirements, and (5) increase penalty provisions for polluters. The Fresno Community Emissions Reduction Plan was adopted by the San Joaquin Valley Air Pollution Control District in the fall of 2019.

Fresno County Transportation Authority and Measure C. The Fresno County Transportation Authority (FCTA) is a regional agency that was created to administer the voter-passed Measure C program in 1986. Measure C was a 20-year program that achieved a half-cent sales tax for transportation expenditures and infrastructure. After its 20-year duration, the program was extended for another 20 years in 2006 and named the Measure C Extension Expenditure Plan. Through this funding, the FCTA established goals and core values for utilizing these funds for not only building roads but also completion of added bike lanes; expansion of Fresno and Clovis transit; and support for transit, ridesharing, and vanpools.

Fresno County Congestion Management Process. The Fresno County Congestion Management Process (CMP) is an effective systematic and regionally acceptable approach for managing congestion. Its responsibilities are to provide information on transportation system performance and assess alternative strategies for alleviating congestion and improving mobility for people and goods to levels that meet State and local needs. The Fresno County CMP identifies four general objectives: (1) optimize the transportation facilities through efficient system management; (2) invest in strategies that reduce travel demand, improve system performance, increase safety, and provide effective incident management; (3) reduce VMT by encouraging alternative modes of transportation and promotion of sustainable land use development; and (4) improve public transit, extend bicycle and pedestrian systems, and promote car-sharing and bike-sharing programs to facilitate the development of an integrated multi-modal transportation system in the Fresno region. Using these objectives, the CMP has identified a CMP network that includes SR-41 from the SR-99 interchange to the Madera/Fresno County line, SR-99 from the Madera/Fresno County line to the Jensen Avenue interchange, SR-168 from the SR-180 interchange to the Herndon Avenue interchange, and SR-180 from the SR-99 interchange to the SR-168 interchange.

Guide for the Preparation of Traffic Impact Studies. Caltrans' "Guide for the Preparation of Traffic Impact Studies"[4] (Caltrans 2002) provides general guidance regarding the preparation of traffic impact studies for projects that may have an impact on the State Highway System. The guidance includes when a traffic study should be prepared and the methodology to use when evaluating operating conditions on the State highway system.

The "Guide for the Preparation of Traffic Impact Studies" states, "Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on state highway facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS." In accordance with this recommendation, consultation with Caltrans staff indicated that Caltrans would be willing to

[4] California Department of Transportation. 2002. Guide for the Preparation of Traffic Impact Studies. December.

consider LOS D at the LOS D/E threshold when improvements become infeasible for State facilities. The Guide for the Preparation of Traffic Impact Studies also states that where "an existing State highway facility is operating at less than the appropriate target LOS, the existing [measure of effectiveness (MOE)] should be maintained."

California Public Utilities Commission (CPUC). 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 (GO).

4.16.4.4 Local Regulatory Setting

City of Fresno Active Transportation Plan. The City's Active Transportation Plan (ATP), adopted in March 2017, provides a comprehensive guide outlining the vision for active transportation in Fresno. The ATP supersedes the Bicycle, Pedestrian, and Trails Master Plan that was adopted in 2010. The ATP envisions a complete, safe, and comfortable network of trails, sidewalks, and bikeways that serves all residents of Fresno. This plan lays out specific goals to improve bicycle and pedestrian access and connectivity in Fresno. These goals include the following:

- 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 geographical equity of access to walking and bicycling facilities in Fresno; and
- Fill key gaps in Fresno's walking and bicycling networks.

Bus Rapid Transit Master Plan and Southern Blackstone Avenue Smart Mobility Strategy. The BRT Master Plan, adopted in June 2008 by the Fresno COG, provides a vision demonstrating how improved efficiency, speed, and service can attract new transit ridership, improve customer satisfaction, and benefit the broader community by providing a quality of service similar to light rail systems through the use of bus technology. As a result, the City initiated the now operational BRT system service, also known as the "Q." The "Q" spans 15.7 miles and provides connections to the River Park shopping mall in northern Fresno to Courthouse Park in Downtown Fresno along Blackstone Avenue, and then heads east along Ventura/Kings Canyon Road to Clovis Avenue. To further implement the BRT Master Plan, the City is focused on the revitalization of the central core area and corridors leading into Downtown as illustrated in the Southern Blackstone Avenue Smart Mobility Strategy, adopted in 2019, which identifies the Blackstone Avenue Corridor as Fresno's most prominent street. The Smart Mobility Strategy addresses the following objectives:

1. Increase access and safety along the Corridor for all travel modes and users, including the elderly, disabled, low-income, and youth;
2. Address deficiencies in the existing street design that are incompatible with the planned land uses outlines in the General Plan and impact business opportunities and performance in the identified activity centers along the Corridor;

3. Recommend multi-modal access and safety improvements for pedestrians and bicyclists as well as transit riders;

4. Recommend potential sidewalk and streetscape enhancements to support pedestrian comfort, access to transit, and access to businesses and services;

5. Identify potential treatments that support the management of traffic speeds within activity centers along the corridor;

6. Consider on-street and off-street parking in the context of recommended multi-modal improvements;

7. Identify opportunities for gateway improvements and wayfinding signage; and

8. Recommend locally feasible implementation and funding strategies for recommended multi-modal improvements.

Transform Fresno. In November 2016, Fresno was selected by the California Strategic Growth Council for their new Transformative Climate Communities Program (TCC) to fund the development and implementation of neighborhood-level transformative climate community plans including greenhouse gas emission reduction projects that provide local economic, environmental, and health benefits to disadvantaged communities. Through this initiative, the Fresno Transformative Climate Communities Collaborative (FTCCC) was established to identify specific projects within Fresno to invest in that will significantly benefit the environment by reducing environmental impacts including vehicle emissions, and benefit the economy of areas within the Downtown, Chinatown, and southwest Fresno.

Complete Streets Policy. The Complete Streets Policy was adopted by the City Council on October 10, 2019, to guide the implementation of the City's complete streets and multi-modal objectives and policies included within the Fresno General Plan.

The City has integrated Complete Streets designs into its policies in compliance with AB 1358. One example is Policy MT-1-g (Complete Streets Concept Implementation), which calls for providing transportation facilities based upon a Complete Streets concept that facilitates the balanced use of all viable travel modes meeting the transportation needs of all ages, income groups, and abilities. An example of this policy at work is found in the Ventura/Kings Canyon Corridor Complete Streets Plan, accepted in 2015, as well as the Downtown Neighborhoods Community Plan (2016), the Fulton Corridor Specific Plan (2016), and the Southwest Fresno Specific Plan (2017).

Policies Related to Implementation of SB 743. As shown in Table 2.E of the TIA, the City has already initiated its incorporation of these SB 743 goals into transportation policies in the Mobility and Transportation Element of the Fresno General Plan.

These policies, in compliance with SB 743, have been represented in projects, plans, and programs throughout Fresno as follows:

- Multi-modal Transportation Networks
    - Construction and launch of a new BRT system on Blackstone Avenue and Kings Canyon Road;
    - Initiation of the Midtown Trail, a Class I bike/pedestrian trail that connects Fresno to Clovis' existing bike/pedestrian trail system;
    - Installation of new streetscape improvements at Fulton Street located in Downtown Fresno;
    - Road diet implementation throughout Fresno to reduce vehicular travel lanes for addition of bike paths and parking;
    - Adoption of New Development Code standards for sidewalks and pedestrian corridors;
    - Adoption of the Active Transportation Plan (2017);
    - Adoption of the Southern Blackstone Smart Mobility Strategy (2019); and
    - Adoption of Complete Streets Policy (October 2019).
- Reduction in Greenhouse Gases
    - Continuation of implementing citywide and region-wide transportation impact fees;
    - New development of Fresno Green-certified facilities;
    - Addition of new fleet vehicles and buses that are clean-energy vehicles;
    - Addition of light-emitting diode (LED) lighting for Fresno streets; and
    - Addition of tree-planting projects throughout Fresno.
- Diversity of Land Uses
    - Adoption of Traffic Impact Zones to reduce traffic study requirements for priority infill areas;
    - Economic incentives for higher-density development, such as an Affordable Housing density bonus and a Transit-Oriented Development (TOD) density bonus adopted as part of a new Development Code in 2016;
    - Adoption of mixed-use zoning around transit corridors and activity centers as part of the Development Code (2016);
    - Construction of CityView, a four-story mixed-use project on Van Ness Avenue and Inyo Street that contains ground-floor retail and 45 dwelling units above;

- Construction of approximately 600 units of mixed-use housing above ground-floor retail in Downtown;
- Adoption of new Development Code standards for streamlining Downtown housing projects; and
- Adoption of new Development Code standards for three Downtown districts.

City of Fresno General Plan. The following are objectives and policies from the approved General Plan that are relevant to transportation. Figures referenced below are contained in the approved General Plan.

Urban Form, Land Use, and Design Element

Policy LU-1-a: Promote Development within the Existing City Limits as of December 31, 2012. Promote new development, infill, and rehabilitation of existing building stock in the Downtown Planning Area, along BRT corridors, in established neighborhoods generally south of Herndon Avenue, and on other infill sites and vacant land within the City.

Policy LU-1-c: Provision of Public Facilities and Services. Promote orderly land use development in pace with public facilities and services needed to serve development.

Commentary: Proposed school sites, parks, and storm water retention basin sites are shown in their most probable location, but the General Plan Land Use Diagram only represents probable placement for many of these prospective future public uses, and these various future public facility sites may be relocated or purchased in alternate locations.

Policy LU-1-g: SOI Expansion. Maintain the City's current SOI boundaries without additional expansion, except to allow for the siting of a maintenance yard for the California High Speed Train project and related industrial and employment priority areas proximate to and south of the SOI boundary between State Route 41 and State Route 99. Prohibit residential uses in the expansion area.

Mobility and Transportation Element

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-c: Plan Line Adoption. Prepare and adopt Official Plan Lines, or other appropriate documentation such as Director Determinations, for transportation corridors, roadways, and bicycle/pedestrian paths/trails, as necessary to preserve and/or obtain right-of-way needed for planned circulation improvements.

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.

Implementation actions will include:

- Meeting the needs of all users within the street system as a whole; each individual street does not need to provide all modes of travel, but travel by all modes must be accommodated throughout the Planning Area;
- Continuing to adopt refined street cross-section standards as appropriate in response to needs identified;
- Encouraging conversion of one-way streets to two-way streets to improve location circulation, access, and safety;
- Considering the impact of streets on public health by addressing storm water runoff quality, air quality, and water conservation among other factors; and

- Adhering to the water efficient landscape standards adopted by the City for median and streetscape plantings and irrigation methods.

Policy MT-1-h: Update Standards for Complete Streets. Update the City's Engineering and Street Design Standards to ensure that roadway and streetscape design specifications reflect the Complete Streets concept, while also addressing the needs of through traffic, transit stops, bus turnouts, passenger loading needs, bike lanes, pedestrian accommodation, and short- and long-term parking.

Commentary: For instance, transit stops and bus turnouts may have higher priority than through traffic on important transit corridors; through traffic may have higher priority than parking on Arterials; and pedestrian and bicycle movement may have high priority in areas with high pedestrian interest and activity such as the Downtown Planning Area.

Policy MT-1-i: Local Street Standards. Establish and implement local roadway standards addressing characteristics such as alignment, width, continuity and traffic calming, to provide efficient neighborhood circulation; to allow convenient access by residents, visitors, and public service and safety providers; and to promote neighborhood integrity and desired quality of life by limiting intrusive pass-through traffic.

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.

In implementing this policy, the City will design improvements to:

- Facilitate provision of multi-modal transportation opportunities;
- Provide added safety, including appropriate traffic calming measures;
- Promote achievement of air quality standards;
- Provide capacity in a cost effective manner; and
- Create improved and equitable access with increased efficiency and connectivity.

Policy MT-1-l: Level of Service in the Downtown Area. Within the Downtown Planning Area accept vehicle LOS F conditions during peak hours for street segments and intersections specified in community and Specific Plans as may be adopted by the City. Where there is an overlap in policies regarding LOS in the Downtown Planning Area, this policy shall supersede.

Policy MT-1-o: LOS Deviations Outside of Activity Centers and Areas Designated for Mixed-Use. Accept vehicle LOS E or F conditions outside of identified multi-modal districts only if

provisions commensurate with the level of impact and approved by the City Traffic Engineer are made to sufficiently improve the overall transportation system and/or promote non-vehicular transportation as part of a development project or City-initiated project.

Policy MT-1-p: Participate in Sustainable Communities Strategy/Regional Transportation Plan. Continue to work with the Fresno Council of Governments in developing and updating the Sustainable Communities Strategy and Regional Transportation Plan, consistent with the goals, objectives and policies of the General Plan.

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-a: Intensification of Bus Rapid Transit Corridors. Where traffic has previously been diverted to freeways, encourage incentives for more intense development along transportation corridors, such as the Blackstone Corridor, where there is now additional capacity.

Commentary: The General Plan Land Use Diagram (Figure LU-1) shows corridors where increases in allowable densities are permitted.

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 multi-modal transportations corridors in order to reduce citywide vehicle miles travelled (VMT).

Commentary: This policy is intended to reduce regional trips and citywide congestion. Even if local congestion increases due to an increase in population from infill, this will eventually improve air quality by reducing per capita vehicle emissions and VMT through shorter commutes and increase in transit and non-motorized modes of travel. This will also reduce the need for regional travel demand transportation improvements.

Policy MT-2-d: Street Redesign where Excess Capacity Exists. Evaluate opportunities to reduce right of way and/or redesign streets to support non-automobile travel modes along streets with excess roadway capacity where adjacent land use is not expected to change over the planning period.

Commentary: Such strategies could include narrowing roads (road diets), adding landscape medians, adding street parking, and adding bike lanes.

Policy MT-2-e: Driveway and Access Consolidation. Take advantage of opportunities to consolidate driveways, access points, and curb cuts along designated major roadways when a change in development or a change in intensity occurs or when traffic operation or safety warrants.

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. In order to facilitate roadway optimization and as a potential revenue source for the optimization, the following strategies need to be implemented:

- Dig Once Policy. Install conduit for telecommunications use when trenching or construction occurs.
- Telecommunications Strategy. Develop a costing mechanism for allowing the use of excess conduit within the City for use by communication carriers. The Policy shall follow regulations of the California Public Utilities Commission.
- Grant Funding. Pursue grant funding to assist in construction and/or implementation of fiber-optic or other telecommunication infrastructure for additional public services such as education, economic development, reaching underserved populations, and public safety communications.

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.

Commentary: The City anticipates these strategies will reduce demand on the regional transportation system, limiting the need for major capital investments in those systems.

Policy MT-2-h: Update TIS. Update the City's Traffic Impact Study guidelines to address all modes of transportation and Complete Streets concepts consistent with the General Plan. The name should be expanded to encompass its assessment of various modes of transportation and connectivity in addition to traffic impacts. Once a regional fee plan or program is in place, the TIS may be used to carry out that plan or program.

Policy MT-2-i: Transportation Impact Studies. Require a Transportation Impact Study (currently named Traffic Impact Study) to assess the impacts of new development projects on existing and planned streets for projects meeting one or more of the following criteria, unless it is determined by the City Traffic Engineer that the project site and surrounding area already has appropriate multi-modal infrastructure improvements.

- When a project includes a General Plan amendment that changes the General Plan Land Use Designation.

- When the project will substantially change the off-site transportation system (auto, transit, bike or pedestrian) or connection to the system, as determined by the City Traffic Engineer.

- Transportation impact criteria are tiered based on a project's location within the City's Sphere of Influence. This is to assist with areas being incentivized for development. The four zones, as defined on Figure MT-4, are listed below. The following criteria apply:

    - Traffic Impact Zone I (TIZ-I): TIZ-I represents the Downtown Planning Area. Maintain a peak hour LOS standard of F or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.

    - Traffic Impact Zone II (TIZ-II): TIZ-II generally represents areas of the City currently built up and wanting to encourage infill development. Maintain a peak hour LOS standard of E or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.

    - Traffic Impact Zone III (TIZ-III): TIZ-III generally represents areas near or outside the City Limits but within the SOI as of December 31, 2012. Maintain a peak hour LOS standard of D or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 100 or more peak hour new vehicle trips.

    - Traffic Impact Zone IV (TIZ-IV): TIZ-IV represents the southern employment areas within and planned by the City. Maintain a peak hour LOS standard of E or better for all intersections and roadway segments. A TIS will be required for all development projected to generate 200 or more peak hour new vehicle trips.

Policy MT-2-j: Funding for Multi-Modal Transportation System. Continue to seek and secure adequate financing to construct and maintain a complete multi-modal system through such measures as development impact fees, local sales tax measures, special tax measures, assessment/improvement districts, and regional, state and federal transportation funds and grants.

Commentary: This policy will be coordinated with policies and objectives for fiscal sustainability in the Economic Development and Fiscal Sustainability Element.

Policy MT-2-k: Funding for Complete Streets Retrofits. Continue to participate in a comprehensive analysis of transportation needs and the funding of transportation improvements, including State and federal grant funding to support Complete Street retrofit improvements, within the Fresno-Clovis Metropolitan Area.

Commentary: This will be done cooperatively with the Fresno Council of Governments, other government agencies, and public interest groups.

Policy MT-2-l: Region-Wide Transportation Impact Fees. Continue to support the implementation of metropolitan-wide and region-wide transportation impact fees sufficient to cover the proportional share of a development's impacts and need for a comprehensive multi-modal transportation system that is not funded by other sources. Work with the Council of Fresno County Governments, transportation agencies (e.g. Caltrans, Federal Transportation Agency) and other jurisdictions in the region to develop a method for determining:

- Regional transportation impacts of new development;
- Regional highways, streets, rail, trails, public transportation, and goods movement system components, consistent with the General Plan, necessary to mitigate those impacts and serve projected demands;
- Projected full lifetime costs of the regional transportation system components, including construction, operation, and maintenance; and
- Costs covered by established funding sources.

Commentary: This policy is consistent with and supports policies and objectives for fiscal sustainability in the Economic Development and Fiscal Sustainability Element.

Objective MT-3: Identify, promote and preserve scenic or aesthetically unique corridors by application of appropriate policies and regulations.

Policy MT-3-a: Scenic Corridors. Implement measures to preserve and enhance scenic qualities along scenic corridors or boulevards, including:

- Van Ness Boulevard - Weldon to Shaw Avenues
- Van Ness Extension - Shaw Avenue to the San Joaquin River Bluff
- Kearney Boulevard - Fresno Street to Polk Avenue
- Van Ness/Fulton couplet - Weldon Avenue to Divisadero
- Butler Avenue - Peach to Fowler Avenues
- Minnewawa Avenue - Belmont Avenue to Central Canal
- Huntington Boulevard - First Street to Cedar Avenue
- Shepherd Avenue - Friant Road to Willow Avenue

- Audubon Drive - Blackstone to Herndon Avenues
- Friant Road - Audubon to Millerton Roads
- Tulare Avenue - Sunnyside to Armstrong Avenues
- Ashlan Avenue - Palm to Maroa Avenues

Policy MT-3-b: Preserve street trees lining designated scenic corridors or boulevards. Replace trees of the predominant type and in a comparable pattern to existing plantings if there is no detriment to public safety.

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-a: Active Transportation Plan. To the extent consistent with this General Plan, continue to implement and periodically update the Active Transportation Plan to meet State standards and requirements for recommended improvements and funding proposals as determined appropriate and feasible.

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-d: Prioritization of Bikeway Improvements. Prioritize bikeway components that link existing separated sections of the system, or that are likely to serve the highest concentration of existing or potential cyclists, particularly in those neighborhoods with low vehicle ownership rates, or that are likely to serve destination areas with the highest demand such as schools, shopping areas, recreational and park areas, and employment centers.

Policy MT-4-e: Minimum Bike Lane Widths. Provide not less than 10 feet of street width (five feet for each travel direction) to implement bike lanes for designated Class II bikeways along roadways. Strive for 14 feet of street width (seven feet for each travel direction) for curbside bike lanes where right-of-way is available.

Policy MT-4-f: Bike Detection Devices. Include bicycle detection devices when new intersection traffic control signals are installed and strive to retrofit existing traffic control

signals to provide bicycle detection and retiming of signal phases to make them more bicycle friendly.

Policy MT-4-g: Advocacy for Bike Accommodation. Advocate for the accommodation of bike facilities in new or upgraded State Route interchanges and railroad construction projects, and construction of bicycle crossings of freeways and railroads.

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.

Policy MT-4-j: Street Maintenance for Bicycle Safety. Provide regular sweeping and other necessary maintenance to clear bikeways of dirt, glass, gravel, and other debris and maintain the integrity of the bicycling network.

Policy MT-4-k: Bicycle Safety, Awareness, and Education. Promote bicycle ridership by providing secure bicycle facilities, promoting traffic safety awareness for both bicyclists and motorists, promoting the air quality benefits, promoting non-renewable energy savings, and promoting the public health benefits of physical activity.

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 onto 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.

Commentary: To make this determination, the City Traffic Engineer may require an evaluation of alternative means of access, including frontage roads, backup treatment, and substantial redesign of the subdivision proposal.

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.

Policy MT-5-e: Traffic Management in Established Neighborhoods. Establish acceptable design and improvement standards and provide traffic planning assistance to established neighborhoods to identify practical traffic management and calming methods to enhance the pedestrian environment with costs equitably assigned to properties receiving the benefits or generating excessive vehicle traffic.

Policy MT-5-f: Modifications to Street Standards. Continue to evaluate and adopt modifications to City street standards to achieve overall objectives of providing good access and travel opportunities while calming traffic, promoting pedestrian and other transportation options, and reducing the amount of land devoted to streets.

Objective MT-6: Establish a network of multi-purpose pedestrian and bicycle paths, as well as limited access trails, to link residential areas to local and regional open spaces and recreation areas and urban Activity Centers in order to enhance Fresno's recreational amenities and alternative transportation options.

Policy MT-6-a: Link Residences to Destinations. Design a pedestrian and bicycle path network that links residential areas with Activity Centers, such as parks and recreational facilities, educational institutions, employment centers, cultural sites, and other focal points of the city environment.

Policy MT-6-b: Multi-Agency Planning for Paths and Trail System. Continue to participate in multi-agency planning and implementation partnerships for the coordinated development of the Fresno-Clovis Metropolitan Area planned path and trail system and with Madera County for the San Joaquin River Parkway trail system.

Policy MT-6-c: Link Paths and Trails and Recreational Facilities. Strive to provide path or trail connections to recreational facilities, including parks and community centers where appropriate, and give priority to pathway improvements within neighborhoods characterized by lower vehicle ownership rates and lower per capita rates of parks and public open space.

Policy MT-6-d: Link Paths and Trails and Cultural Resources. Strive to designate and implement paths and trails to pass by environmental amenities, historic sites, and other

cultural resources, where appropriate, and provide informational signage or other interpretation of those resources to the public.

Policy MT-6-e: Utilize Public Rights of Way. Pursue the attainment of path and trail corridors within abandoned railroad rights-of-way, canal alignments, PG&E transmission tower easements, limited access streets (Expressways, freeways), riverbottom/bluff areas, or other such rights-of-ways. Offer existing easements and rights-of-way to local agencies before selling them to private parties.

Policy MT-6-f: Path and Trail Designation Process. Develop a network of multi-purpose path and trail corridors by using the Official Plan Line process or other processes as provided by the Development Code to obtain appropriate linear rights-of-way along riparian corridors, drainage and irrigation easements, utility easements, abandoned railroad rights-of-way, and major street corridors.

Policy MT-6-g: Path and Trail Development. Require all projects to incorporate planned multi-purpose path and trail development standards and corridor linkages consistent with the General Plan, applicable law and case-by-case determinations as a condition of project approval.

Commentary: This should be done pursuant to Figure MT-2: Paths and Trails, and the adopted ATP, as may be amended.

Policy MT-6-h: Preference for Public Ownership. Avoid path and trail alignments that involve private ownership of sections of public path or trail right-of-way. Use the Director Determination process, if necessary, to adjust planned path or trail rights-of-way to avoid these situations by realigning along more visible, publicly owned routes.

Policy MT-6-i: Path and Trail Design Standards. Designate and design paths and trails in accordance with design standards established by the City that give consideration to all path and trail users (consistent with design, terrain and habitat limitations) and provide for appropriate widths, surfacing, drainage, design speed, barriers, fences, signage, visibility, intersections, bridges, and street cleaning.

Commentary: Trail improvements and characteristics (e.g. accessibility, continuity, width and location, and surface treatment) within the Fancher Creek water conveyance and riparian corridor, and other alignments immediately adjacent to existing or planned residential land, will be determined by the City Council after providing for appropriate public participation.

Policy MT-6-j: Variety in Path and Trail Design. Provide for different levels and types of usable pedestrian and bicycle corridors, including broad, shaded sidewalks; jogging paths; paved and all terrain bicycle paths; through-block passageways; and hiking trails. Where a designated multi-purpose path route is adjacent to a public right-of-way which accommodates bike lane, allow for flexibility in path design, so that bike lanes may be

substituted for the bicycle component of the multi-purpose path where it is safe and appropriate to do so.

Commentary: This should be done pursuant to Figure MT-2: Paths and Trails, and the adopted ATP, as amended.

Policy MT-6-k: Path and Trail Buffers. Use landscaping with appropriate and adequate physical and visual barriers (e.g., masonry walls, wrought-iron, or square-tube fencing) to screen path and trail rights-of ways and separate paths and trails from mining operations, drainage facilities, and similar locations as warranted.

Policy MT-6-l: Environmentally Sensitive Path and Trail Design. Develop paths and trails with minimum environmental impact by taking the following actions:

- Surface paths and trails with materials that are conducive to maintenance and safe travel, choosing materials that blend in with the surrounding area;
- Design paths and trails to follow contour lines where the least amount of grading (fewest cuts and fills) and least disturbance of the surrounding habitat will occur;
- Beautify path and trail rights-of-way in a manner consistent with intended use, safety, and maintenance;
- Use landscaping to stabilize slopes, create physical or visual barriers, and provide shaded areas; and
- Preserve and incorporate native plant species into the landscaping.

Policy MT-6-m: Path and Trail Crossings. Limit vehicle access, to the extent feasible, where paths or trails are designated parallel and adjacent to roadways, with consideration given to other transportation, land use, and site design priorities and constraints.

Policy MT-6-n: Emergency Vehicle Access along Paths and Trails. Provide points of emergency vehicle access within the path and trail corridors, via parking areas, service roads, emergency access gates in fencing, and firebreaks.

Commentary: Service roads will be interconnected, where possible, to permit through travel by emergency vehicles.

Objective MT-7: Pursue a variety of funding sources to maximize implementation and development of the City's path and trail system.

Policy MT-7-a: Urban Path and Trail Development Funds. Continue to seek grants and other funding sources for trail construction and maintenance, and support the enactment of State and federal legislation that will expand urban path and trail development funds.

Policy MT-7-b: Supporting Nonprofit Organizations. Support and assist nonprofit organizations whose purpose or charter is to promote and support public path and trail construction and maintenance. Establish an "Adopt a Path/Trail" program that allows private entities to maintain segments.

Policy MT-7-c: Citywide Funding Program for Path and Trail Network. Strive to establish an equitable citywide funding program for construction and maintenance of the path and trail network, in order to:

- Acquire right-of-way needed for paths and trails in already-developed neighborhoods and other areas, as identified in community plans, Specific Plans, and neighborhood plans;
- Reimburse developers for public path and trail development costs that they may incur in excess of the trail cost attributable to the impact of their development project (this may require a citywide nexus study); and
- Seek funding sources to add to and adequately maintain the citywide path and trail network.

Commentary: This program could be folded into a comprehensive parks and trails funding program, supported by voter-approved sales tax revenues.

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.

Commentary: Public transit services must meet accessibility standards for individuals with disabilities as required by applicable state and federal regulations.

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.

Commentary: Neighborhoods with circuitous and discontinuous streets are more difficult for public transit to serve efficiently than those with consistently spaced linear or semi-grid patterns.

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.

Policy MT-8-d: Coordination of Transportation Modes. Plan, design, and implement transportation system improvements promoting coordination and continuity of transportation modes and facilities, such as shared parking or park and ride facilities at Activity Centers.

Policy MT-8-e: Regional Coordination. Continue to work with local and regional governmental institutions to promote efficient transportation policies and coordinated programs.

Policy MT-8-f: Multi-modal Downtown Transportation Facility. Support the development of a multi-modal transportation facility in Downtown.

Commentary: Additional details for the facility are anticipated to be addressed in a future community or Specific Plan, such as the proposed DNCP or FCSP.

Policy MT-8-g: High Speed Train. If the State moves forward with HST, ensure it is constructed through Fresno in a manner that minimizes impacts to surrounding property owners and creates the most opportunity for redevelopment around the HST station.

Policy MT-8-h: Move Forward with High Speed Train Station Area Planning. Work with local residents, property and business owners, and other stakeholders to develop a station area plan to provide the most opportunity for growth and prosperity in concert with development of the Fresno HST station.

Policy MT-8-i: Legislative Support. Monitor State and federal legislation that creates incentives to reduce auto dependency and support the use of alternatives to the single occupant vehicle and support legislation that is consistent with the General Plan.

Policy MT-8-j: Transit Services. Emphasize expansion of transit service in low income neighborhoods that lack appropriate service levels.

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.

Policy MT-9-b: Transit Service Productivity Evaluation. Continue to evaluate transit service productivity and cost efficiency indicators in the City's Short-Range Transit Plan, and make necessary and appropriate service adjustments when operationally and financially feasible.

Commentary: Short-range transportation planning is a federal requirement for continued funding.

Policy MT-9-c: Addressing Unmet Transit Needs. Continue to participate in the Council of Fresno County Governments' annual unmet transit needs evaluation process, particularly with respect to identifying need for access to medical and educational services; perform market analysis to identify potential transit choice riders; and pursue public education and information programs to identify changes in demand characteristics and opportunities to increase ridership.

Policy MT-9-d: Long-Range Transit Options. Advocate and participate in regional transportation analyses and identify appropriate long-range measures to support incorporation of light rail transit and other advanced transit service within major transportation corridors, freeway and railroad alignments.

Policy MT-9-e: Area Specific Transit Improvements. Continue to evaluate and pursue the planning and implementation of area specific transit improvements, such as street car facilities.

Policy MT-9-f: Encourage Telecommuting. Support measures that will facilitate expanded use of telecommunications technologies to reduce congestion, expansion of regional transportation facilities consistent with this General Plan, energy use, and air emissions (i.e., work at home, dispersed telecommute work centers, teleconferencing).

Objective MT-10: Establish parking standards that are strategically tuned to support neighborhoods, shopping districts and employment centers that have a complete range of transportation choices.

Policy MT-10-a: Updating Parking Standards. Update off-street parking standards to reflect the context and location within activity areas of multiple uses and reductions appropriate for mixed residential and non-residential uses and proximity to existing or planned transit service.

Policy MT-10-b: Shared Parking. Establish a strategy to promote the sharing of excess parking between uses within Activity Centers and BRT corridors, including specific provisions for this in the Development Code.

Policy MT-10-c: Transportation Demand Management Guidelines. Establish transportation demand management guidelines to allow for reduced off-street parking requirements.

Policy MT-10-d: Parking Maximums. Explore maximum off-street parking limits within Activity Centers proximate to BRT corridors, if such an Activity Center is determined compatible with promotion of a healthy and vigorous business environment.

Policy MT-10-e: Parking Cash-Out. Educate employers of 50 or more persons on their obligation to provide a "parking cash-out program" under State law and enforce compliance.

Commentary: Under such a program, an employer offers a cash allowance to an employee equivalent to the cost of parking the employer would otherwise provide, as an incentive to using alternative modes of transportation for commuting. These programs must be offered in any non-attainment area for air quality.

A 2009 amendment to State law on parking cash-out provides authority for cities to enforce these requirements, including penalties to be imposed on employers who do not provide the "parking cash-out" allowance to employees.

Policy MT-10-f: Parking Benefit Districts. Establish parking benefit districts to fund consolidated public parking where supported by local businesses.

Commentary: Net revenues collected from on-street parking pricing and permit revenues can be dedicated to funding public improvements within designated Parking Benefit Districts, ensuring that revenue is used to benefit the blocks where the money is collected. State laws provide for public parking facility construction, operation and maintenance.

General Plan Policy Revisions. The following General Plan policies are proposed to be revised as a part of this project. Specific text changes are shown below; double-underlined text represents language that will be added to the General Plan, and text with ~~strikethrough~~ represents language that will be deleted from the General Plan.

Policy MT-1-k: Multi-Modal Level of Service Standards. Develop and use a tiered system of flexible, multi-modal 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.

Policy MT-1-m: Standards for Planned Bus Rapid Transit Corridors and Activity Centers. Independent of the Traffic Impact Zones identified in MT-2-i and Figure MT-4, strive to maintain the following vehicle LOS standards on major roadway segments and intersections along Bus Rapid Transit Corridors and in Activity Centers:

- LOS E or better at all times, including peak travel times, unless the City Traffic Engineer determines that ~~mitigation to~~ maintaining this LOS would be infeasible and/or conflict with the achievement of other General Plan policies.

- Accept LOS F conditions in Activity Centers and Bus Rapid Transit Corridors only if provisions are made to improve the overall system and/or promote non-vehicular transportation and transit as part of a development project or a City-initiated project. In accepting LOS F conditions, the City Traffic Engineer may request limited analyses of operational issues at locations near Activity Centers and along Bus Rapid Transit Corridors, such as queuing or left-turn movements.

- Give priority to maintaining pedestrian service first, followed by transit service and then by vehicle LOS, where conflicts between objectives for service capacity between different transportation modes occur.

- Identify pedestrian-priority and transit-priority streets where these modes would have priority in order to apply a multi-modal priority system, as part of the General Plan implementation.

Policy MT-1-n: Peak Hour Vehicle LOS. For planning purposes and implementation of Capital Improvement Projects, ~~M~~maintain a peak-hour vehicle LOS standard of D or better for all roadway areas outside of identified Activity Center and Bus Rapid Transit Corridor districts, unless the City Traffic Engineer determines that ~~mitigation to~~ maintaining this LOS would be infeasible and/or conflict with the achievement of other General Plan policies.

Policy MT-2-m: Use VMT analysis for CEQA. Use Vehicle Miles Traveled (VMT) as the criteria for evaluating transportation impacts under the California Environmental Quality Act (CEQA), pursuant to Senate Bill 743. Level of Service (LOS) may still be used for planning purposes and implementation of Capital Improvement Projects; however, VMT shall be used for determining mitigation under CEQA beginning in July of 2020.

Commentary: In 2013, the State of California passed Senate Bill 743, which eliminated automobile Level of Service (LOS) from transportation analysis under CEQA and replaced it with VMT. This shift from LOS to VMT is intended to better align with other statewide transportation goals, including reduction of GHG emissions, the creation of multimodal networks, and the promotion of integrated land uses.

4.16.5 Significance Criteria

The thresholds for impacts related to transportation used in this analysis are consistent with Appendix G of the State *CEQA Guidelines*. Continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and the updates to the Greenhouse Gas Reduction Plan would result in a significant impact related to transportation if they would:

TRA-1 Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;

TRA-2 Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b);

TRA-3 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

TRA-4 Result in inadequate emergency access.

4.16.6 Impacts and Mitigation Measures

4.16.6.1 Project Impacts

The following discussion describes the potential impacts related to transportation that could result from continued implementation of the General Plan. The proposed text changes to the Mobility and Transportation Element and the updates to the Greenhouse Gas Reduction Plan are not anticipated to result in impacts related to transportation because these changes are narrow in scope and do not result in direct physical changes to the environment.

TRA-1 Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

The City's long-term mobility system goals and policies are closely correlated to the Urban Form, Land Use, and Design Element of the approved General Plan. These goals and policies are intended to provide a balance between Fresno's future growth and land use development, roadway size, traffic LOS, and VMT. The LOS analysis included below and in the TIA is included because the General Plan Mobility and Transportation Element requires traffic planning to assess LOS for future traffic planning.

The analysis included below is a summary of the TIA and describes the roadway network traffic volumes and LOS under forecast build out conditions. Build out traffic has been assessed over existing roadway geometry to identify circulation deficiencies that are forecast to occur under build out conditions. This would assist in identifying improvements required to support growth anticipated for Fresno and the region. Identification of these improvements would help in developing the recommended citywide General Plan circulation system.

General Plan (2035) Conditions Traffic. The General Plan conditions include the land use data from the City's Urban Form, Land Use, and Design Element.

The Fresno COG ABM is the most current travel demand model for the region. The model's base year is 2014 and includes socioeconomic data (SED) corresponding to year 2014 conditions. Therefore, information regarding all land development occurring between 2014 and 2019 was collected from the City to update the model's base year to 2019. The land development information was provided to Fresno COG staff who then updated the model's base year SED to year 2019. The updated SED were used to develop base year (2019) model runs from the ABM.

The future year in the ABM is year 2035. The SED included in the year 2035 scenario are based on the year 2035 projections as included in the 2050 Fresno County Growth Projections report prepared for Fresno COG. The 2035 SED projections present a conservative estimate of regional growth in population and employment based on multiple data sources as included in the report. Therefore, year 2035 was considered as the General Plan condition for purposes of this analysis. Additionally, the SED included in the ABM under year 2035 conditions includes a slightly higher intensity of land uses compared to the City's General Plan land uses. Therefore, the ABM year 2035 SED data present a more conservative estimate of the General Plan land uses. As such, based on discussions with Fresno COG and City staff, the ABM year 2035 scenario was used as is to develop General Plan (2035) traffic volumes.

Traffic volumes were developed by post-processing existing traffic volumes using the National Cooperative Highway Research Program (NCHRP) difference method between the model base (2019) and future year (2035) conditions. Detailed volume development worksheets are contained in Appendix B of the TIA. The refined forecasts were used to conduct a citywide analysis to determine areas of congestion and LOS.

Roadway Segment Levels of Service. An LOS analysis was conducted at study area roadway segments to determine the projected roadway segment performance under General Plan (2035) conditions using existing roadway configuration. As shown in Table 3.A of the TIA, all roadway segments are forecast to operate at their respective satisfactory LOS (which range from LOS D to LOS F), with the exception of 21 roadway segments.

Figure 3.1 of the TIA (pages 1 through 7) illustrates the locations of the roadway segments and corresponding LOS for the a.m. peak hour under General Plan (2035) conditions with existing configurations. Figure 3.2 of the TIA (pages 1 through 7) illustrates the locations of the roadway segments and corresponding LOS for the p.m. peak hour under General Plan (2035) conditions with existing configurations.

General Plan (2035) Conditions with Mobility and Transportation Element. The analysis in the General Plan (2035) conditions identified forecast LOS deficiencies at study area roadway segments within Fresno. Of the 282 roadway segments analyzed in this study, 21 segments are anticipated to operate at deficient LOS due to traffic volume increase between existing and future conditions. Therefore, the City's General Plan Mobility and Transportation Element configuration, as included in the 2014 MEIR, is intended to create a network of roadways to accommodate the future growth while providing safe travel at acceptable operating conditions. This section evaluates the Mobility and Transportation configuration implementation and reduction in congestion when the future Urban Form, Land Use, and Design Element may be built out.

The General Plan (2035) conditions include implementation of the Mobility and Transportation Element configuration to the existing roadway network to reflect the City's Mobility goals. The Mobility and Transportation Element proposes to widen the right-of-way at the roadway segments that are mainly located on the undeveloped areas to the west, southwest, and southeast of Fresno. Based on the General Plan Mobility and Transportation Element and the roadway segments analyzed in this TIA, the following modifications are some of the major improvements that are proposed to be implemented to Fresno's roadway network to maintain the City's LOS standard:

- **Grantland Avenue:** This roadway segment is proposed to be widened to a four-lane Super Arterial between Belmont Avenue and Shaw Avenue.

- **Polk Avenue:** This roadway segment is proposed to be widened to a four-lane Arterial between Belmont Avenue and Shaw Avenue.

- **Brawley Avenue:** This roadway segment is proposed to be widened to a four-lane Collector between Madison Avenue and Clinton Avenue.

- **Marks Avenue:** This roadway segment is proposed to be widened to a four-lane Arterial between Jensen Avenue and Whitesbridge Avenue, and between Belmont Avenue and Dakota Avenue.
- **Willow Avenue:** This roadway segment is going to be widened to a six-lane Super Arterial between Herndon Avenue and International Avenue.
- **Fowler Avenue:** This roadway segment is going to be widened to a four-lane Arterial between Kings Canyon Road and Clinton Avenue, and from Jensen Avenue to Hamilton Avenue.
- **Temperance Avenue:** This roadway segment is going to be widened to a six-lane Super Arterial between Jensen Avenue and Shaw Avenue.
- **Shaw Avenue:** This roadway segment is going to be widened to a four-lane Arterial between Grantland Avenue and Polk Avenue.
- **Ashlan Avenue:** This roadway segment is going to be widened to a four-lane Arterial between Grantland Avenue and Cornelia Avenue.
- **McKinley Avenue:** This roadway segment is going to be widened to a four-lane Arterial between Polk Avenue and Hughes Avenue.
- **Jensen Avenue:** This roadway segment is going to be widened to a four-lane Arterial between Marks Avenue and Martin Luther King Boulevard, and a six-lane Super Arterial between Orange Avenue and Highland Avenue.
- **North Avenue:** This roadway segment is going to be widened to a four-lane Arterial between Orange Avenue and Clovis Avenue.
- **Veterans Boulevard:** This roadway segment is proposed to be constructed on the west side of the City as a six-lane Super Arterial.

As such, the proposed configuration as included in the Mobility and Transportation Element has been considered for all of the 282 analyzed roadway segments in this TIA.

Undeveloped Areas of Fresno. With continued implementation of the approved General Plan, several of the deficient roadway segments would operate at satisfactory LOS. Figure 4.1 of the TIA illustrates the Recommended General Plan Circulation System for the roadway segments analyzed in the TIA. The Mobility and Transportation Element would provide satisfactory roadway performance, correlating the Urban Form, Land Use, and Design Element and the Mobility and Transportation Element for a majority of the analyzed roadway segments. However, 12 roadway segments are forecast to operate at a deficient LOS when compared to the City's General Plan LOS standard.

General Plan (2035) Condition Roadway Segment Levels of Service Comparison – Existing Configuration vs. General Plan Configuration. An LOS analysis was conducted at study area roadway segments to determine the projected roadway segment performance under the General Plan (2035) conditions with the previously described Mobility and Transportation Element. As shown in Table 4.A of the TIA, with the implementation of the Mobility and Transportation Element configuration, all roadway segments are forecast to operate at satisfactory LOS, with the exception of the following 12 roadway segments:

- Grantland Avenue between Bullard Avenue and Parkway Drive (LOS E in the a.m. and p.m. peak hours);
- Cornelia Avenue between Cortland Avenue and Clinton Avenue (LOS E in the a.m. peak hour);
- Maroa Avenue between Sample Avenue and Bullard Avenue (LOS F in the a.m. and p.m. peak hours);
- Friant Road between Audubon Drive and Shepherd Avenue (LOS E in the a.m. peak hour and LOS F in the p.m. peak hour);
- Friant Road between SR-41 southbound off-ramp and SR-41 northbound off-ramp (LOS F in the p.m. peak hour);
- Friant Road between SR-41 northbound off-ramp and Audubon Drive (LOS F in the p.m. peak hour);
- Audubon Drive between Del Mar Avenue and Nees Avenue (LOS E in the p.m. peak hour);
- Figarden Drive between San Jose Avenue and Bullard Avenue (LOS F in the p.m. peak hour);
- Gettysburg Avenue between Maple Avenue and Winery Avenue (LOS F in the a.m. and p.m. peak hours);
- Ashlan Avenue between Cornelia Avenue and Blyth Avenue (LOS F in the p.m. peak hour);
- Dakota Avenue between Maroa Avenue and Del Mar Avenue (LOS F in the p.m. peak hour); and
- Dakota Avenue between Angus Street and First Street (LOS F in the p.m. peak hour).

Table 4.B of the TIA illustrates a comparison between the General Plan LOS with the existing roadway configurations and General Plan Mobility and Transportation Element configurations. As shown in Table 4.B of the TIA, after implementation of the General Plan Mobility and Transportation Element, the number of deficient segments would be reduced from 21 segments to 12 segments, as listed above. These 12 segments are forecast to continue to operate at a deficient LOS under General Plan (2035) conditions with the 2014 MEIR Mobility and Transportation Element configuration.

Figure 4.2 of the TIA (pages 1 through 7) illustrates the locations of the roadway segments and corresponding LOS for the a.m. peak hour under General Plan (2035) conditions with the Mobility and Transportation Element. Figure 4.3 of the TIA (pages 1 through 7) illustrates the locations of the roadway segments and corresponding LOS for the p.m. peak hour under General Plan (2035) conditions with the Mobility and Transportation Element.

As described above, full build out of the General Plan would create as many as 21 deficiencies (i.e., LOS E or F) for the 282 analyzed segments under existing roadway configurations. Implementation of the Mobility and Transportation Element designation to the roadway system would result in 9 deficient roadways receiving additional capacity and operating at acceptable LOS. However, 12 roadway segments, listed above and shown in Table 4.B of the TIA, are forecast to exceed the General Plan LOS standard even when the Mobility and Transportation Element is completed. As a result, a significant impact would occur at these 12 roadway segments.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.16.4.4, Local Regulatory Setting, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact TRA-1: Continued Implementation of the approved General Plan would increase vehicle traffic and would result in 12 roadway segments to exceed General Plan LOS standards, which is in conflict with LOS-related policies in the Mobility and Transportation Element of the approved General Plan.

Mitigation: Mitigation is not feasible to address the exceedance of General Plan LOS standards because the mitigation would be limited to re-designating the affected arterials to a higher classification, creating a new General Plan LOS goal, widening the roads, or identifying the infeasibility of acquiring the affected right-of-way and implementing road widening. As a result, there are no feasible mitigation measures to address the exceedance of General Plan LOS standards, and a significant and unavoidable impact would result.

Level of Significance Without Mitigation: Significant and unavoidable as there is no feasible mitigation.

TRA-2 The project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).

On December 28, 2018, the California Office of Administrative Law cleared the revised CEQA guidelines for use. Among the changes to the guidelines was removal of vehicle delay and LOS from consideration under CEQA. LOS is a qualitative measure that would assess the level of congestion and delay of a roadway segment. With the adopted guidelines, transportation impacts are to be evaluated based on a project's effect on VMT. VMT is calculated by multiplying the number of vehicle trips by the estimated number of miles driven per trip. Projects that create significant impacts under VMT would be required to mitigate their impacts through TDM measures such as car

sharing, improved transit, and enhanced bicycle infrastructure. Lead agencies are allowed to opt in to the revised transportation guidelines, but the new guidelines must be used starting July 1, 2020.

In accordance with updated guidelines, the Mobility and Transportation Element of the approved General Plan began a departure from considering LOS as the only measure of a transportation system's effectiveness.

The City has not yet established thresholds related to VMT. Once VMT thresholds are established by the City, the project impacts would be evaluated against established thresholds to determine the significance and identify mitigation measures, similar to LOS methodology. Specific details about thresholds and methodologies for project impact evaluation and mitigations will be identified prior to July 1, 2020.

The State law provides guidance to evaluate the impacts related to vehicles miles traveled.

California Public Resources Code Section 15064.3(b)(4) states (in part) that:

> *A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household, or in any other measure.*

To provide an abundance of information on the effects of the continued implementation of the Land Use and Circulation Elements, this analysis includes Total Population VMT, Total Employment VMT, VMT per capita (population), and VMT per employee. For context, Fresno VMT is compared to the larger Fresno County.

VMT calculations for this Program EIR were derived from the Regional Travel Demand Model (Fresno COG ABM). The data are presented in terms of daily VMT per capita for the entire County and the City for the existing (2019) and General Plan (2035) conditions. Table 4.16-2 summarizes this VMT data.

Table 4.16-2: County and City of Fresno VMT

VMT Category	Existing (2019)	General Plan (2035)
Fresno County Total Household VMT	16,089,070	21,549,479
Fresno County Total Employment VMT	10,513,749	15,966,357
Fresno City Total Household VMT	7,404,806	10,620,261
Fresno City Total Employment VMT	5,533,473	8,911,472
Fresno County VMT per Capita	16.2	19.9
Fresno City VMT per Capita	13.1	16.5
Fresno County VMT per Employee	27.9	36.2
Fresno City VMT per Employee	23.8	31.4

Source: Fresno Council of Governments Regional Travel Demand Model (2019).
VMT = vehicle miles traveled

As shown in Table 4.16-2, both VMT per capita and VMT per employee are anticipated to increase countywide in the future. However, both VMT per capita and VMT per employee within the City are lower under existing conditions compared to the County and will continue to be lower than the County under General Plan (2035) conditions.

The average VMT per capita under existing conditions for the City is 13.1 miles compared to 16.2 miles for the County (approximately 19 percent less than the County average). In 2035, the VMT per capita for the City is forecast to be 16.5 miles (approximately 2 percent higher than the existing County average). Similarly, average VMT per employee for the City under existing conditions is 23.8 miles, compared to 27.9 miles for the County (approximately 15 percent lower), and is forecast to increase to 31.4 miles (approximately 12 percent greater than the existing County average).

Under General Plan (2035) conditions, the City VMT per capita (16.5 miles) is forecast to be 17 percent less than the County VMT per capita (19.9 miles). Corresponding numbers for VMT per employee indicate that the City average is forecast to be 13 percent lower than the General Plan (2035) County average. This is a greater reduction in VMT than forecast by the Fresno COG in the RTP, a 12 percent reduction in VMT for the RTP project.

Because the measures of VMT in per capita and per employee increase with the City's General Plan (2035) compared to existing (2019) conditions, it is determined that continued implementation of the approved General Plan may be considered to result in a significant impact related to State CEQA Guidelines Section 15064.3 subdivision (b), analyzing transportation impacts consistent with SB 743. As such, it is recommended that when the City plans to update its General Plan Mobility and Transportation Element, it should strive to lower the General Plan (2035) VMT per capita compared to existing conditions. This can be achieved through efficient planning of the General Plan Urban Form, Land Use, and Design Element, including promotion of transit-oriented development, infill development, and high density mixed-use development. In conjunction, implementation of the ATP, Complete Streets Policy, Transportation Demand Management strategies, and multi-modal transportation would also help in reducing the City's General Plan (2035) VMT.

In addition, the proposed project includes updates to the Mobility and Transportation Element of the approved General Plan, and the addition of the following policy:

> **Policy MT-2-m: Use VMT analysis for CEQA.** Use Vehicle Miles Traveled (VMT) as the criteria for evaluating transportation impacts under the California Environmental Quality Act (CEQA), pursuant to Senate Bill 743. Level of Service (LOS) may still be used for planning purposes and implementation of Capital Improvement Projects; however, VMT shall be used for determining mitigation under CEQA beginning in July of 2020.
>
> > *Commentary: In 2013, the State of California passed Senate Bill 743, which eliminated automobile Level of Service (LOS) from transportation analysis under CEQA and replaced it with VMT. This shift from LOS to VMT is intended to better align with other statewide transportation goals, including reduction of GHG emissions, the creation of multimodal networks, and the promotion of integrated land uses.*

Currently, the City does not have adopted thresholds for which to evaluate potential VMT impacts related to proposed projects or continued implementation of the approved General Plan. Implementation of Policy MT-2-l would allow the City to address potential VMT impacts for future projects as they are proposed. At the time this program EIR was prepared, no determination regarding VMT has been made nor is one required. However, after the City has adopted VMT thresholds, and as future projects are proposed under the approved General Plan, VMT analyses consistent with CEQA Guidelines section 15064.3, subdivision (b) would be required to determine if the future project conflicts with the adopted thresholds.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.16.4.4, Local Regulatory Setting, above.

Level of Significance Without Mitigation: Less Than Significant Impact. VMT Thresholds have not yet been adopted by the City, nor are they required to be adopted until July 1, 2020. Therefore, impacts related to VMT are considered LTS at this time.

TRA-3 The 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).

Continued implementation of the approved General Plan would increase the amount of vehicle traffic, which would require the improvement and expansion of the City's roadway system. The approved General Plan identifies a roadway system, bikeway and trail connections, and transit system that would be constructed to facilitate transportation in the City. However, new transportation facilities would be designed according to applicable federal, state, and local design appropriate standards, which would minimize traffic hazards.

The approved General Plan includes Policies MT-1-h, MT-1-j, MT-5-d, Objective MT-11, Policy MT-11-b, MT-11-d and policy MT-11-e related to the implementation of the land use and transportation system. These policies are related to the implementation of complete streets, the design of transportation facilities consistent with community character, and design of facilities to support economic development, including railroad, truck route design and safety. Policy MT-1-h supports development of the transportation system based on complete street concepts that accommodate mobility of all system users and trip purposes. As a result, continued implementation of the approved General Plan would result in a less-than-significant impact related to hazards due to roadway design features or incompatible uses. No mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.16.4.4, Local Regulatory Setting, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

TRA-4 The project would not result in inadequate emergency access.

Continued implementation of the approved General Plan would increase the amount of vehicle traffic, which would require the improvement and expansion of the City's roadway system. An enhanced roadway network that accommodates forecasted travel demand would also provide adequate emergency access. In addition, the approved General Plan would accommodate planned population and employment growth without expanding its current SOI. This would be achieved through intensification of the Downtown planning area, high capacity transit corridors, intensive urban activity centers, and multi-modal districts, which would help to locate population and employment closer to services, serving to minimize the need to expand emergency response service areas (i.e., compared to conditions with an expanding SOI).

The approved General Plan includes Policies LU-1-a, LS-1-c, LU-1-g, Objective MT-1, Policy MT-1-k, Objective MT-2, Policies MT-2-f, MT-2-j, and MT-6-n related to adequate emergency access. As a result, continued implementation of the approved General Plan would result in a less-than-significant impact related to emergency access.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.16.4.4, Local Regulatory Setting, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.16.6.2 Cumulative Impacts

TRA-5 The proposed project, in combination with other projects, would contribute to a significant cumulative impact related to transportation.

Cumulative transportation impacts resulting from increases in peak hour traffic volumes are discussed above in TRA-1. Based on build-out of the General Plan and cumulative development in Fresno County, which is accounted for in the Fresno COG ABM, traffic volumes would increase and would conflict with LOS-related policies in the Mobility and Transportation Element of the approved General Plan. As a result, cumulatively significant and unavoidable impacts would occur under TRA-1.

A discussion of VMT resulting from build out of the General Plan along with cumulative development is discussed above in TRA-2. Cumulative development is accounted for in the Fresno COG ABM, however, as discussed, the City has not yet established thresholds related to VMT. Once VMT thresholds are established by the City, the project impacts would be evaluated against established thresholds to determine the significance and identify mitigation measures, similar to LOS methodology. Specific details about thresholds and methodologies for project impact evaluation and mitigations will be identified prior to July 1, 2020. Until these thresholds are adopted by the City, VMT is provided for disclosure purposes only.

As discussed in TRA-3, continued implementation of the approved General Plan would not result in significant impacts related to increased hazards due to geometric design features or incompatible

uses. All cumulative development would require the construction of transportation facilities that would be designed according to applicable federal, state, and local design appropriate standards, which would minimize traffic hazards. As a result a less-than-significant cumulative impact would occur.

As discussed in TRA-4, continued implementation of the approved General Plan would increase the amount of vehicle traffic, which would require the improvement and expansion of the City's roadway system. As a result, an enhanced roadway network that accommodates forecasted travel demand would also provide adequate emergency access. Although cumulative development would result in a larger population, the approved General Plan would accommodate planned population and employment growth without expanding its current SOI, thus intensifying the downtown planning area, high capacity transit corridors, urban activity centers, and multi-modal districts. An intensification would help to locate population and employment closer to services, serving to minimize the need to expand emergency response service areas. As a result, a less-than-significant cumulative impact related to emergency access would occur.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.16.4.4, Local Regulatory Setting, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact TRA-5: Continued Implementation of the approved General Plan would result in a cumulative impact related to an increase in vehicle traffic that would result in 12 roadway segments exceeding General Plan LOS standards, and thereby conflicting with LOS-related policies in the Mobility and Transportation Element of the approved General Plan.

Mitigation: Mitigation is not feasible to address the exceedance of General Plan LOS standards because the mitigation would be limited to re-designating the affected arterials to a higher classification, creating a new General Plan LOS goal, widening the roads, or identifying the infeasibility of acquiring the affected right-of-way and implementing road widening. As a result, there are no feasible mitigation measures to address the exceedance of General Plan LOS standards, and a significant and unavoidable cumulative impact would result.

Level of Significance Without Mitigation: Significant and unavoidable as there is no feasible mitigation.

4.17 UTILITIES AND SERVICE SYSTEMS

4.17.1 Introduction

This section addresses potential impacts to utilities and service systems such as water supply, wastewater, stormwater, and solid waste resulting from continued implementation of the approved Fresno General Plan, the Greenhouse Gas Reduction Plan update, and text changes to the Mobility and Transportation Element (proposed project).

4.17.2 Baseline

The City of Fresno (City) is responsible for preparation of a Program Environmental Impact Report (PEIR) for the existing General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding Vehicle Miles Traveled (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the General Plan and explains that the PEIR will evaluate the continued implementation of the General Plan, and identifies specific text changes to the existing General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of SB 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the environmental effects of the proposed project would be essentially the same as if the text changes to the General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the existing General Plan (2014) without the Mobility and Transportation Element changes or update to the Greenhouse Gas Reduction Plan just described. In this scenario, future development in the City would occur as set forth under the current General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, and updates to the Greenhouse Gas Reduction Plan would not occur. The General Plan would not be updated to reflect conformance with SB 743. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the City's existing General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the existing General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.17.3 Existing Environmental Setting

The study area for project impacts regarding public services is the City of Fresno Planning Area because potential development under the approved General Plan is limited to areas within the Planning Area. As defined in Chapter 3.0, Project Description, the Planning Area is the geographic

area for which the approved General Plan establishes policies about future growth. The Planning Area established by the City includes all areas within the city's current city limits, including the Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF), the areas within the current Sphere of Influence (SOI), and an area north of the city's most northeasterly portion of the city (referred to as the North Area).

4.17.3.1 Water Supply

The water supply section discusses the existing condition of the City's water supply and treatment and distribution systems.

Key planning documents for City of Fresno water resources include the 2014 Fresno Metropolitan Water Resources Management Plan (2014 Metro Plan) and the 2015 Urban Water Management Plan (UWMP).

The City of Fresno Department of Public Utilities (DPU) provides potable water to the majority of the City, and some users within the portion of the Planning Area outside of the City limits. Fresno's primary source of potable water is groundwater stored in an aquifer. However, in 2004 the City's first surface water treatment facility (Northeast Surface Water Treatment Facility [NESWTF]) came on line and began delivering approximately 4,060 acre-feet (AF) in 2004 to residents in northeast Fresno. By 2015, the NESWTF in combination with the T-3 Surface Water Treatment Facility (T-3 SWTF) delivered approximately 28,347 AF of treated surface water to the residents of Fresno (2015 Urban Water Management Plan, 2016).

The 2015 UWMP was adopted by the City Council in June 2016. It describes the current and planned water conservation programs, provides a water shortage contingency plan should it need to be implemented in the event of a severe water shortage or water supply emergency and a future water supply plan for a variety of water sources including treated surface water, groundwater and recycled water. Also included in this 2015 UWMP is an aggressive water conservation plan to reduce demand throughout the City's service area. The 2015 UWMP is in accordance with the Urban Water Management Planning Act that stipulates that every urban water supplier in California supplying water directly or indirectly to 3,000 or more customers or supplying more than 3,000 AF of water annually shall adopt and submit an Urban Water Management Plan to the California Department of Water Resources. Failure to submit a plan, as required, could result in ineligibility to receive certain grants or receive drought assistance from the State.

Groundwater Supply. The City lies within the Kings Sub-basin, which is part of the larger San Joaquin Valley Groundwater Basin, and extracts a majority of water to meet its demands from this underground aquifer. Historically, the groundwater levels in the Fresno area have declined from less than 0.5 feet per year in the southwest portion of the downtown area, to a rate of 1.5 feet per year for northern and southern areas of town, to a maximum of 3 feet per year in the northeastern area.[1]

[1] Fresno, City of. 2016. *2015 Urban Water Management Plan*, p. 6-5. Prepared by Provost & Pritchard Consulting Group. Available online at: www.fresno.gov/publicutilities/wp-content/uploads/sites/16/2016/11/CityofFresno2015UWMP_adopted.pdf (accessed February 26, 2020).

Groundwater used by the City to meet its demands is replenished by three different methods:

- Natural recharge
- Subsurface inflow
- Intentional recharge

Based on the natural groundwater recharge (25,400 AF), subsurface inflow (47,100 AF), and intentional recharge (53,100 AF), the total groundwater recharge anticipated for 2015 for a normal year supply is approximately 125,600 AF. At buildout, the City anticipates that the natural groundwater recharge will increase to 27,000 AF/year, subsurface inflow will be 0 AF/year, and intentional groundwater recharge will increase to 75,100 AF/year due to an increase in the capacity of surface water treatment. The total groundwater recharge at General Plan buildout in 2056 is expected to be approximately 102,100 AF/year.

The City currently has approximately 260 active pump stations, which pump an average of 74 millions of gallons per day (mgd). Groundwater pumping data provided by the City indicates that approximately 83,360 AF was pumped in 2015. Between 2011 and 2015, the City pumped an average of approximately 111,522 AF/year.[2] This average groundwater pumping has exceeded the current estimated groundwater safe yield of approximately 72,500 AF/year.

In 2004, the NESWTF located at Chestnut and Behymer Avenues began operation. The NESWTF has reduced the dependence on groundwater pumping by the City that was needed to meet water demand. Prior to NESWTF operation, 100 percent of the City's water demand was met through groundwater pumping.

In the near future, groundwater will continue to be an important part of the City's supply but is not planned to be relied upon as heavily as has historically been the case. The 2015 UWMP projects that groundwater pumped by the City will decrease from approximately 83,360 AF/year (with a total production of 111,706 AF/year) in 2015 to approximately 82,400 AF/year (with a total production of 148,900 AF/year in 2040. This would represent a decrease in the groundwater percentage of total water supply from 75 percent to 55 percent. In order to meet the projected decrease, the City is planning to rely on expanding their delivery and treatment of surface water supplies and groundwater recharge activities.

4.17.3.2 Wastewater

Wastewater Collection System. The City of Fresno owns and maintains the majority of the wastewater collection systems that convey wastewater to the Fresno/Clovis Regional Wastewater Reclamation Facility (RWRF), and all of the wastewater collection system that conveys wastewater to the North Fresno Water Reclamation Facility (NFWRF). The City's wastewater collection system consists of more than 1,500 miles of gravity flow pipelines, ranging in size from 4 inches to 84 inches in diameter, and ranging in age from new to more than 100 years old. The system also includes

[2] Fresno, City of. 2016. *2015 Urban Water Management Plan*, Table 4-1: Historical Water Production.

some pressure flow pipelines, by which pumped wastewater is conveyed to a point of discharge usually tributary to a gravity flow pipeline. Wastewater collection system pipelines consist of a number of different pipe materials, but the majority of the gravity flow pipelines consist of polyvinyl chloride (PVC) pipe, vitrified clay pipe (VCP) or concrete pipe, which includes both reinforced concrete pipe (RCP) and standard or non-reinforced concrete pipe (SCP). Together, these pipe materials account for approximately 98.4 percent of the wastewater collection system pipelines.

Cementitious pipe materials such as RCP and SCP are subject to microbially induced corrosion (MIC), which is caused by microbiological processes in the sewer environment that result in the formation of sulfuric acid on surfaces exposed to the sewer atmosphere, the air space above the wastewater flow in a partially full pipe. Newer RCP pipelines are manufactured with an interior plastic liner that protects the pipe from the effects of MIC. Older, unprotected pipes can be corroded by MIC to the point of loss of structural integrity and pipe failure. The effects of MIC have been observed in some of the older RCP and SCP pipelines in the City's wastewater collection system.

The City of Fresno commissioned a team of engineering consultants to prepare the 2006 Wastewater Collection System Master Plan. The master plan effort included hydraulic modeling of the wastewater collection system to evaluate system capacity for both then-existing conditions and full build-out conditions under the City's 2025 General Plan. A number of capacity-deficient sewers were identified, and recommendations for capacity relief projects were developed.

The Wastewater Collection System Master Plan also incorporated the results of a number of prior sewer inspection and evaluation efforts, including recommendations for prioritized sewer rehabilitation projects, most or all of which were necessary as a result of MIC processes. The master plan also included a number of trunk sewer projects and infill projects identified by the City of Fresno. The master plan incorporated all of the various types of recommended sewer projects in a Capital Improvement Program for implementation during the period from 2006 through 2025. The City of Fresno has been regularly implementing various elements of the Capital Improvement Program since the adoption of the Wastewater Collection System Master Plan.

As required by the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, the City of Fresno prepared the 2009 Sewer System Management Plan (SSMP) for the Wastewater Collection System. In 2014, the SSMP was revised to update the following:

1. List of representatives responsible to implement the SSMP.

2. Revision of the Collection System Maintenance Operation and Maintenance Manual with standard operating procedures including the SSO Response Plan. This O&M Manual replaces the Sanitary Sewer Overflow Prevention and Response Plan (SSOPRP).

3. Wastewater Collection System Master Plan, 2014 update.

4. Sewer Capital Improvement Program, 5-year plan.

5. Performance Measures.

The SSMP provides a framework for the proper management, operation, and maintenance of all elements of the wastewater collection system, with the objectives of reducing and preventing sanitary sewer overflows (SSOs), and mitigating any SSOs that may occur. An SSO is a release of untreated or partially treated wastewater resulting in public exposure, regardless of whether the wastewater reaches waters of the United States. SSOs also include wastewater backups into buildings and onto private property that are caused by blockages in the City's portion of the sanitary sewer system.

All of the mandatory elements of the SSMP were already in place and in use by the City of Fresno through other programs and ordinances, such as the Fresno Municipal Code, the Wastewater Collection System Master Plan, the Fats, Oils and Grease (FOG) Control Program, the Sanitary System Overflow Prevention and Response Plan, Performance Measures and Public Information/Education opportunities. The City of Fresno operates the wastewater collection system under the SSMP and these related programs and ordinances to accomplish the SSMP objectives.

Wastewater Treatment and Disposal

Fresno/Clovis Regional Wastewater Reclamation Facility. The Fresno/Clovis Regional Wastewater Reclamation Facility (RWRF) is located southwest of the City in the area generally bounded by Jensen, Cornelia, Central and Chateau Fresno Avenues. It provides wastewater treatment for a service area that includes most of the Cities of Fresno and Clovis, and some unincorporated areas of Fresno County. The permitted wastewater treatment capacity of the RWRF is currently 91.5 mgd as an annual monthly average flow, and 101 mgd as a maximum monthly average flow. In 2017, Phase I of a tertiary treatment system was completed at the RWRF. The current design flow for the tertiary treatment system is 5.0 mgd but can be expanded in two subsequent phases to 15 mgd (Phase II) and ultimately 30 mgd (Phase III). The City of Clovis maintains the rights and capacity to discharge 9.3 mgd to the facility. The City of Fresno maintains the rights to the remaining capacity.

The RWRF employs an activated sludge wastewater treatment process, which produces un-disinfected secondary effluent. Most of the effluent is discharged to an array of percolation basins, where it percolates through the underlying soil strata and into the groundwater beneath the basin. However, some of the effluent is recycled by direct delivery to nearby farmland where it is used for restricted irrigation for feed/fodder and fiber crops. In addition, some of the percolated effluent is extracted from the groundwater beneath the basins by pumping and is recycled for irrigation by delivery to the Fresno Irrigation District (FID) canal system.

The use of the RWRF percolation basins for effluent disposal has resulted in a groundwater mound beneath and adjacent to the RWRF site, and the local groundwater level in that area is higher than it would otherwise be without the addition of the RWRF effluent. The depth of groundwater at the RWRF ranges from approximately 80 to 90 feet below ground surface (bgs), and it extends well beyond the perimeter of the RWRF site. The diversion and/or extraction of RWRF effluent for beneficial recycled water uses such as irrigation, rather than effluent disposal via the percolation basins, reduces related groundwater mounding and effluent-related effects on background groundwater quality.

In 2010, the City adopted the Recycled Water Master Plan that includes an evaluation of potential recycled water use areas throughout the City, and evaluates a number of alternatives for the production and delivery of recycled water. The Recycled Water Master Plan recommended the construction of a tertiary treatment system at the RWRF with the ultimate capacity of 30 mgd (approximately 33,600 AF/year). Phase I of the tertiary treatment system with a design flow of 5.0 mgd has been completed. A recycled water distribution system has been developed in the southwest area of the city due to its proximity to the RWRF.

North Fresno Wastewater Reclamation Facility. The North Fresno Wastewater Reclamation Facility (NFWRF) is located in north Fresno, near the intersection of Copper Avenue and Cedar Avenue. It was constructed in late 2006 to provide wastewater treatment service for residential and commercial development in the surrounding area of north Fresno. The NFWRF employs a sequencing batch reactor (SBR) treatment process for secondary treatment, cloth media filtration for tertiary treatment, and an ultraviolet system to produce disinfected tertiary treated effluent. The effluent is used for golf course irrigation at the nearby Copper River Country Club.

The permitted capacity of the NFWRF is 0.71 mgd as an average monthly flow, and 1.07 mgd as a maximum daily flow. The City's master plan for the NFWRF calls for ultimate expansion to an average monthly flow capacity of 1.25 mgd upon full development of the NFWRF service area.

Other Area Wastewater Treatment Facilities. The City of Clovis owns and operates the Clovis Sewage Treatment/Water Reuse Facility (STWRF), located near the intersection of Ashlan Avenue and McCall Avenue, southeast of the City of Clovis. It produces disinfected tertiary recycled water used for irrigation and possible compatible industrial uses. The STWRF is permitted to discharge an average annual flow of 2.8 mgd. Future Phases 2 and 3, pending capacity requirements and allocated funding, are planned to have average flow capacities of 5.6 mgd and 8.4 mgd, respectively.

Malaga County Water District owns and operates a wastewater treatment plant south of the City of Fresno, near the intersection of Maple Avenue and Central Avenue. It provides wastewater treatment service only for properties within the boundaries of Malaga County Water District.

4.17.3.3 Stormwater

Stormwater collection and disposal, and flood control for the City of Fresno, City of Clovis, and the unincorporated areas within the City of Fresno's sphere of influence are provided by the Fresno Metropolitan Flood Control District (FMFCD). The FMFCD is a special district created by the State of California Legislature and ratified by the voters of the district in 1956. FMFCD has more than 170 urban watersheds that collect stormwater runoff and dispose of the runoff in retention basins, local canals, or the San Joaquin River. Each urban watershed, called a drainage area by FMFCD, consists of a collection system and, in most cases, a retention basin to store and dispose of the runoff. Three drainage areas are pumped directly into a nearby canal and six drainage areas have collection systems that discharge to the San Joaquin River. Pipeline collection systems have diameters that range from 15 inches to 108 inches. Retention basins range in size from 5 acres to 25 acres, with

most being 8 to 10 acres in size. The flood control system consists of three dams and reservoirs, five detention basins, one diversion channel, and up to 175 miles of rural stream channels.

Stormwater Collection and Disposal. FMFCD provides drainage service to the Fresno metropolitan area. In order to provide this service, the FMFCD has organized the metropolitan area into over 170 urban drainage areas or watersheds. Watersheds are delineated along topographic boundaries and are limited in size to between 200 acres to 600 acres. The area limitation reduces the size of the required collection facilities and disposal facilities. The service is provided through the combination of surface drainage improvements, chiefly curbs and gutters, that direct runoff to storm drainage inlets, which collect the runoff and convey the runoff to underground pipeline collection systems. The collection systems convey the stormwater to disposal facilities, which in the majority of cases are excavated, unlined basins. In three cases, the collection systems discharge to pump wet wells from which the stormwater is lifted into an adjacent canal, and in six cases, the stormwater is discharged into the San Joaquin River. Two of these systems discharge directly to the San Joaquin River and four discharge to a water quality basin before discharge to the river occurs.

The collection systems are designed to provide one foot of freeboard in the pipeline collection system designed to convey runoff rates generated by rainfall intensity up to and including a 50% probability of occurrence (a 2-year return frequency). There are exceptions to this design standard in areas of the City where older drainage systems were installed prior to the formation of the FMFCD, or constructed in the very early years of the FMFCD, and shifts in land use densities have eroded the level of service. FMFCD documents the deficiencies and develops master planned solutions to these deficiencies as they are identified.

Retention basins are designed to provide storage for up to 6 inches of rainfall on the drainage area watershed given typical runoff to rainfall ratios used for urban drainage design. Again, there are exceptions to this design standard, notably in those retention basins constructed prior to 1969 when the design criteria was changed to increase the storage volume. The change resulted from the extreme rainfall events of the spring of 1969 and the resulting flooding at the then-existing basins. Water quality basins are designed in accordance with the US Environmental Protection Agency's design standards to remove sediments and trash prior to discharge of stormwater to the San Joaquin River. They provide quiescent conditions for settling of suspended solids within a holding basin prior to discharge from the basin via an overflow weir. The water quality basins alternate between wet and dry, depending on the season and amount of rainfall that has occurred within the drainage area.

FMFCD has utilized three means to implement drainage systems for the metropolitan area. One method has been to use Community Block Grants and low interest infrastructure loans from the State of California to construct drainage facilities in the older, previously developed areas of the City. A second method has been to form assessment districts under the provisions of the 1915 Bond Act. Assessment districts were formed based on drainage area boundaries, the parcels within the assessment districts were assessed a proportional share of the cost of the collection and disposal system, and the drainage system for the drainage area was constructed. The third and currently employed method is to collect drainage fees from parcels as they develop based on their prorated share of the cost of the drainage area collection and disposal systems. The implementing ordinance

for the drainage fee structure is adopted by the City of Fresno, and the drainage fees are collected by the City when entitlements are granted or building permits are issued.

FMFCD is a primary participant in groundwater recharge for the City of Fresno. Unlined retention basins provide recharge of both stormwater runoff and imported water from the San Joaquin River and Kings River. It is estimated that 80-percent of the stormwater that falls within the metropolitan area is recharged via FMFCD's retention basins. FMFCD has identified retention basins within the metropolitan area that have significant recharge capability. The City of Fresno, through a cooperative agreement, utilizes the Fresno Irrigation District (FID) canal system to deliver allocated water from the San Joaquin River and the Kings River to these basins where the water infiltrates through the underlying soil strata and into the groundwater beneath the basins. FMFCD retention basins, largely in part through a cooperative agreement with the City, provide groundwater recharge for an estimated annual average of 30,000 AF of water.

Key FMFCD planning documents for stormwater collection and disposal, and flood control include:

- The Storm Drainage and Flood Control Master Plan. A geographical information system database that contains the master planned pipeline collection system status (existing, designed, or planned), collection system alignments and sizes, collection system hydrologic and hydraulic design calculations, and retention basin status (planned, purchased, developed), retention basin locations, and retention basin sizes.

- FMFCD District Services Plan, 2016. Contains a full description of the FMFCD storm drainage system master plan, stormwater quality programs, water conservation, and wildlife management plans.

- Draft and Final Master Environmental Impact Report for the 2004 District Services Plan.

Flood Control. The City of Fresno is located in the alluvial fans of numerous foothill streams and creeks that drain the western slope of the Sierra Nevada foothills. These streams include Big Dry Creek, Alluvial Drain, Pup Creek, Dog Creek, Redbank Creek, Mud Creek, and Fancher Creek. Numerous smaller, unnamed drainage courses also drain into the City from the rural areas east of the City. FMFCD provides flood control measures on the major creeks for the 0.5-percent exceedance interval (200-year return frequency) flood flow event with a series of dams and detention basins located east of the City. These dams include Big Dry Creek Dam, Fancher Creek Dam, and Redbank Dam. The detention basins include the Alluvial Drain Detention Basin, Pup Creek Detention Basin, Redbank Creek Detention Basin, Fancher Creek Detention Basin, and Big Dry Creek Detention Basin.

The Big Dry Creek Dam was originally constructed in 1948 by the U.S. Army Corps of Engineers. It was subsequently raised and enlarged by the U.S. Army Corps of Engineers as part of the Redbank and Fancher Creek Flood Control Project in 1993 to provide a flood pool with 30,200 AF of storage. Redbank Creek Dam was constructed by FMFCD in 1961. It provides a gross pool storage of 1,030 AF. The U.S. Army Corps of Engineers also constructed the Alluvial Drain Detention Basin in 1993, the Pup Creek Detention Basin in 1993, the Redbank Detention Basin in 1990 and the Fancher Creek Dam in 1991. The Redbank and Fancher Creek Flood Control Project was a jointly funded Federal,

State, and local project. FMFCD constructed the Fancher Creek Detention Basin in 2003 and recently completed the Big Dry Creek Detention Basin.

FMFCD has master planned the Dog Creek, Pup Creek, and a portion of Redbank Creek channels to convey the 0.5-percent exceedance level flood flows within bank. The improvement of these channels will occur as funding and legal authority to proceed with the improvements are provided either through grants and purchase of right of way or through the entitlement process. Each of these channels are ephemeral streams that flow only during the latter parts of the wet season.

4.17.3.4 Solid Waste

Fresno diverts a majority of its solid waste away from landfills and into recycling and composting programs. Diversion conserves limited landfill space, keeps toxic chemicals and materials from contaminating landfills, and enhances the reuse of materials. A Council resolution commits the City to the goal of Zero Waste by the year 2025. Recycling of construction & demolition is required for any City-issued building, relocation or demolition permitted project that generates at least 8 cubic yards of material by volume and all waste must be hauled to a City-approved facility.[3]

The Solid Waste Division of the City of Fresno provides curbside collection of residential bulky goods through operation cleanup. The solid waste division also collects through a three-cart system solid waste, recycling, green waste, as well as waste oil and waste oil filters weekly.

In 2011 the City of Fresno granted franchises for non-exclusive roll off services to 16 roll off companies for bins which were 10 cubic yards or greater. The City also granted exclusive franchise agreements for the collection of commercial solid waste, recyclables and green waste to two franchises. Allied Waste Services (formally Republic) is responsible for all commercial services north of Ashlan Avenue. Mid Valley has all commercial locations south of Ashlan. Both haulers are responsible for Commercial, Multifamily, and Industrial up to 8 cubic yards, which fall into City of Fresno jurisdiction. Both city and (non-exclusive) / exclusive franchise haulers provide and maintain containers; respond to customer complaints/concerns and provide roll-off and compactor services to residential, multi-family and commercial customers respective to their agreements. Garbage disposed of in the City of Fresno is taken to Cedar Avenue Recycling and Transfer Station (CARTS). Once trash has been off-loaded at the transfer station, it is sorted and non-recyclable solid waste is loaded onto large trucks and taken to the American Avenue Landfill (i.e. American Avenue Disposal Site, Site Solid Waste Information System [SWIS] Number 10-AA-0009) located approximately six miles southwest of Kerman. American Avenue Landfill is owned and operated by Fresno County and began operations in 1992 for both public and commercial solid waste haulers. The American Avenue Landfill is a sanitary landfill, meaning that it is a disposal site for non-hazardous solid waste spread in

[3] Fresno, City of. Department of Public Utilities, Trash Disposal & Recycling, Multi-Family & Commercial Services, Construction & Demolition Waste. Website: www.fresno.gov/publicutilities/trash-disposal-recycling/multi-family-commercial-services/#tab-3 (accessed February 26, 2020).

layers, compacted to the smallest practical volume, and covered by material applied at the end of each operating day.[4]

The American Avenue Landfill has a maximum permitted capacity of 32,700,000 cubic yards and a remaining capacity of 29,358,535 cubic yards, with an estimated closure date of August 31, 2031. The maximum permitted throughput is 2,200 tons per day (CalRecycle, 2019).

One other active disposal site is located in Fresno County. The City of Clovis Landfill (SWIS Number 10-AA-0004) has a maximum permitted capacity of 7,800,000 cubic yards and a remaining capacity of 7,740,000 cubic yards, with an estimated closure date of April 30, 2047. The maximum permitted throughput is 2,000 tons per day (CalRecycle, 2019).

Green waste hauled by the residential solid waste operations is delivered to one of two locations. Earthwise/Green Valley Recycling located at 2365 North Avenue and West Coast Waste at 30777 Golden State Frontage Road are within a quarter mile of one another in south west Fresno.

Commercial green waste and organics delivered to Elm Avenue Recycling by Mid Valley are then transferred to the Kerman facility and composted with organic compost, which is then used by organic farms in the region. Commercial green waste and organics being delivered by Allied Waste are taken to Rice Road Transfer Station, which are then trans-loaded into trucks, which are delivered to Kochergen Farms for composting and land application.

Recycling collected by residential is delivered to both CARTS and Elm Ave. Both facilities have Material Recovery Facilities (MRF's) which sort through the co-mingled recycling stream to sort the materials. Commercial franchises deliver recycling to Elm Avenue only. The City's diversion rate has fluctuated over the last decade from 74% to 63%. China's Green Sword has directly affected the material streams by turning some materials which were considered allowable to become contaminants. Fresno and the franchise haulers continue to work with CalRecycle as we educate our customers and refine our various waste streams.

The City of Fresno and Fresno County as part of the AB939 MOU 16 jurisdiction committee hold two household hazardous waste (HHW) drop-off events each year, one in the spring and one in the fall. Additionally, the County of Fresno provides a Door-to-Door program that provides household hazardous waste pickup for individuals who, because of special circumstances, cannot participate in the household hazardous waste drop off events held twice a year. It is anticipated that the County will complete the relocation of their Environmental Compliance Center (HHW) facility, which is currently housed at the American Avenue landfill to the new location at the corner of West Avenue and West Dan Ronquillo Drive in March of 2021. The new location will alleviate the need for the twice a year drop off events, opting for a closer location open every weekend to the public.

[4] Fresno, City of. Department of Public Utilities, Facilities & Infrastructure, American Avenue Landfill. Website: www.fresno.gov/publicutilities/facilities-infrastructure/american-avenue-landfill (accessed February 26, 2020).

4.17.3.5 Electric Power, Natural Gas and Telecommunications

Electric Power

Fresno receives its electricity from Pacific Gas and Electric (PG&E). PG&E provides electrical service to business and residents throughout the Planning Area via underground and above-ground service lines. PG&E owns and maintains all service and transmission lines in the Planning Area and operates several electrical substations throughout the Planning Area.

Natural Gas

PG&E is the natural gas service provider in the Planning Area. PG&E owns and maintain several natural gas transmission lines in the Planning Area that feed local distribution lines that connect to individual service lines.

Telecommunications

Several providers provide telecommunication services to the Planning Area. AT&T is the largest provider of cellular and fixed telephone services. Telephone lines are located throughout the Planning Area.

4.17.4 Methodology

The potential project-related impacts related to utilities and service systems were evaluated on a qualitative basis due to the programmatic nature of this EIR. Qualitative impacts were assessed by evaluating the project's potential for impacting utilities and service systems within the Planning Area based on information regarding the current service commitments and capacities of public service providers within the Planning Area.

4.17.5 Regulatory Setting

4.17.5.1 Water Supply

City of Fresno General Plan. The following objective and policies from the approved General Plan are relevant to water supply.

Public Utilities and Services Element

Objective PU-8. Manage and develop the City's water facilities on a strategic timeline basis that recognizes the long life cycle of the assets and the duration of the resources, to ensure a safe, economical, and reliable water supply for existing customers and planned urban development and economic diversification.

Policy PU-8-a: Forecast Need. Use available and innovative tools, such as computerized flow modeling to determine system capacity, as necessary to forecast demand on water production and distribution systems by urban development, and to determine appropriate facility needs.

Policy PU-8-b: Potable Water Supply and Cost Recovery. Prepare for provision of increased potable water capacity (including surface water treatment capacity) in a timely manner to facilitate planned urban development consistent with the General Plan. Accommodate increase in water demand from the existing community with the capital costs and benefits allocated equitably and fairly between existing users and new users, as authorized by law, and recognizing the differences in terms of quantity, quality and reliability of the various types of water in the City's portfolio.

Commentary: Consistent with fiscal management policies and strategies in the Economic Development and Fiscal Sustainability Element, new users will be obligated to pay for the cost of being attached to the potable water supply and distribution system and surface water treatment through connection fees, including the cost of any incremental burden that they may place on the entire system in terms of both infrastructure and water resources, and pay for the full operational costs of extraordinary facilities, as authorized by law.

Policy PU-8-c: Conditions of Approval. Set appropriate conditions of approval for each new development proposal to ensure that the necessary potable water production and supply facilities and water resources are in place prior to occupancy.

Policy PU-8-d: CIP Update. Continue to evaluate Capital Improvement Programs and update them, as appropriate, to meet the demands of both existing and planned development consistent with the General Plan.

Policy PU-8-e: Repairs. Continue to evaluate existing water production and distribution systems and plan for necessary repair or enhancement of damaged or antiquated facilities.

Policy PU-8-f: Water Quality. Continue to evaluate and implement measures determined to be appropriate and consistent with water system policies, including prioritizing the use of groundwater, installing wellhead treatment facilities, constructing above-ground storage and surface water treatment facilities, and enhancing transmission grid mains to promote adequate water quality and quantity.

Policy PU-8-g: Review Project Impact on Supply. Mitigate the effects of development and capital improvement projects on the long-range water budget to ensure an adequate water supply for current and future uses.

County of Fresno General Plan. The following are goals and policies from the County's General Plan that are relevant to water supply and delivery.

Goal PF-C. To ensure the availability of an adequate and safe water supply for domestic and agricultural consumption.

Policy PF-C.1. The County shall actively engage in efforts and support the efforts of others within Fresno County to retain existing water supplies and to restore the water supplies that have diminished to the extent possible.

Policy PF-C.3. To reduce demand on the county's groundwater resources, the County shall encourage the use of surface water to the maximum extent feasible.

Policy PF-C.8. The County shall require preparation of water master plans for areas undergoing urban growth.

Policy PF-C.12. The County shall approve new development only if an adequate sustainable water supply to serve such development is demonstrated.

4.17.5.2 Wastewater

City of Fresno General Plan. The following objective and policies from the approved General Plan are relevant to wastewater.

Public Utilities and Services Element

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.

Objective PU-6. Ensure the provision of adequate sewage treatment and disposal by utilizing the Fresno-Clovis Regional Wastewater Reclamation Facility as the primary facility, when economically feasible, for all existing and new development within the Metropolitan Area.

Commentary: Supplemental subregional facilities, such as the North Fresno Water Reclamation Facility, may also provide sewage treatment and disposal for new and existing development in the Metropolitan Area.

Policy PU-6-a: Treatment Capacity and Cost Recovery. Prepare for and consider the implementation of increased wastewater treatment and reclamation facility capacity in a timely manner to facilitate planned urban development within the Metropolitan Area consistent with this General Plan. Accommodate increase in flows and loadings from the existing community with the capital costs and benefits allocated equitably and fairly between existing users and new users, as authorized by law.

Commentary: Consistent with the fiscal management policies and strategies in the Economic Development and Fiscal Sustainability Element, new users will be obligated to pay for the cost of being attached to the treatment facility through connection fees, including the cost of any incremental burden that they may place on the entire system, and pay for their share of operational costs of extraordinary facilities such as satellite or "package" treatment plants, as authorized by law.

Policy PU-6-b: Consider Capacity in Plan Amendments. Monitor wastewater treatment plant flows and loadings to the extent feasible. Consider the effects on wastewater treatment capacity and availability of potable water when evaluating proposed General Plan amendment proposals, community plans, Specific Plans, neighborhood plans, and Concept Plans.

Objective PU-7. Promote reduction in wastewater flows and develop facilities for beneficial reuse of reclaimed water and biosolids for management and distribution of treated wastewater.

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 storm water 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.

County of Fresno General Plan. The following goal and policies from the County's General Plan are relevant to wastewater collection, treatment, and disposal.

Goal PF-D. To ensure adequate wastewater collection and treatment and the safe disposal of wastewater.

Policy PR-D.4. The County shall limit the expansion of unincorporated, urban density communities to areas where community wastewater treatment facilities can be provided.

Policy PR-D.7. The County shall require preparation of sewer master plans for wastewater treatment facilities for areas experiencing urban growth.

4.17.5.3 Stormwater

County of Fresno General Plan. The following goal and policies from the County's General Plan are relevant to storm drainage and flood control.

Goal PF-E. To provide efficient, cost-effective, and environmentally sound storm drainage and flood control facilities that protect both life and property and to divert and retain stormwater runoff for groundwater replenishment.

Policy PF-E.1. The County shall coordinate with the agencies responsible for flood control or storm drainage to assure that construction and acquisition of flood control and drainage facilities are adequate for future urban growth authorized by the County General Plan and city general plans.

Policy PF-E.4. The County shall encourage the local agencies responsible for flood control or storm drainage to require that storm drainage systems be developed and expanded to meet the needs of existing and planned development.

Policy PF-E.10. In growth areas within the jurisdiction of a local agency responsible for flood control or storm drainage, the County shall encourage that agency to design drainage facilities as if the entire areas of service were developed to the pattern reflected in the adopted general plans to assure that the facilities will be adequate as the land use intensifies.

4.17.5.4 Solid Waste

State

Assembly Bill (AB) 939. The California Integrated Waste Management Act, referred to as AB 939, required all California cities, counties, and approved regional solid waste management agencies to be responsible for enacting plans and implementing programs to divert 25 percent of their solid waste by 1995 and 50 percent by year 2000. Later legislation mandates the 50 percent diversion requirement be achieved every year. The City of Fresno's highest diversion rate to date has been 74 percent.

City of Fresno General Plan. The following objective and policies from the approved General Plan are relevant to solid waste.

Public Utilities and Services Element

Objective PU-9. Provide adequate solid waste facilities and services for the collection, transfer, recycling, and disposal of refuse.

Policy PU-9-a: New Techniques. Continue to collaborate with affected stakeholders and partners to identify and support programs and new techniques of solid waste disposal, such as recycling, composting, waste to energy technology, and waste separation, to reduce the volume and toxicity of solid wastes that must be sent to landfill facilities.

Policy PU-9-b: Compliance with State Law. Continue to pursue programs to maintain conformance with the Solid Waste Management Act of 1989 or as otherwise required by law and mandated diversion goals.

Policy PU-9-c: Cleanup and Nuisance Abatement. Continue and enhance, where feasible, community sanitation programs that provide services to neighborhoods for cleanup, illegal dumping, and nuisance abatement services.

Policy PU-9-d: Facility Siting. Locate private or public waste facilities and recycling facilities in conformance with City zoning and State and federal regulations, so that the transportation, processing, and disposal of these materials are not detrimental to the public health, safety, welfare, and aesthetic well-being of the surrounding community.

Commentary: Following Council direction, facility siting provisions in Development Code will take into account proximity to residential development, access to transportation, density and separation requirements.

Policy PU-9-e: Tire Dumping. Adopt and implement, as determined appropriate, measures to eliminate illegal tire dumping.

County of Fresno General Plan. The following goal and policies from the County's General Plan are relevant to solid waste.

Goal PF-F. To ensure the safe and efficient disposal or recycling of solid waste generated in the county in an effort to protect the public health and safety.

Policy PF-F.1. The County shall continue to promote maximum use of solid waste source reduction, reuse, recycling, composting, and environmentally safe transformation of wastes.

Policy PF-F.4. The County shall ensure that all new development complies with applicable provisions of the County Integrated Waste Management Plan.

4.17.6 Significance Criteria

The thresholds for utilities and service systems impacts used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. The proposed project may be deemed to have a significant impact related to utilities and service systems if it would:

UTL-1 Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

UTL-2 Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

UTL-3 Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

UTL-4 Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

UTL-5 Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

4.17.7 Impacts and Mitigation Measures

The following discussion describes the potential impacts related to utilities and service systems that could result from continued implementation of the approved General Plan, implementation of the text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan. This programmatic EIR contemplates continued implementation of the General Plan; future discretionary projects facilitated by the proposed project will be evaluated for project-specific impacts to utilities and service systems at the time they are proposed.

4.17.7.1 Project Impacts

This programmatic EIR contemplates continued implementation of the General Plan; future discretionary projects facilitated by the proposed project will be evaluated for project-specific impacts to utilities and service systems at the time they are proposed.

UTL-1 ***The proposed project would require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.***

Water

Water Conveyance Facilities. The 2014 City of Fresno Metropolitan Water Resources Management Plan (2014 Metro Plan Update) identifies water infrastructure facilities needed to provide water to residents in the Planning Area. The 2014 Metro Plan Update determined that facilities in place in 2014 would not provide service to the population and land uses associated with buildout of the General Plan in place at the time (2025 General Plan). Continued implementation of the approved General Plan would result in a population increase of approximately 425,000 residents over projections in the 2014 Metro Plan Update. The 2014 Metro Plan Update identified various improvements that would be required to adequately serve a portion of the buildout of the approved General Plan within the Planning Area. These improvements include the following:

- Construct 65 new groundwater wells, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update.

- Construct a 2.0 million gallon potable water reservoir (Water Storage Tank T2) near the intersection of Clovis and California Avenues, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update.

- Construct a 3.0 million gallon potable water reservoir (Water Storage Tank T-3) near the intersection of Temperance and Dakota Avenues, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update. Reservoir T-3 was completed in 2015.

- Construct a 3.0 million gallon potable water reservoir (Water Storage Tank T-4) in the Downtown Planning Area, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update. Reservoir T-4 was completed in 2016.

- Construct a 4.0 million gallon potable water reservoir (Water Storage Tank T5) near the intersection of Ashlan and Chestnut Avenues, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update.

- Construct a 4.0 million gallon potable water reservoir (Water Storage Tank T6) near the intersection of Ashlan Avenue and Highway 99, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update.

- Construct 50.3 miles of regional water transmission mains ranging in size from 24-inch to 48-inch, in accordance with Chapter 9, Table 9.5, and Figure 9-1 of the 2014 Metro Plan Update.

- Construct 95.9 miles of 16-inch transmission grid mains, in accordance with Chapter 9, Table 9.5, and Figure 9-1 of the 2014 Metro Plan Update.

- Construct a 4.0 million gallon potable water reservoir (SEDA Reservoir 1) within the northern part of the Southeast Development Area, in accordance with the 2014 MEIR. This improvement is required approximately after the year 2035.

- Construct a 4.0 million gallon potable water reservoir (SEDA Reservoir 2) within the southern part of the Southeast Development Area, in accordance with the 2014 MEIR. This improvement is required approximately after the year 2035.

In addition to the above improvements, additional facilities such as pipelines and storage facilities within Downtown area as well as other areas of the Planning Area are expected to be required to adequately serve the buildout of the approved General Plan. Therefore, continued evaluation of available capacity and construction of additional facilities is required. Construction and operation of the identified improvements could result in project-specific impacts that are not currently known because the facilities have not been designed. Therefore, until environmental evaluations have occurred, potential impacts would be considered significant.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.17.5, Regulatory setting, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact UTL-1.1: Continued implementation of the approved General Plan would require or result in the relocation or construction of new or expanded water conveyance facilities, the construction or relocation of which could cause significant environmental effects. Although the following mitigation measures are proposed to reduce impacts associated with the provision of water conveyance facilities, such mitigation would not reduce impacts to a less than significant level because project specifics are unknown at this time, and project-level environmental analysis has not occurred.

Mitigation Measure UTL-1.1.1 The City shall evaluate the water conveyance system and, at the time that discretionary projects are submitted for approval by the City, the City shall not approve development that would demand additional water and exceed the capacity of a facility until additional capacity is provided. The following capacity improvements shall be evaluated for potential environmental impacts and constructed by the City by approximately 2025.

- Construct 65 new groundwater wells, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update.
- Construct a 2.0 million gallon potable water reservoir (Reservoir T2) near the intersection of Clovis and California Avenues, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update.
- Construct a 4.0 million gallon potable water reservoir (Reservoir T5) near the intersection of Ashlan and Chestnut Avenues, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update.
- Construct a 4.0 million gallon potable water reservoir (Reservoir T6) near the intersection of Ashlan Avenue and Highway 99, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update.
- Construct 50.3 miles of regional water transmission mains ranging in size from 24- inch to 48-inch, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update.

- Construct 95.9 miles of 16-inch transmission grid mains, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update.

Prior to initiating construction of any of the capacity improvement projects identified above, the City shall conduct appropriate environmental analyses for each project to determine whether environmental impacts would occur.

Mitigation Measure UTL-1.1.2 The City shall evaluate the water conveyance system at the time discretionary projects are submitted and shall not approve development that would demand additional water and exceed the capacity of a facility until additional capacity is provided. The following capacity improvements shall be evaluated for potential environmental impacts and constructed by the City after approximately the year 2035 and additional water conveyance facilities shall be provided prior to exceedance of capacity within the water conveyance facilities to accommodate full buildout of the approved General Plan.

- Construct a 4.0 million gallon potable water reservoir (SEDA Reservoir 1) within the northern part of the Southeast Development Area.

- Construct a 4.0 million gallon potable water reservoir (SEDA Reservoir 2) within the southern part of the Southeast Development Area.

Level of Significance With Mitigation: Significant and Unavoidable Impact. Construction and operation of the identified improvements could result in project-specific impacts that are not currently known because the facilities have not been designed. Prior to approval of each facility, the City shall conduct appropriate environmental analyses for each facility to determine whether environmental impacts would occur. Until environmental evaluations have occurred, potential impacts would be considered significant and unavoidable.

Surface Water Treatment Facilities. The City of Fresno owns and operates three surface water treatment facilities, the Northeast Surface Water Treatment Facility (NESWTF) and the Southeast Surface Water Treatment Facility (SESWTF) and the T-3 Surface Water Treatment Facility (T-3 SWTF). The NESWTF is presently sized at 30 mgd, but the facility will expand to 60 mgd by approximately 2035. The SESWTF is designed to have initial treatment capacity of 54 mgd and ultimate treatment capacity of 80 mgd. The T-3 SWTF is a 4 mgd facility that could expand to treat 8 mgd. With planned expansions, the total surface water treatment capacity would be 148 mgd or 165,781 AF/year.

As identified in the UWMP, in 2040, the surface water deliveries from FID and USBR – CVP is projected to be approximately 176,140 AF/year.[5] The 2014 Metro Plan Update identifies several improvements to meet the project deliveries, which include the following:

- Construct an 80 mgd surface water treatment facility near the intersection of Armstrong and Olive Avenues, in accordance with Chapter 9, Table 9.1, and Figure 9-1 of the City of Fresno Metropolitan Water Resources Management Plan Update Phase 2 Report, January 2012 (2014 Metro Plan Update). The first phase of the SESWTF to treat 54 mgd was completed in 2018.

- Construct a 30 mgd expansion of the existing northeast surface water treatment facility for a total capacity of 60 mgd, in accordance with Chapter 9, Table 9.1, and Figure 9-1, Phase 2 Report of the 2014 Metro Plan Update.

- Construct a 20 mgd surface water treatment facility in the southwest portion of the City, in accordance with Chapter 9, Table 9.1, and Figure 9-1, Phase 2 Report of the 2014 Metro Plan Update.

- Construct a 25,000 AF/year recycled water facility as an expansion to the RWRF in accordance with the January 2014 City of Fresno Metropolitan Water Resources Management Plan. This improvement is required after the year 2025.

Construction and operation of the projects listed above could result in project-specific environmental impacts. Because project specifics and environmental impacts are unknown at this time, impacts related to the expansion of new surface water treatment facilities are considered significant.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.17.5, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact UTL-1.2: Continued implementation of the approved General Plan would require or result in the relocation or construction of new or expanded surface water treatment facilities, the construction or relocation of which could cause significant environmental effects. Although mitigation is proposed to reduce impacts associated with the provision of water treatment facilities,

[5] Table 6-14 of the UMWP identifies 126,200 AF/year being delivered from FID and 52,600 AF/year being delivered from USBR-CVP for a total of 178,800 AF/year. However, the City's agreement with FID was renegotiated in 2016, and the total delivery amount from FID will be 123,540 AF/year. The total surface water delivery amount will be 123,540 AF/year from FID and 52,500 AF/year from USBR-CVP for a total of 176,140 AF/year.

such mitigation would not reduce impacts to a less than significant level because project specifics are unknown at this time, and project-level environmental analysis has not occurred.

Mitigation Measure UTL-1.2.1 The City shall evaluate the water supply system at the time discretionary projects are submitted and shall not approve development that would demand additional water until additional capacity is provided. By approximately the year 2025, the following capacity improvements shall be evaluated for potential environmental impacts and constructed by the City.

- Construct an approximately 30 mgd expansion of the existing northeast surface water treatment facility for a total capacity of 60 mgd, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update.
- Construct an approximately 20 mgd surface water treatment facility in the southwest portion of the City, in accordance with Chapter 9 and Figure 9-1 of the 2014 Metro Plan Update.
- Construct a 25,000 AF/year recycled water facility as an expansion to the RWRF in accordance with the January 2014 City of Fresno Metropolitan Water Resources Management Plan. This improvement is required after the year 2025.

Level of Significance With Mitigation: Significant and Unavoidable Impact. Construction and operation of the identified improvements could result in project-specific impacts that are not currently known because the facilities have not been designed. Prior to approval of each facility, the City shall conduct appropriate environmental analyses for each facility to determine whether environmental impacts would occur. Until environmental evaluations have occurred, potential impacts would be considered significant and unavoidable.

Wastewater

Wastewater Treatment Facilities. The City of Fresno owns and operates two wastewater treatment facilities, the RWRF and the North Fresno Facility. The RWRF and North Fresno facilities currently have a rated capacity of 91.5 mgd and 0.71 mgd, respectively. Both facilities discharge under Regional Water Quality Control Board Waste Discharge Order Requirements.

The implementation of the approved General Plan will result in the need for the expansion and new wastewater treatment facilities to serve future land uses and population. Therefore, development in accordance with the approved General Plan would result in a significant impact on the existing wastewater treatment facilities.

The RWRF would require an approximately 70 mgd expansion to accommodate anticipated demand. Expansion of the RWRF is not required until flows reach 80 percent of the rated capacity. However, due to decreased flows following the completion of the residential meter

installation project, it is not known exactly when expansion would be needed. An additional expansion of approximately 9.6 mgd is anticipated after the year 2025. The capacity of the existing North Facility is anticipated to require expansion from 0.71 mgd to 1.2 mgd by approximately the year 2025.

The development of a new 24 mgd wastewater treatment facility is planned to be located within the Southeast Development Area to accommodate future growth in accordance with the City of Fresno 2006 Wastewater Master Plan.

A summary of the wastewater treatment facilities that would need to be constructed to accommodate future development associated with continued implementation of the approved General Plan include the following:

- Construct 70.0 mgd expansion at the RWRF, prior to flows of the RWRF reaching 80 percent of rated capacity, in accordance with the City of Fresno 2006 Wastewater Master Plan.
- Construct a 25,000 AF/year recycled water facility as an expansion to the RWRF in accordance with the January 2014 City of Fresno Metropolitan Water Resources Management Plan. This improvement is required after the year 2025 and is identified as a required facility as part of the Mitigation Measure UTL-1.2.1.
- Construct a 0.49 mgd expansion of the North Facility.
- Construct 24 mgd wastewater treatment facility within the Southeast Development Area, in accordance with the City of Fresno 2006 Wastewater Master Plan.
- Construct 9.6 mgd expansion at the RWRF.

As a result of the projects identified above, continued implementation of the approved General Plan would result in physical impacts that could result in project-specific significant environmental effects.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.17.5.2, Regulatory Setting, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact UTL-1.3: Continued implementation of the approved General Plan would require construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. Although mitigation measures are proposed to reduce impacts associated with the provision of wastewater treatment facilities, such mitigation would not reduce impacts to a less than significant level because project specifics are unknown at this time, and project-level environmental analysis has not occurred.

Mitigation Measure UTL-1.3.1 The City shall evaluate the wastewater system at the time discretionary projects are submitted and shall not approve development that contributes wastewater to the wastewater treatment facility that could exceed capacity until additional capacity is provided. By approximately the year 2025, the City shall evaluate the potential environmental impacts and construct the following improvements.

- Construct an approximately 70 mgd expansion of the Regional Wastewater Treatment Facility prior to flows reaching 80 percent of rated capacity, and obtain revised waste discharge permits as the generation of wastewater is increased.
- Construct an approximately 0.49 mgd expansion of the North Facility and obtain revised waste discharge permits as the generation of wastewater is increased.

Mitigation Measure UTL-1.3.2 The City shall evaluate the wastewater system at the time discretionary projects are submitted and shall not approve development that contributes wastewater to the wastewater treatment facility that could exceed capacity until additional capacity is provided. After approximately the year 2025, the City shall evaluate the potential environmental impacts of, and construct the following improvements.

- Construct an approximately 24 mgd Wastewater Treatment Facility within the Southeast Development Area and obtain revised waste discharge permits as the generation of wastewater is increased.
- Construct an approximately 9.6 mgd expansion of the Regional Wastewater Treatment Facility and obtain revised waste discharge permits as the generation of wastewater is increased.

Level of Significance With Mitigation: Significant and Unavoidable Impact. Construction and operation of the identified improvements could result in project-specific impacts that are not currently known because the facilities have not been designed or reviewed for environmental impacts. Prior to approval of each facility, the City shall conduct appropriate environmental analyses for each facility to determine whether environmental impacts would occur. Until environmental evaluations have occurred, potential impacts would be considered significant and unavoidable.

Wastewater Collection System. The existing wastewater collection system has several junction locations where flow distribution between downstream sewers can potentially be controlled. Two key junction locations include a junction structure located near the intersection of Herndon and Milburn Avenues and a junction structure located near the intersection of Dakota and Fresno Avenues, among others. The City's preliminary wastewater model did not incorporate

specific decisions as to flow distribution at junction locations, but allowed uncontrolled distribution by the wastewater collection system hydraulic model. The City's modeling results indicated that a number of existing sewers would not provide sufficient capacity to accommodate approved General Plan buildout flows.

The Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR-SSS) requires that the City develop and implement a SSMP. The City adopted the SSMP in 2009 and since 2011 has performed annual self-audits of the SSMP that have resulted in minor revisions to the original document. The SSMP is required to be updated every 5 years and must include any significant program changes. Re-certification by the City Council is required if significant changes are made to the SSMP that requires Council approval for additional funds needed to implement the program. In 2014, the SSMP was revised and identified Sewer Capital Improvement Projects which would increase system capacity to accommodate buildout flows to associated with the projected buildout of the then current General Plan (2025 General Plan). Because the 2009 SSMP already established periodic updates of the Wastewater Collection System Master Plan and an ongoing Sewer Capital Improvement Program is presented and approved by Council each year as part of the City's budget process, re-certification of the SSMP by the City Council was not required in 2014.

Some of the projects identified in the 2014 SSMP have been implemented and are now existing sewers, while other projects have yet to be implemented.

The approved General Plan includes several policies to address wastewater generation and reduction of wastewater flows. Policies include PU-7-a, PU-7-b and PU-7-f. In addition, continual update of the SSMP and capital improvement projects would serve to ensure that wastewater flows would be accommodated by the City's wastewater collection system. However, continued implementation of the approved General Plan could result in the development of specific projects that could exceed the capacity of specific facilities. As a result, a significant impact could occur.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.17.5, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact UTL-1.4: Continued implementation of the approved General Plan would require or result in the relocation or construction of new or expanded wastewater collection system facilities, the construction or relocation of which could cause significant environmental effects. Although mitigation is proposed to reduce impacts associated with the provision of wastewater collection facilities, such mitigation would not reduce impacts to a less than significant level because project specifics are unknown at this time, and project-level environmental analysis has not occurred.

Mitigation Measure UTL-1.4.1 Consistent with the Sewer System Management Plan, the City shall evaluate the wastewater collection system at the time discretionary

projects are submitted, and shall not approve development that would generate additional wastewater and exceed the capacity of a facility until additional capacity is provided.

Level of Significance With Mitigation: Significant and Unavoidable Impact. Construction and operation of the identified improvements could result in project-specific impacts that are not currently known because the facilities have not been designed. Prior to approval of each facility, the City shall conduct appropriate environmental analyses for each facility to determine whether environmental impacts would occur. Until environmental evaluations have occurred, potential impacts would be considered significant and unavoidable.

Stormwater

As development occurs throughout the Planning Area in accordance with the approved General Plan, new and expanded storm water drainage facilities will be needed to adequately accommodate the increases in storm water flow due to the addition of impervious surfaces. Although specific locations and impacts have not been identified, continued implementation of the approved General Plan could result in impacts related to construction of new and/or expanded storm water drainage facilities.

Storm drainage facilities within the Planning Area as well as within Clovis are planned, implemented, operated, and maintained by the FMFCD. The existing and planned storm drainage facilities are documented in the Storm Drainage and Flood Control Master Plan (SDFCMP), which is developed and updated by FMFCD. The master plan drainage system for the Planning Area consists of approximately 160 individual drainage areas or urban watersheds. The majority of the Planning Area is located within one of the individual drainage areas or urban watersheds.

In 2016, the FMFCD approved the 2016 District Services Plan (Services Plan) that included flood control, local stormwater drainage, water conservation, and recreational uses within its service area. This program includes facilities to accommodate future growth in accordance with land use identified in the City of Fresno's approved General Plan. These facilities include conveyance systems such as streets and gutters, storm drain inlets, storm drain pipelines, detention and retention basins, pump stations, and outfall facilities that collect and drain runoff from developed land areas. The environmental analysis prepared for the 2016 Services Plan Update adequately addresses the potential impacts associated with future stormwater facilities consistent with the approved General Plan. The Final Subsequent EIR that was certified for the 2016 Services Plan is hereby incorporated by reference into this Program EIR. As a result, because mitigation was proposed to address potential impacts with future stormwater facilities, a less-than-significant impact would occur.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.17.5, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

Electric, Natural Gas, Telecommunications

Development consistent with the approved General Plan may require relocating or constructing electric, natural gas, or telecommunication facilities in order for future development to be provided service. As individual projects are proposed within the Planning Area, considerations for extending services will need to be taken into account, and most of the work would be completed in existing public rights-of-way or facilities. Although creation of new or re-located electric, natural gas and telecommunications facilities could create short-term construction-related environmental effects (e.g., noise, dust, traffic, temporary service interruption, etc.), construction would be subject to compliance with the City's and service provider's regulations and standard conditions for new construction related to infrastructure improvements. These regulations and conditions would require construction of gas and electric lines to include best management practices that require construction areas to minimize dust generation, limit construction noise to daytime hours to limit impacts to sensitive receptors, and use modern equipment to limit emissions. In addition, such work would be subject to compliance with applicable regulations and standard conditions of approval for construction projects, including City permits/review for construction (e.g., grading permits, private development review, encroachment permits, etc.). However, because the specific impacts resulting from constructing new or relocating electric, natural gas and telecommunication facilities for future development is not known at this time given specific site conditions, continued implementation of the approved General Plan would result in potentially significant impacts.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.17.5, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Significant Impact.

Impact UTL-1.5: Continued implementation of the approved General Plan would require or result in the relocation or construction of new or expanded electric, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Although mitigation is proposed to reduce impacts associated with the provision of electric, gas, and telecommunications facilities, such mitigation would not reduce impacts to a less than significant level because project specifics are unknown at this time, and project-level environmental analysis has not occurred.

Mitigation Measure UTL-1.5.1 At the time discretionary projects are submitted, the City shall require project-specific environmental evaluations for the expansion or relocation of electric, natural gas, or telecommunication facilities be completed prior to project approval.

Level of Significance With Mitigation: Significant and Unavoidable Impact. Construction and operation of electric, natural gas, or telecommunication facilities could result in project-specific impacts that are not currently known because the facilities have not been designed or evaluated. Prior to approval of each facility, the City shall conduct appropriate environmental analyses for each

facility to determine whether environmental impacts would occur. Until environmental evaluations have occurred, potential impacts would be considered significant and unavoidable.

UTL-2 The proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

Based on the 2015 UWMP, projected water demand is based on a per capita target. For the years of 2020 and after, the per capita target is 247 gallons per capita per day (gpcd). The UWMP identifies 2040 as year in which water supplies are evaluated. The projected water demand for the City of Fresno in the year 2040, based on a population of 824,400 is 228,091 AF/year.[6] The projected water demand for the City at full buildout of the approved General Plan in 2056 254,834 AF/year.[7] Table 4.17-1 shows the projected firm water supplies as identified in the 2015.

Table 4.17-1: Projected Water Supply in 2040

Water Supply	Water Supply Source	Reasonably Available Volume (AF)
Groundwater[1]	Kings Subbasin	148,900
Surface Water[2]	Fresno Irrigation District	123,540
Surface Water[3]	United States Bureau of Reclamation – Central Valley Project	52,600
Recycled[4]	Tertiary, disinfected	16,000
Recycled[5]	Tertiary, undisinfected	10,000
Recycled[6]	Tertiary, disinfected	12,500
Total		**363,540**

Source: *2015 Urban Water Management Plan*

1 The value for "Reasonably Available Volume" includes the Safe Yield which increases as the City's SOI expands as discussed in Sections 6.1.5.1 & 6.1.5.2 and in Table 6-3 of the 2015 UWMP. Additionally, this value includes water from prior year(s) operation of intentional recharge as shown in Table 6-3 of the 2015 UWMP for the same year.

2 The City's surface water supply from FID grows as the City's annexed city limits expand as discussed in Section 6.2.1 of the 2015 UWMP. The 2016 renegotiated contract with FID limits available allocation 29%, or approximately 123,540 AFY.

3 The City's USBR CVP Friant Division contract is for 60,000 af of Class 1 water. The 52,600 af/yr value is the historic average allocated value for the City per Figure 7-2 of the 2015 UWMP (rounded to nearest 100).

4 This amount reflects the 8 mgd satellite WRF to be constructed in southeast Fresno to be operational shortly after 2025.

5 The annual 10,000 af is the current amount presently directed to farm irrigation of non-food crops adjacent to the RWRF.

6 The projected amount reflects the incorporation "soil aquifer treated" recycled water at the RWRF into the flows returned to the metropolitan area and used for purposes as shown in Table 6-9 of the 2015 UWMP.

The water supplies identified above (363,540 AF/year) are adequate to accommodate the demand in 2040 (i.e., 228,091 AF/year), and at buildout of the approved General Plan in 2056 (i.e., 254,834 AF/year). Therefore, continued implementation of the approved General Plan would have sufficient water supplies available to serve buildout of the project and would result in a less than significant impact related to water supplies.

6 Calculation: 247 gpcd x 824,400 persons = 74,323,782,000 gallons per year = 228,091 AF/year

7 Calculation: 247 gpcd x 921,057 persons = 83,037,893,835 gallons per year = 254,834 AF/year

Continued implementation of Objective PU-8 and Policies PU-8-a through PU-8-g of the approved General Plan would apply to the proposed project.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.17.5, Regulatory setting, above.

Level of Significance Without Mitigation: Less Than Significant Impact. Based on projected population growth, continued implementation of the approved General Plan would be expected to meet the water supply demand in 2040 and the identified buildout year of 2056. In addition, and as discussed above in UTL-1, and in Section 4.10, Hydrology and Water Quality, the City is a partner agency in the North Kings Groundwater Sustainability Agency with the mandate to ensure that the Kings Subbasin has balanced levels of pumping and recharge.

UTL-3 The proposed project would result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

As discussed in Section 4.17.3, the City of Fresno owns and operates two wastewater treatment facilities. They are the Fresno/Clovis Regional Wastewater Reclamation Facility and the North Fresno Wastewater Reclamation Facility. The RWRF currently has a capacity of 91.5 mgd. The North Facility has a capacity of 0.71 mgd. The continued implementation of the approved General Plan is projected to increase demand to require an expansion of the RWRF by 70 mgd to accommodate growth associated with implementation of the approved General Plan.

As discussed above and identified as Impact UTL-1, continued implementation of the approved General Plan would require construction or expansion of facilities in order to provide adequate capacity for the treatment of wastewater.

The approved General Plan includes Policies PU-6-a and PU-6-b, Objective PU-7 and Policies PU-7-a through PU-7-f to reduce water quality impacts that may be associated with wastewater treatment operations and discharges. However, the existing wastewater treatment capacity at the RWRF and North Facility is not adequate to serve the future development anticipated under the approved General Plan. Therefore, the proposed project would result in significant impacts to existing wastewater treatment capacity.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.17.5.4, Regulatory Setting, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact UTL-3: Continued implementation of the approved General Plan would exceed wastewater treatment capacity.

Mitigation Measures: Refer to Mitigation Measures UTL-1.3.1 and UTL-1.3.2.

Level of Significance With Mitigation: Less Than Significant Impact.

UTL-4 The proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

To determine the amount of solid waste that could be generated through the continued implementation of the approved General Plan, the analysis uses information provided by CalRecycle, as shown in Table 4.17-2.[8]

Table 4.17-2: Estimated Waste Generation of General Plan Buildout

Land Use	Buildout of Approved General Plan in 2056[1]	Solid Waste Generation Rate	Estimated Solid Waste Generated at Buildout of Approved General Plan	
			lbs/day	Tons/day
Single-Family Residential	179,523 units	10 lbs/unit/day[2]	1,795,230	898
Multi-Family Residential	152,481 units	7 lbs/unit/day[2]	1,067,367	534
Commercial/Office/ Public Facility	129.7 msf	6 lbs/1,000 sq ft/day[3]	778,200	389
Mixed Use	20.8 msf	6 lbs/1,000 sq ft/day[3]	124,800	62
Industrial	113.3 msf	6 lbs/1,000 sq ft/day[4]	679,800	340
		Total	**4,445,397**	**2,223**

Source: LSA, 2020.
[1] Source: Table 5.15-3 of the Fresno General Plan MEIR.
[2] Source: CalRecycle, Waste Characterization, Residential Sector Generation Rates: Estimated Solid Waste Generation Rates, 2019
[3] Source: CalRecycle, Waste Characterization, Commercial Sector Generation Rates: Estimated Solid Waste Generation Rates, 2019
[4] Source: CalRecycle, Waste Characterization, Industrial Sector Generation Rates: Estimated Solid Waste Generation Rates, 2019
msf = million square feet
units = dwelling units
lbs = pounds

New residential, commercial, mixed use, and industrial land uses in the Planning Area would increase the amount of solid waste generated by residents and businesses. The increase in growth and development as a result of the implementation of the approved General Plan could result in an increase of solid waste to transfer stations and landfills, and could contribute to an increased demand for solid waste services throughout the Planning Area.

As shown on Table 4.17-2, above, continued development under the approved General Plan would result in the generation of approximately 2,223 tons of solid waste per day. Based on the estimated closure dates of the American Avenue Landfill in 2031 and the Clovis Landfill in 2047, both before the buildout of the approved General Plan would occur, there is a potential for additional landfill

[8] CalRecycle. Estimated Solid Waste Generation Rates. Website: www2.calrecycle.ca.gov/Waste Characterization/General/Rates (accessed February 26, 2020).

capacity needed to accommodate the additional development. Therefore, development under the approved General Plan could result in a significant impact on landfill capacity.

With the remaining capacity and lifespan at the landfills identified above, the increase in solid waste generated by development under the approved General Plan would exceed capacity of the landfills if the estimated waste streams above occur in the future. However, AB 939 mandates the reduction of solid waste disposal in landfills, and the City is currently achieving a 71 percent diversion rate (based on 2009 data) which is anticipated to increase due to a Fresno City Council resolution that commits the City to the goal of a Zero Waste goal by 2025. This analysis assumes a worst-case scenario and does not factor in the diversion rate which is already occurring. The approved General Plan includes Objective PU-9 and Policies PU-9-a through PU-9-e relevant to solid waste.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.17.5.4, Regulatory Setting, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact UTL-4: Continued implementation of the approved General Plan could generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

Mitigation Measure UTL-4.1 The City shall evaluate additional landfill locations at the time discretionary projects are submitted, and shall not approve development that could contribute solid waste to a landfill that is at capacity until additional capacity is provided.

Level of Significance With Mitigation: Less Than Significant Impact.

UTL-5 The proposed project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

Construction and operational activities that generate solid waste are handled, transported, and disposed of in accordance with applicable federal, State, and local regulations pertaining to municipal waste. With development in accordance with the approved General Plan, solid waste would continue to be handled, transported, and disposed of according to all applicable federal, State, and local regulation pertaining to municipal waste disposal. As shown in Table 4.17-2, the anticipated long-term generation of solid waste from continued implementation of the approved General Plan could result in the generation of approximately 2,224 tons per day for the entire Planning Area. The City currently has a number of provisions that require or promote recycling and waste reduction. As an example, the City has the Construction and Demolition Recycling Ordinance that requires contractors to recycle construction and demolition debris.

Continued implementation of the approved General Plan, the proposed text changes to the Mobility and Transportation Element, and updates to the Greenhouse Gas Reduction Plan, would comply

with existing statutes and regulations related to solid waste, and a less than significant impact would occur.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.17.5.4, Regulatory Setting, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.17.7.2 Cumulative Impacts

The proposed project would have a significant effect on the environment if it, continued implementation of the approved General Plan would combine with other projects to result in significant impacts to the service areas of the utility providers identified.

UTL-6 The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in significant cumulative impacts with respect to utilities and service systems.

Water Supply

As discussed above and in section 4.10, Hydrology and Water Quality, water supply is a regional issue. The Kings Subbasin is in overdraft condition due to pumping for agricultural and urban uses. Growth in the subbasin will increase demands for groundwater pumping, potentially resulting in continued drawdown of water levels leading to localized cones of depression, changes in groundwater flow direction, concentration of contaminants, and land subsidence. However, the water supplies identified above (363,540 AF/year) would be adequate to accommodate the demand in 2040 (i.e., 228,091 AF/year), and at buildout of the approved General Plan in 2056 (i.e., 254,834 AF/year). Therefore, continued implementation of the approved General Plan would have sufficient water supplies available to serve buildout of the project and would result in a less-than-significant cumulative impact related to water supplies.

Wastewater

Public utility districts and other municipalities exist near or adjacent to the planning area and include the City of Clovis, the Pinedale Public Utility District, Pinedale County Water District, and Malaga Utility District. These entities have wastewater treatment facilities that may not be adequate to serve future populations. As a result, there could be significant impacts associated with wastewater treatment capacity. Since the existing treatment facilities are not adequate to accommodate full buildout of the approved General Plan, the project's contribution to potential cumulative wastewater treatment capacity would be considerable and result in a significant cumulative impact.

Stormwater

The City of Fresno is a member agency of the FMFCD which serves the Fresno-Clovis metropolitan area. As discussed above, the FMFCD approved the 2016 District Services Plan which addresses flood control, and local stormwater drainage. The SDFCMP is continually updated to take into account the addition of new impervious surface, including impervious surfaces resulting from the continued implementation of the approved General Plan. As a result, new projects would be required to be evaluated in order to determine if FMFCD facilities have available capacity. As result, continued implementation of the approved General Plan would result in a cumulatively significant impact on stormwater.

Solid Waste

Future development associated with buildout of the approved General Plan and associated cumulative projects within Fresno County that contribute waste to landfills within the County of Fresno could impact the landfill capacity and recycling facility capacities. Since the continued implementation of the approved General Plan could contribute to the impact on the capacity of the landfills within the County or other recycling facilities, the project's contribution to the landfill and/or recycling facility capacity impact would be cumulatively significant.

All development projects would be required to comply with federal, State, and local statutes and regulations related to solid waste. Pursuant to the California Integrated Waste Management Act of 1989 (AB 939), every city and county in the State is required to divert 50 percent of solid waste generated in its jurisdiction away from landfills. Implementation of source reduction measures, such as recycling, would serve to divert solid waste away from landfills. Cumulative development would be required to comply with existing statutes and regulations, and therefore, cumulative impacts related to compliance with solid waste regulations would be less than significant. The proposed project's contribution to statutes and regulation compliance would be less than considerable and therefore, the project would result in a less than significant cumulative impact.

Electric, Natural Gas, and Telecommunications

Future development associated with buildout of the approved General Plan and associated cumulative projects within Fresno County that may require the relocation or construction of electric, natural gas, or telecommunications facilities. Because the specific impacts resulting from constructing new or relocating electric, natural gas and telecommunication facilities for future development is not known at this time given specific site conditions, continued implementation of the approved General Plan would result in potentially significant cumulative impact associated with construction or operation of such facilities.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.17.5, Regulatory Setting, above.

Level of Significance Without Mitigation: Potentially Significant Impact.

Impact UTL-6: Continued implementation of the approved General Plan could result in cumulative impacts to utilities and service systems. Although mitigation measures are proposed to reduce impacts associated with the provision of utilities and service systems, such mitigation would not reduce impacts to a less than significant level because project specifics are unknown at this time, and project-level environmental analysis has not occurred.

Mitigation Measures: Refer to Mitigation Measures UTL-1.1.1, UTL-1.1.2, UTL-1.2.1, UTL-1.3.1, UTL-1.3.2, UTL-1.4.1, UTL-1.5.1, UTL-3.1, and UTL-4.1.

Level of Significance With Mitigation: Significant and Unavoidable Impact. Implementation of the identified mitigation measures would serve to reduce potential impacts, however, without specific project plans to allow for a thorough evaluation of potential environmental impacts, cumulative impacts to utilities and service systems resulting from continued implementation of the approved General Plan would be considered significant and unavoidable.

4.18 WILDFIRE

4.18.1 Introduction

This section provides a discussion of the existing environmental setting of potential wildfire areas in the Planning Area and in the surrounding area, and evaluates the potential impacts that could result from continued implementation of the approved Fresno General Plan, text changes to the Mobility and Transportation Element related to the Vehicle Miles Traveled (VMT) analysis, and updates to the Greenhouse Gas Reduction Plan (proposed project). In addition, this section discusses the applicable plans and policies related to wildfires. The potential impacts from the project and continued implementation of the approved General Plan are described, and mitigation measures are provided, if required.

4.18.2 CEQA Baseline

The City of Fresno (City) is responsible for preparation of a Program Environmental Impact Report (PEIR) for the approved General Plan that was adopted in December 2014. The intent of this current effort is to convert the Master EIR (MEIR) that was prepared in 2014 to a PEIR, and to update the analysis to be in conformance with State law and to be consistent with recent legislative changes, which include Assembly Bill 32 (2006) and Senate Bill (SB) 32 (2016) regarding climate change, SB 743 (2013) regarding VMT, and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this PEIR, provides an overview of the content of the General Plan, explains that the PEIR will evaluate the continued implementation of the General Plan, and identifies specific text changes to the approved General Plan that constitute what is being evaluated in the PEIR (referred to as the "proposed project"). In addition, the Greenhouse Gas Reduction Plan, included as an Appendix to the MEIR, has also been updated and included as Appendix G of the PEIR to take into account the requirements of SB 32. The text changes analyzed as the proposed project are limited to technical revisions to the Mobility and Transportation Element and include the addition of VMT policies consistent with the requirements of SB 743 and the revision of text relating to Level of Service (LOS) metrics. These changes are narrow in scope and do not result in direct physical changes to the environment. Therefore, the physical environmental effects of the proposed project would be essentially the same as if the text changes to the General Plan were not proposed (referred to as the "No Project scenario").

The No Project scenario assumes continuation of the approved General Plan (2014) without the Mobility and Transportation Element changes or updates to the Greenhouse Gas Reduction Plan, just described. In this scenario, future development in the city would occur as currently set forth under the General Plan. Text changes related to the Mobility and Transportation Element, including the addition of VMT policies, would not occur. The General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Development under the approved General Plan would be the same as compared to the proposed project analyzed in the PEIR, and the physical changes to the environment would be the same under both scenarios.

4.18.3 Existing Environmental Setting

The study area for project impacts regarding wildfire is the Planning Area because potential development under the approved General Plan is limited to areas within the Planning Area. As defined in Chapter 3.0, Project Description, the Planning Area is the geographic area for which the approved General Plan establishes policies about future growth. The Planning Area established by the City includes all areas within the City's current city limits, including the Fresno-Clovis Regional Wastewater Reclamation Facility (RWRF), the areas within the current Sphere of Influence (SOI), and an area north of the most northeasterly portion of the city (referred to as the North Area). The Planning Area is located within the Central Valley, and is relatively flat. The majority of the Planning Area occurs as developed properties or agricultural lands. Similar uses surround the Planning Area within the city of Clovis to the east, and mostly agricultural properties to the north, west, and south. The Sierra Nevada foothills to the north and east of the Planning Area and the city of Clovis provide the nearest areas where large expanses of undeveloped properties occur. Because of the topography and the distance between the developed portions of the Planning Area and undeveloped areas, the primary fire hazard concern within the Planning Area consists of the potential for structure fires in developed areas.

According to the California Department of Forestry and Fire Protection's (CAL FIRE) Fire and Resource Assessment Program, the Planning Area does not contain any lands within the State Responsibility Area (SRA) or lands classified as Very High Fire Hazard Severity Zone (VHFHSZ) within the Local Responsibility Area (LRA). Some areas along the San Joaquin River Bluff area at the northern boundary of the Planning Area are prone to wildfires due to relatively steep terrain and vegetation; CAL FIRE classifies these areas as Moderate Fire Hazard Severity Zone within the LRA.

4.18.4 Methodology

The potential project-related impacts related to wildfire were evaluated on a qualitative basis due to the programmatic nature of this EIR. Qualitative impacts were assessed by evaluating the project's potential for impacting wildfire within the Planning Area based on CAL FIRE maps.

4.18.5 Regulatory Setting

4.18.5.1 Federal Policies and Regulations

No federal policies or regulations pertaining to wildfire are applicable to the proposed project.

4.18.5.2 State Policies and Regulations

California Department of Forestry and Fire Protection. The California Department of Forestry and Fire Protection (CAL FIRE) publishes maps that predict the threat of fire for each county within the State. Local Responsibility Areas and State or Federal Responsibility Areas are classified as either very high fire hazard severity zones (VHFHSZ) or non-VHFHSZ based on factors including fuel availability, topography, fire history, and climate. The 2012 Strategic Fire Plan for California was generated by CAL FIRE to provide guidelines and objectives in order to account for associated fire impacts.

California Fire Code. Section 10-50100 of the City's Municipal Code adopts the California Fire Code by reference. The California Fire Code includes regulations for emergency planning, fire service features, fire protection systems, hazardous materials, fire flow requirements, and fire hydrant locations and distribution. Several fire safety requirements include: installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildlife hazard areas.

California Building Code. Section 11-101 of the City's Municipal Code adopts the California Building Code (CBC) by reference. The California Code of Regulations (CCR), Title 24, Part 2, of the CBC, provides California Building Code minimum standards for building design in the state. Local codes are permitted to be more restrictive than Title 24, but not less restrictive. The procedures and limitations for the design of structures are based on site characteristics, occupancy type, configuration, structural system height, and seismic zoning. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching and specified in California Occupational Safety and Health Administration (Cal/OSHA) regulations (CCR, Title 8).

California Health and Safety Code §13000 et seq. and California Building Code (CBC). State fire regulations are set forth in §13000 et seq. of the California Health and Safety Code, which is divided into "Fires and Fire Protection" and "Buildings Used by the Public." The regulations provide for the enforcement of the CBC and mandate the abatement of fire hazards.

Executive Order N-05-19. On January 9, 2019, Governor Gavin Newsom announced an Executive Order (EO) that requires CAL FIRE and other State agencies to compile policy and regulatory recommendations concerning wildfire mitigation, emphasizing environmental sustainability and public health. The EO requires the incorporation of socioeconomic analysis when conducting risk management of wildfires and mandates that agencies identify geographic areas with populations that are more vulnerable to the impacts of wildfires.

4.18.5.3 Local Policies and Regulations

City of Fresno General Plan. The approved General Plan is a set of policies and programs that form a blueprint for the physical development of the city. For a description of each of the elements within the approved General Plan, refer to Chapter 3.0, Project Description. The following objectives and policies related to wildfire are presented in the approved General Plan:

Noise and Safety Element

Objective NS-6. Foster an efficient and coordinated response to emergencies and natural disasters.

Policy NS-6-a: County Multi-Jurisdiction Hazard Mitigation Plan. Adopt and implement the Fresno County Multi-Jurisdiction Hazard Mitigation Plan and City of Fresno Local Hazard Mitigation Plan Annex.

Commentary: The federal Disaster Mitigation Act of 2000 requires that cities, counties, and special districts have a Local Hazard Mitigation Plan to be eligible to receive FEMA hazard mitigation funds. Cities and counties can adopt and use all or part of a regional multi-jurisdictional plan, such as the one prepared by Fresno County, in lieu of preparing all or part of a Local Hazard Mitigation Plan.

Policy NS-6-b: Disaster Response Coordination. Maintain coordination with other local, State, and Federal agencies to provide coordinated disaster response.

Policy NS-6-c: Emergency Operations Plan. Update the City's Emergency Operations Plan periodically, using a whole community approach which integrates considerations for People with access and functional needs in all aspects of planning.

Policy NS-6-d: Evacuation Planning. Maintain an emergency evacuation plan in consultation with the Police and Fire Departments and other emergency service providers, which shows potential evacuation routes and a list of emergency shelters to be used in case of catastrophic emergencies.

Commentary: The evacuation plan will be flexible in order to consider many scenarios and multiple modes of transportation beyond private automobiles. It will provide special provisions for disadvantaged populations, such as those with physical disabilities or those with low or very low incomes, and for areas with fewer resources through neighborhood emergency preparedness programs.

Policy NS-6-e: Critical Use Facilities. Ensure critical use facilities (e.g., City Hall, police and fire stations, schools, hospitals, public assembly facilities, transportation services) and other structures that are important to protecting health and safety in the community remain operational during an emergency.

- Site and design these facilities to minimize their exposure and susceptibility to flooding, seismic and geological effects, fire, and explosions.
- Work with the owners and operators of critical use facilities to ensure they can provide alternate sources of electricity, water, and sewerage in the event that regular utilities are interrupted in a disaster.

Policy NS-6-f: Emergency Vehicle Access. Require adequate access for emergency vehicles in all new development, including adequate widths, turning radii, hard standing areas, and vertical clearance.

Policy NS-6-g: Emergency Preparedness Public Awareness Programs. Continue to conduct programs to inform the general public, including people with access and functional needs, of the City's emergency preparedness and disaster response procedures.

Public Utilities and Services Element

Objective PU-2. Ensure that the Fire Department's staffing and equipment resources are sufficient to meet all fire and emergency service level objectives and are provided in an efficient and cost effective manner.

Policy PU-2-a: Unify Fire Protection. Pursue long-range transfer of fire protection service agreements with adjacent fire districts that, in concert with existing automatic aid agreements, will lead to the eventual unification of fire protection services in the greater Fresno area.

Policy PU-2-b: Maintain Ability. Strive to continually maintain the Fire Department's ability to provide staffing and equipment resources to effectively prevent and mitigate emergencies in existing and new high-rise buildings and in other high-density residential and commercial development throughout the city.

Policy PU-2-c: Rescue Standards. Develop appropriate standards, as necessary, for rescue operations, including, but not limited to, confined space, high angle, swift water rescues, and the unique challenges of a high speed train corridor.

Policy PU-2-d: Station Siting. Use the General Plan, community plans, Specific Plans, neighborhood plans, and Concept Plans, the City's Geographic Information Systems (GIS) database, and a fire station location program to achieve optimum siting of future fire stations.

Policy PU-2-e: Service Standards. Strive to achieve a community wide risk management plan that include the following service level objectives 90 percent of the time:

- *First Unit on Scene* – First fire unit arriving with minimum of three firefighters within 5 minutes and 20 seconds from the time the unit was alerted to the emergency incident.
- *Effective Response Force* – Provide sufficient number of firefighters on the scene of an emergency within 9 minutes and 20 seconds from the time of unit alert to arrival. The effective response force is measured as 15 firefighters for low risk fire incidents and 21 firefighters for high risk fire incidents and is the number of personnel necessary to complete specific tasks required to contain and control fire minimizing loss of life and property.

Objective PU-3. Enhance the level of fire protection to meet the increasing demand for services from an increasing population.

Policy PU-3-a: Fire Prevention Inspections. Develop strategies to enable the performance of annual fire and life safety inspection of all industrial, commercial, institutional, and multi-family residential buildings, in accordance with nationally recognized standards for the level of service necessary for a large Metropolitan Area, including a self-certification program.

Policy PU-3-b: Reduction Strategies. Develop community risk reduction strategies that target high service demand areas, vulnerable populations (e.g., young children, older adults, non-English speaking residents, persons with disabilities, etc.), and high life hazard occupancies.

Policy PU-3-d: Review All Development Applications. Continue Fire Department review of development applications, provide comments and recommend conditions of approval that will ensure adequate on-site and off-site fire protection systems and features are provided.

Policy PU-3-e: Building Codes. Adopt and enforce amendments to construction and fire codes, as determined appropriate, to systematically reduce the level of risk to life and property from fire, commensurate with the City's fire suppression capabilities.

Policy PU-3-f: Adequate Infrastructure. Continue to pursue the provision of adequate water supplies, hydrants, and appropriate property access to allow for adequate fire suppression throughout the City.

Policy PU-3-g: Cost Recovery. Continue to evaluate appropriate codes, policies, and methods to generate fees or other sources of revenue to offset the ongoing personnel and maintenance costs of providing fire prevention and response services.

City of Fresno Emergency Operation Plan. The California Emergency Services Act requires cities to prepare and maintain an emergency plan for emergencies that are natural or caused by man. The City's adopted Emergency Operations Plan (EOP) plans for emergencies including natural hazards. The EOP does not designate any evacuation routes within the Planning Area.

County of Fresno Multi-Jurisdictional Local Hazard Mitigation Plan. The purpose of a Local Hazard Mitigation Plan is to reduce or eliminate long-term risk to human life and property resulting from hazards. A local hazard mitigation plan recognizes risks before they occur, as well as identifies resources, information, and strategies for emergency response. Fresno County, with participation from 17 jurisdictions, is the lead agency on the Multi-Jurisdictional Local Hazard Mitigation Plan (MHMP). In 2018, the Fresno County Board of Supervisors adopted the MHMP, which includes a portion listing information most relevant to the City in the areas of health, infrastructure, housing, government, environment, and land use.

4.18.6 Significance Criteria

The thresholds for impacts related to wildfire used in this analysis are consistent with Appendix G of the *State CEQA Guidelines*. Continued Implementation of the approved General Plan would result in a significant impact related to wildfire if the project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones if it would:

WF-1 Substantially impair an adopted emergency response plan or emergency evacuation plan.

WF-2 Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

WF-3 Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.

WF-4 Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

4.18.7 Impacts and Mitigation Measures

The following section presents a discussion of the impacts related to wildfire that could result from continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and the updates to the Greenhouse Gas Reduction Plan. Future discretionary projects facilitated by the proposed project will be evaluated for project-specific wildfire impacts at the time such projects are proposed. The section begins with the criteria of significance, which establish the thresholds to determine if an impact is significant. The latter part of this section presents the impacts associated with continued implementation of the approved General Plan and the recommended mitigation measures, if required. Mitigation measures are recommended, as appropriate, for significant impacts to eliminate or reduce them to a less than significant level. Cumulative impacts are also addressed.

4.18.7.1 Project Impacts

The following discussion describes the potential impacts related to wildfire that could result from continued implementation of the approved General Plan, implementation of the text changes to the Mobility and Transportation Element, and the updates to the Greenhouse Gas Reduction Plan. This programmatic EIR contemplates continued implementation of the General Plan; future discretionary projects facilitated by the proposed project will be evaluated for project specific aesthetic impacts at the time they are proposed.

WF-1 The proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and the continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or changes in the distribution or types of land uses that would result in impacts related to wildfire. However, impacts associated with the continued implementation of the approved General Plan are identified below.

According to CAL FIRE's Fire and Resource Assessment Program, the Planning Area does not contain any lands within the State Responsibility Area (SRA) or lands classified as Very High Fire Hazard Severity Zone (VHFHSZ) within the Local Responsibility Area (LRA).

The continued implementation of the approved General Plan and updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or changes in the distribution or types of land uses, and as such, would not substantially impair an adopted emergency response plan or emergency evacuation plan. The City's Noise and Safety Element (2014) outlines goals, objectives and policies related to hazards, safety, and emergency response. Emergency events addressed in the Noise and Safety Element include those associated with seismic and geologic hazards, storm drainage and flood control, wildfire hazards, hazardous materials, airport safety, and emergency preparedness. While the City does have an adopted Emergency Operations Plan (EOP), the EOP does not designate evacuation routes. Design and construction of roadways would be consistent with applicable State and City standards for roadway widths, turning radii, and sightlines and would not impair emergency response or emergency evacuation. Further, the continued implementation of the approved General Plan or updates to the Greenhouse Gas Reduction Plan do not include any physical improvements (e.g., permanent road closures or long-term blocking of road access) that would impair or otherwise conflict with the EOP. Therefore, impacts related to emergency response and evacuation plans associated with the proposed project would be less than significant.

Some areas along the San Joaquin River Bluff area at the northern boundary of the Planning Area are prone to wildfires due to relatively steep terrain and vegetation; CAL FIRE classifies these areas as Moderate Fire Hazard Severity Zone within the LRA. This area, which is currently vacant, is designated as multi-use in the approved General Plan. Thus, continued implementation of the approved General Plan adjacent to the San Joaquin River Bluff would continue to be subject to dangers from wildfires. However, implementation of the following objectives and policies within the approved General Plan, and project-specific review of future discretionary projects, would ensure that potential impacts from wildfire remain less than significant.

Objective PU-2. Ensure that the Fire Department's staffing and equipment resources are sufficient to meet all fire and emergency service level objectives and are provided in an efficient and cost effective manner.

Policy PU-2-a: Unify Fire Protection. Pursue long-range transfer of fire protection service agreements with adjacent fire districts that, in concert with existing automatic aid agreements, will lead to the eventual unification of fire protection services in the greater Fresno area.

Policy PU-2-b: Maintain Ability. Strive to continually maintain the Fire Department's ability to provide staffing and equipment resources to effectively prevent and mitigate emergencies in existing and new high-rise buildings and in other high-density residential and commercial development throughout the city.

Policy PU-2-c: Rescue Standards. Develop appropriate standards, as necessary, for rescue operations, including, but not limited to, confined space, high angle, swift water rescues, and the unique challenges of a high speed rail corridor.

Policy PU-2-d: Station Siting. Use the General Plan, community plans, Specific Plans, neighborhood plans, and Concept Plans, the City's Geographic Information Systems (GIS)

database, and a fire station location program to achieve optimum siting of future fire stations.

Policy PU-2-e: Service Standards. Strive to achieve a community wide risk management plan that include the following service level objectives 90 percent of the time:

- *First Unit on Scene* – First fire unit arriving with minimum of three firefighters and ability to apply suppressing agent within 6 minutes and 20 seconds from emergency call (7 minutes and 30 seconds with 9-11 processing time).
- *Effective Response Force* – Provide sufficient number of firefighters on scene of an emergency (17 for low risk, 23 for high risk) within nine minutes and 20 seconds from time of alert to arrival.

***Objective PU-3*.** Enhance the level of fire protection to meet the increasing demand for services from an increasing population.

Policy PU-3-a: Fire Prevention Inspections. Develop strategies to enable the performance of annual fire and life safety inspection of all industrial, commercial, institutional, and multi-family residential buildings, in accordance with nationally recognized standards for the level of service necessary for a large Metropolitan Area, including self-certification program.

Policy PU-3-b: Reduction Strategies. Develop community risk reduction strategies that target high service demand areas, vulnerable populations (e.g., young children, older adults, non-English speaking residents, persons with disabilities, etc.) and high life hazards occupancies.

Policy PU-3-d: Review All Development Applications. Continue Fire Department review of all development applications, provide comments, and recommend conditions of approval that will ensure adequate on-site and off-site fire protection systems and features are provided.

Policy PU-3-e: Building Codes. Adopt and enforce amendments to construction and fire codes, as determined appropriate, to systematically reduce the level of risk to life and property from fire, commensurate with the City's fire suppression capabilities.

Policy PU-3-f: Adequate Infrastructure. Continue to pursue the provision of adequate water supplies, hydrants, and appropriate property access to allow for adequate fire suppression throughout the City.

Policy PU-3-g: Cost Recovery. Continue to evaluate appropriate codes, policies, and methods to generate fees or other sources of revenue to offset the ongoing personnel and maintenance costs of providing fire prevention and response services.

The City's EOP does not designate evacuation routes, and the proposed project would not conflict with the EOP. Additionally, since the Planning Area does not contain any lands within the SRA or

lands classified as VHFHSZ within the LRA, impacts would be less than significant. Further, the continued implementation of the above objectives and policies from the approved General Plan would ensure potential impacts from wildfire remain less than significant. Therefore, the proposed project would not substantially impair an adopted emergency response plan or emergency evacuation plan, and no mitigation is required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.18.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

WF-2 Due to slope, prevailing winds, and other factors, the proposed project would not exacerbate wildfire risks, and thereby would not expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or changes to the distribution or types of land uses that would result in impacts related to wildfire. However, impacts associated with the continued implementation of the approved General Plan are identified below.

According to CAL FIRE's Fire and Resource Assessment Program, the Planning Area does not contain any lands within the SRA or lands classified as VHFHSZ within the LRA.

The continued implementation of the approved General Plan and updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or changes in the distribution or types of land uses, and as such, would not exacerbate wildfire risks. According to the Noise and Safety Element, the city's high temperatures and sunlight during summer months combined with low rainfall could create the an environment prone to wildfires by drying and pre-heating combustible material, which would encourage the spontaneous combustion of such material. The city's estimated maximum wind speed is 70 miles per hour (mph), which could exacerbate wildfire risks. However, given that the Planning Area is largely urbanized and paved, wildfire threats in the city are minimal. Further, rural agricultural lands located outside of the Fresno city limits and within the Planning Area lack steep topographies and, therefore, risk of the uncontrolled spread of wildfire is limited.

As discussed in Impact Discussion WF-1, some areas along the San Joaquin River Bluff area at the northern boundary of the Planning Area are classified as Moderate Fire Hazard Severity Zones within

the LRA.[1] This area is designated as multi-use in the approved General Plan. Thus, continued implementation of the General Plan adjacent to the San Joaquin River Bluff would be subject to dangers from wildfires. However, the continued implementation of the approved General Plan Objectives PU-2 and PU-3; and Policies PU-2-a through PU-2-e, PU-3-a, PU-3-b, and PU-3-d through PU-3-g would ensure potential impacts from wildfire remain less than significant.

The proposed project would not result in any physical improvements or changes in the distribution or types of land uses, and as such, would not exacerbate wildfire risks due to slope, prevailing winds, and other factors. Additionally, since the Planning Area does not contain any lands within the SRA or lands classified as VHFHSZ within the LRA, impacts would be less than significant. Further, the continued implementation of the above objectives and policies from the approved General Plan would ensure potential impacts from wildfire would remain less than significant. Therefore, impacts associated with the exacerbation of wildfire risks, including exposure of project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire, would be less than significant. No mitigation would be required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.18.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

WF-3 ***The proposed project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.***

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or changes in the distribution or types of land uses that would result in impacts related to wildfire. However, impacts associated with the continued implementation of the approved General Plan are identified below.

According to CAL FIRE's Fire and Resource Assessment Program, the Planning Area does not contain any lands within the SRA or lands classified as VHFHSZ within the LRA.

The continued implementation of the approved General Plan and updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or changes in the distribution or types of land uses, and as such, would not require the installation or maintenance of associated

[1] CAL FIRE. 2007. Draft Fire Hazard Severity Zones, Fresno County in LRA. Website: osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps (accessed February 7, 2020). October.

infrastructure that may exacerbate fire risk. However, the continued implementation of the approved General Plan would allow future development that may require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk. Therefore, future discretionary projects facilitated by the proposed project will be evaluated for project-specific wildfire impacts at the time they are proposed.

As discussed in Impact Discussion WF-1, some areas along the San Joaquin River Bluff area at the northern boundary of the Planning Area are classified as Moderate Fire Hazard Severity Zones within the LRA. This area is designated as multi-use in the approved General Plan. Thus, continued implementation of the General Plan adjacent to the San Joaquin River Bluff would be subject to dangers from wildfires. Continued implementation of approved General Plan Objectives PU-2 and PU-3; and Policies PU-2-a through PU-2-e, PU-3-a, PU-3-b, and PU-3-d through PU-3-g would ensure potential impacts from wildfire remain less than significant.

The proposed project does not require the installation or maintenance of associated infrastructure (including roads, fuel breaks, emergency water sources, power lines, or other utilities) that would exacerbate fire risk or that would result in impacts to the environment. Additionally, since the Planning Area does not contain any lands within the SRA or lands classified as VHFHSZ within the LRA, impacts would be less than significant. Further, the continued implementation of the above objectives and policies from the approved General Plan would ensure potential impacts from wildfire would remain less than significant. Therefore, impacts associated with the installation of infrastructure that would exacerbate fire risk are less than significant. No mitigation would be required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.18.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

WF-4 The proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or changes to the distribution or types of land uses that would result in impacts related to wildfire. However, impacts associated with the continued implementation of the approved General Plan are identified below.

According to CAL FIRE's Fire and Resource Assessment Program, the Planning Area does not contain any lands within the SRA or lands classified as VHFHSZ within the LRA.

The continued implementation of the approved General Plan and updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or changes in the distribution or types of land uses, and as such, would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. However, the continued implementation of the approved General Plan would allow future development that may expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, future discretionary projects facilitated by the proposed project will be evaluated for project-specific wildfire impacts at the time they are proposed.

As discussed in Impact Discussion WF-1, some areas along the San Joaquin River Bluff area at the northern boundary of the Planning Area are classified as Moderate Fire Hazard Severity Zones within the LRA. This area is designated as multi-use in the approved General Plan. Thus, continued implementation of the General Plan adjacent to the San Joaquin River Bluff would be subject to dangers from wildfires. Continued implementation of approved General Plan Objectives PU-2 and PU-3; and Policies PU-2-a through PU-2-e, PU-3-a, PU-3-b, and PU-3-d through PU-3-g would ensure potential impacts from wildfire would remain less than significant.

The proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes because no physical improvements are proposed. Additionally, since the Planning Area does not contain any lands within the SRA or lands classified as VHFHSZ within the LRA, impacts would be less than significant. Further, the continued implementation of the above objectives and policies from the approved General Plan would ensure potential impacts from wildfire remain less than significant. Therefore, impacts associated with the exposure of people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes are less than significant. No mitigation would be required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.18.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

4.18.7.2 Cumulative Impacts

WF-5 ***The proposed project, in combination with past, present, and reasonably foreseeable projects, would result in less than significant cumulative impacts with respect to wildfire.***

The study area for the analysis of cumulative wildfire impacts is the Planning Area and the portions of Fresno county located outside the Planning Area as well as portions of the city of Clovis and the county of Madera that are near the Planning Area and could contribute to wildfire risks.

The proposed project includes text changes to the Mobility and Transportation Element, updates to the Greenhouse Gas Reduction Plan, and continued implementation of the approved General Plan. Text changes to the Mobility and Transportation Element and the updates to the Greenhouse Gas Reduction Plan would not result in any physical improvements or changes to the distribution or types of land uses that would result in impacts related to wildfire. However, impacts associated with the continued implementation of the approved General Plan are identified below.

According to CAL FIRE's Fire and Resource Assessment Program, the Planning Area does not contain any lands within the SRA or lands classified as VHFHSZ within the LRA. The County of Fresno SRA lands closest to the Planning Area that are classified as VHFHSZ are located approximately 20 miles to the northeast near Pine Flat Lake; the County of Fresno LRA lands closest to the Planning Area that are classified as VHFHSZ are located approximately 30 miles to the south near the city of Huron. The County of Madera SRA lands closest to the Planning Area that are classified as VHFHSZ are located approximately 25 miles north near the community of Coarsegold; the County of Madera LRA does not contain any land classified as VHFHSZ. The city of Clovis, which is entirely in the LRA, does not contain any land classified as VHFHSZ.

Since the Planning Area and surrounding areas do not contain any lands classified as VHFHSZ, and because no potentially significant impacts related to wildfires have been identified, cumulative impacts would be less than significant. Further, as discussed in Impact Discussion WF-1, the continued implementation of the above objectives and policies from the approved General Plan would ensure potential impacts from wildfire remain less than significant. No mitigation would be required.

Applicable Laws, Regulations, Relevant Land Use Policies

- Refer to the approved General Plan policies and objectives identified in Section 4.18.5.3, Local Policies and Regulations, above.

Level of Significance Without Mitigation: Less Than Significant Impact.

5.0 CEQA-REQUIRED ASSESSMENT CONCLUSIONS

As required by CEQA, this chapter discusses the following types of impacts that could result from implementation of the proposed project: growth-inducing impacts; significant irreversible changes; effects found not to be significant; and significant unavoidable effects.

5.1 GROWTH INDUCEMENT

This section summarizes the proposed project's potential growth-inducing impacts on the surrounding community. A project is considered growth-inducing if it would directly or indirectly foster substantial economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Examples of projects likely to have significant growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or industrial parks in areas that are only sparsely developed or are underdeveloped. Typically, development projects on sites that are designated for development and surrounded by existing suburban uses are not considered adversely growth-inducing because growth in areas that already have development and infrastructure available to serve new development are generally considered environmentally beneficial.

Section 15126.2(e) of the CEQA Guidelines requires that an EIR evaluate the growth inducing impacts of a proposed action:

> Discuss the way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, discuss the characteristic of some projects, which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

There are two types of growth inducing impacts, direct and indirect. To assess the potential for growth inducing impacts, the project characteristics that may encourage and facilitate activities that may individually or cumulatively affect the environment must be evaluated. Growth-inducing impacts can occur when the development of a project imposes new burdens on a community by directly inducing population growth, or by leading to the construction of additional developments in the same area of the proposed project. Also included in this category are projects that would remove physical obstacles to population growth (such as a new road into an undeveloped area or a wastewater treatment plant with excess capacity that could allow additional new development in the service area). Construction of these types of infrastructure projects cannot be considered isolated from the development they facilitate and serve. Projects that physically remove obstacles to growth or projects that indirectly induce growth are those that may provide a catalyst for future

unrelated development in the area (such as a new residential community that requires additional commercial uses to support residents).

Based on the information provided in CEQA Section 15126.2(e) quoted above, two specific issues must be addressed when determining the growth-inducing impacts of a project:

- **Elimination of Obstacles to Population Growth.** The extent to which additional infrastructure capacity (such as extension of roads, sewer, water infrastructure etc.) or change in regulatory structure (such as a change in policies) will allow additional development; and

- **Economic Growth.** The extent to which a proposed project could result in increased activity in the local economy or the regional economy.

Each of the growth-inducing impacts above are discussed in more detail below.

5.1.1 Elimination of Obstacles to Population Growth

Eliminating physical or regulatory obstacles to growth can result in a growth-inducting impact because those obstacles are removed. An example of a physical obstacle to growth is the need for public service infrastructure (such as roadways, water mains, sewer lines etc.). Extending public service infrastructure into an area that lacks infrastructure would induce population growth because the infrastructure needed to serve the area would be available, and therefore, the area would then have the capacity to allow population growth. Also, the addition, deletion or alteration of a regulatory obstacle (such as a growth or development policy) could result in new growth because the regulatory obstacle would be altered such that new growth would subsequently not be hindered.

The policies of the approved General Plan provide for the expansion of transportation and utility infrastructure to accommodate new growth within the Planning Area in accordance with the approved General Plan. This new growth would accommodate approximately 921,000 people at buildout that is projected to be in the year 2056. The approved General Plan includes Policy LU-1-f, which states that the City's current Sphere of Influence boundary shall be maintained without expansion, except for uses associated with the future High Speed Rail (HSR) maintenance yard. This policy is intended to direct growth primarily to locations within the Planning Area.

In addition to population growth, the City would experience an increase in employment. As discussed in Section 4.14, Population and Housing, there are approximately 9,364 employees who resided in the Planning Area in 2015 who left the Planning Area for employment. In 2015, the resident employees to jobs ratio was 0.96. In the buildout year of 2056, approximately 11,747 employees are projected to reside in the Planning Area and leave the Planning Area for employment. In 2056, the resident employees to jobs ratio would be 0.97, which is closer to a balanced ratio of 1.0 employee who resides in the Planning Area to a job within the Planning Area. Therefore, growth in accordance with the approved General Plan would provide a beneficial effect on the resident employees to jobs ratio compared to the 2015 ratio. A greater balanced resident employee to jobs ratio would support the conclusion that the approved General Plan land uses would not induce growth outside of the Planning Area to accommodate residents or employment

within the Planning Area. Because the proposed project does not change the land uses or public service infrastructure of the approved General Plan, the proposed project would not induce growth outside of the Planning Area to accommodate residents or employment.

5.1.2 Promotion of Economic Growth

The promotion of economic growth is the extent to which a proposed project could cause increased activity in the local or regional economy. A "multiplier effect" is an economic phrase which pertains to the interrelationships between various sectors of the economy. The multiplier effect is a quantitative description and can be described as how an increase in some economic activity starts a chain reaction that generates more activity than the original increase. During the development of the approved General Plan, the City planned for residential development to accommodate the Fresno Council of Government's population projections and extend the projections to accommodate future residential development planned within the Planning Area. To account for the planned residential growth within the Planning Area, the City identified a variety of non-residential designated areas to support the future residents. The non-residential areas are designated for commercial and employment uses such as office and industrial, mixed use, public facilities, and open space. These non-residential uses are intended to accommodate the economic growth anticipated to occur through buildout of the approved General Plan in 2056. Therefore, because the proposed project does not change the land uses of the approved General Plan, the implementation of the project would not result in further economic development beyond the development anticipated from buildout of the approved General Plan.

5.2 SIGNIFICANT IRREVERSIBLE CHANGES

CEQA requires that EIRs assess whether the proposed project would result in significant irreversible changes to the physical environment. The CEQA Guidelines discuss three categories of significant irreversible changes that should be considered. Each is addressed below.

As mandated by the CEQA Guidelines, an EIR must address any significant irreversible environmental change that would result from project implementation. According to Section 15126.2(d) of the CEQA Guidelines, such a change would occur if one of the following scenarios is involved:

- The project would involve a large commitment of nonrenewable resources;
- Irreversible damage would result from environmental accidents associated with the project; or
- The proposed consumption of resources is not justified (e.g., the project would result in the wasteful use of energy).

The environmental effects of the proposed project are thoroughly discussed in Section 4.0, Evaluation of Environmental Impacts, and summarized in the Executive Summary. Implementation of the project would require the long-term commitment of natural resources and land, as discussed below.

Approval and implementation of actions related to future development in accordance with continued implementation of the approved General Plan would result in an irretrievable

commitment of nonrenewable resources such as energy and construction materials. As discussed in Section 4.6, Energy, the approved General Plan includes an objective and policies to reduce the consumption of non-renewable energy resources by adhering to the California Energy Code, establishing standards and regulations to achieve energy conservation targets, and providing incentives and financing programs to reduce energy use.

The consumption of nonrenewable or slowly renewable resources would result from the implementation of future projects developed in accordance with the approved General Plan, and therefore would also occur with the proposed project. These resources include, but are not limited to, lumber and other forest products, sand and gravel, asphalt and concrete, steel, copper, lead, water, electricity, natural gas, and oil.

5.3 SIGNIFICANT UNAVOIDABLE IMPACTS

The environmental effects of the proposed project, along with recommended mitigation measures, are discussed in detail in Section 4.0, Evaluation of Environmental Impacts, and summarized in the Executive Summary. The following environmental issues were determined to result in less-than-significant impacts, or can be reduced to less-than-significant levels with the incorporation of mitigation measures:

- Biological Resources (mitigation required)
- Cultural Resources and Tribal Cultural Resources (mitigation required)
- Energy
- Geology and Soils (mitigation required)
- Greenhouse Gas Emissions (mitigation required)
- Hazards and Hazardous Materials (mitigation required)
- Hydrology and Water Quality (mitigation required)
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services and Recreation (mitigation required)
- Wildfire

Section 15126.2(c) of the CEQA Guidelines requires that an EIR describe any significant impacts, including those that can be mitigated but not reduced to less than significant levels, as a result of implementation of the project. The following environmental issues were determined to result in potential significant and unavoidable impacts, even after implementation of feasible mitigation.

- Aesthetics –visual character and quality of public views.
- Agricultural Resources – loss of farmland and removal of Williamson Act Contract land.
- Air Quality – criteria pollutant emissions and toxic air contaminants pollutant concentrations.
- Noise – exceed noise standards and substantial permanent increases in noise levels.
- Transportation – potentially exceed thresholds of levels of service on roadways in conflict with approved General Plan.
- Utility and Service Systems – construction of water, wastewater, and electric, natural gas, and telecommunications facilities that could cause substantial environmental impacts.

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6.0 ALTERNATIVES TO THE PROPOSED PROJECT

6.1 INTRODUCTION

Section 15126.6(a) of the *California Environmental Quality Act (CEQA) Statue & Guidelines (State CEQA Guidelines)*, Section 15126.6) requires that an Environmental Impact Report (EIR) include a discussion of a reasonable range of project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives." CEQA does not require an EIR to consider every conceivable alternative to a project, but rather it must consider a range of feasible alternatives that would assist decision-makers and the public in evaluating the comparative merits of alternatives to a proposed project. Therefore, this chapter identifies potential alternatives to the proposed update and text amendments to the approved General Plan (the proposed project) and evaluates them as required by CEQA.

Key provisions of the *State CEQA Guidelines* on alternatives (Section 15126.6[b] through [f]) are summarized below to explain the foundation and legal requirements for the alternatives analysis in the EIR:

- The discussion of alternatives shall focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the Project Objectives or would be more costly (15126.6[b]).

- The specific alternative of "no project" shall also be evaluated along with its impact (15126.6[e][1]). The "no project" analysis shall discuss the existing conditions at the time the Notice of Preparation is published and at the time the environmental analysis is commenced, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (15126.6[e][2]).

- The range of alternatives required in an EIR is governed by the "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making. Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent) (15126.6[f]).

- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR (15126.6[f][2][A]).

- If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion and should include the reasons in the EIR. For example, in some cases there may be no feasible alternative locations for a geothermal plant or mining project, which must be in close proximity to natural resources at a given location (15126.6[f][2][B]).

- An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative (15126.6[f][3]).

6.2 SELECTION OF ALTERNATIVES

Section 21100 of the Public Resources Code and Section 15126.6 of the *State CEQA Guidelines* require an EIR to identify and discuss a No Project Alternative and a reasonable range of alternatives to the proposed project that would feasibly attain most of the basic objectives of the proposed project and that would avoid or substantially lessen any of the significant environmental impacts. Based on the criteria listed above in Section 6.1, and given the set of specific changes that the project is proposing for the approved General Plan, a reasonable range of alternatives is limited. As such, the No Project Alternative and the Net Zero Energy Consumption Alternative have been selected to avoid or substantially lessen the significant impacts of the proposed project. Therefore, the alternatives considered in this PEIR include the following:

- **Alternative 1: No Project Alternative.** This alternative would involve no text amendments to the policies of the Mobility and Transportation Element of the approved General Plan, including the addition of policy requiring the use of Vehicle Miles Travelled (VMT) as the criteria for evaluating transportation impacts. The alternative would also not include an update to the City's Greenhouse Gas Reduction Plan.

- **Alternative 2: Net Zero Energy Consumption Alternative**. This alternative assumes that all new development to occur under the approved General Plan would achieve net zero energy consumption in 2020.

6.3 PROPOSED PROJECT

6.3.1 Project Characteristics

As described earlier in Chapter 3.0, Project Description, the proposed project would update the text of the approved General Plan in order to reflect changes in applicable statutes and regulations related to Vehicle Miles Traveled (VMT), as well as include a current baseline for the continued implementation of the approved General Plan, and reflect changes in City planning documents since adoption of the approved General Plan in 2014. The project also includes an update to the City's Greenhouse Gas Reduction Plan. In doing so, the City is converting the previously-certified MEIR to a PEIR with the goal of extending the life of the environmental document for the General Plan, pursuant to *State CEQA Guidelines* Section 15179 (Limitations on the Use of Master EIRs). The Planning Area has not been changed since the MEIR was certified, nor is the City proposing to change it for this PEIR. Additionally, the City is not proposing any land use changes for this PEIR.

Since the approved General Plan was adopted and the MEIR was certified in 2014, several amendments to the approved General Plan have been adopted, and new local, state, and/or federal regulations have been enacted. Below is a list of the relevant plans and regulations that have already been approved or adopted and environmentally assessed and will be assumed in the PEIR in order to represent current conditions and plans of the City and the new baseline for the analysis in the PEIR.

6.3.2 Project Objectives

Each alternative is analyzed to determine whether it achieves the basic objectives of the proposed project. As stated in Chapter 3.0, Project Description, the City established specific objectives for the approved General Plan when it was adopted in 2014 which would serve to aid decision-makers in their review of the proposed project and its associated environmental impacts. Within the approved General Plan, these were referred to as Goals, but for the sake of clarity, the CEQA term of "objectives" will be used in this section. The following objectives were adopted for the approved General Plan in 2014, and are applicable to the proposed project:

1. Increase opportunity, economic development, business and job creation.

2. Support a successful and competitive Downtown.

3. Emphasize conservation, successful adaptation to climate and changing resource conditions, and performance effectiveness in the use of energy, water, land, buildings, natural resources, and fiscal resources required for the long-term sustainability of Fresno.

4. Emphasize achieving healthy air quality and reduced greenhouse gas emissions.

5. Support agriculture and food production as an integral industry.

6. Protect, preserve, and enhance natural, historic, and cultural resources.

7. Provide for a diversity of districts, neighborhoods, housing types (including affordable housing), residential densities, job opportunities, recreation, open space, and educational venues that appeal to a broad range of people throughout the city.

8. Develop Complete Neighborhoods and districts with an efficient and diverse mix of residential densities, building types, and affordability which are designed to be healthy, attractive, and centered by schools, parks, and public and commercial services to provide a sense of place and that provide as many services as possible within walking distance.

9. Promote a city of healthy communities and improve quality of life in established neighborhoods.

10. Emphasize increased land use intensity and mixed-use development at densities supportive of greater use of transit in Fresno.

11. Emphasize and plan for all modes of travel on local and Major Streets in Fresno.

12. Resolve existing public infrastructure and service deficiencies, make full use of existing infrastructure, and invest in improvements to increase competitiveness and promote economic growth.

13. Emphasize the City as a role model for good growth management planning, efficient processing and permit streamlining, effective urban development policies, environmental quality, and a strong economy. Work collaboratively with other jurisdictions and institutions to further these values throughout the region.

14. Provide a network of well-maintained parks, open spaces, athletic facilities, and walking and biking trails connecting the city's districts and neighborhoods to attract and retain a broad range of individuals, benefit the health of residents, and provide the level of public amenities required to encourage and support development of higher density urban living and transit use.

15. Improve Fresno's visual image and enhance its form and function through urban design strategies and effective maintenance.

16. Protect and improve public health and safety.

17. Recognize, respect, and plan for Fresno's cultural, social, and ethnic diversity, and foster an informed and engaged citizenry.

6.3.3 Significant Unavoidable Impacts of the Proposed Project

As described further in Chapter 1.0, Executive Summary, the proposed project would result in either no impacts or less than significant impacts related to energy, land use and planning, mineral resources, population and housing, and wildfire.

As described in Chapter 4.0, Evaluation of Environmental Impacts, the proposed project would result in less than significant impacts after implementation of mitigation, related to biological resources, cultural resources and tribal resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, and public services and recreation. The proposed project would result in significant unavoidable impacts related to aesthetics, agricultural resources, air quality, noise, transportation, and utility and service systems.

For the purpose of this analysis, it is assumed that all mitigation measures and regulatory compliance required for project implementation would apply to the project alternatives and similar reductions in impacts would be achieved through such mitigation. Therefore, the following discussion focuses on the ability of the alternatives to reduce project impacts and the potential impacts of the project alternatives related to these issues.

6.4 ALTERNATIVE 1: NO PROJECT ALTERNATIVE

6.4.1 Description

Under the No Project Alternative, development within the Planning Area would continue to be implemented in accordance with the approved General Plan; however, changes to the Mobility and Transportation Element and updates to the Greenhouse Gas Reduction Plan would not be implemented. The approved General Plan would not be updated to reflect conformance with SB 743, and no updates to the Greenhouse Gas Reduction Plan would occur. Despite the lack of an update under the No Project scenario, the distribution and location of projected growth would occur in a manner that is consistent with the City's approved General Plan and zoning documents, as no changes to the proposed land uses are proposed. Buildout of the approved General Plan would result in a population of approximately 921,000 people in 2056.

6.4.2 Environmental Analysis

Although the No Project alternative would not update the text of the approved General Plan to reflect new VMT statutes, or update to the City's Greenhouse Gas Reduction Plan, development as outlined in the approved General Plan and adopted Land Use Map would continue to occur. The significant and unavoidable effects associated with continued implementation of the approved General Plan (aesthetics, agricultural resources, air quality, noise, transportation, and utility and service systems) would continue to occur as build out of the approved General Plan continues. In addition, the effects that were found to be significant prior to mitigation (biological resources, cultural resources and tribal cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, and public services and recreation) would continue to occur as continued implementation of the approved General Plan occurs. Impacts that were found to be less than significant (land use and planning, mineral resources, population and housing, and wildfire) would continue to occur as continued implementation of the approved General Plan occurs. The proposed project does not change the land uses identified in the approved General Plan; therefore, impacts associated with the proposed project and the No Project Alternative would be similar as both would continue implementation of the Land Uses as currently allowed. However, the proposed project would result in significant and unavoidable impacts under six resource topic areas because the scale of future development is unknown. Both the proposed project with continued implementation of the approved General Plan, and this alternative, which also allows continued implementation of the approved General Plan, would result in similar impacts.

6.4.3 Overview of Potential Impact/Comparison to Proposed Project

Under the No Project Alternative, similar to the proposed project, development would continue as allowed under the approved General Plan because no changes to land use designations would occur. However, the No Project Alternative would not be consistent with State Law with respect to the evaluation of transportation impacts relative to VMT. In addition, the Greenhouse Gas Reduction Plan would not be updated to reflect the requirements of recent regulations. Overall, impacts resulting from the No Project Alternative would be similar to the proposed project, as significant unavoidable impacts related to aesthetics, agricultural resources, air quality, noise, transportation, and utility and service systems would continue to occur.

6.4.4 Project Objectives

The No Project Alternative would continue to implement the approved General Plan. The No Project Alternative would allow the City to continue striving to achieve the seventeen objectives identified in the approved General Plan, however within updating the Greenhouse Gas Reduction Plan, Objectives 3 and 4, would not be met at the same level as the proposed project. Although the population and employment projections, as described in Section 4.14, Population and Housing, have been reduced to reflect updated data that has been made available in the past five years, the No Project Alternative would not impede or preclude the City from achieving the objectives identified in the approved General Plan.

6.5 ALTERNATIVE 2: NET ZERO ENERGY CONSUMPTION ALTERNATIVE

6.5.1 Description

Under the Net Zero Energy Consumption Alternative, both residential and non-residential development would be required to achieve net zero energy consumption in 2020. The 2019 Title 24 standards require that all new residential development starting in 2020 consume net zero energy, and by 2030, all non-residential development would do the same. By achieving net zero energy consumption for non-residential development in 2020, the city would reduce overall GHG emissions. All other components of the approved General Plan would remain in effect and would continue to be implemented, including the updated text of the approved General Plan related to assessing transportation impacts relative to VMT.

6.5.2 Environmental Analysis

Under this alternative, impacts associated with greenhouse gas emissions would be reduced by requiring that development achieve a net zero energy consumption. Although the proposed project would not result in potentially significant impacts related to energy, this alternative would require less energy consumption than continued implementation of the approved General Plan because, new non-residential development would be required to achieve net zero energy consumption ten years before the required compliance year of 2030. The significant and unavoidable effects associated with the proposed project (aesthetics, agricultural resources, air quality, noise, transportation, and utility and service systems) would continue to occur with the implementation of this alternative. In addition, the effects that were found to be significant prior to mitigation under the proposed project (biological resources, cultural resources and tribal cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, and public services and recreation) would also occur. Impacts that were found to be less than significant under the proposed project (land use and planning, mineral resources, population and housing, and wildfire) would also remain less than significant.

6.5.3 Overview of Potential Impact/Comparison to Proposed Project

Under the Net Zero Energy Consumption Alternative, new development would continue as allowed under the approved General Plan, but new residential and non-residential development would both be required to achieve net zero energy consumption through new building practices. For residential development, those practices are already in place in 2020, but for new non-residential development, those practices will not be required until 2030. Therefore, non-residential development under

this alternative would need to achieve net zero energy consumption 10 years sooner. Although new development would occur using new development practices, the potential environmental impacts resulting from this alternative would be similar to the proposed project, aside from potential impacts related to energy and greenhouse gas emissions (as described above). As a result, potential impacts resulting from the Net Zero Energy Consumption Alternative would be less than the proposed project, potential impacts related to energy and greenhouse gases would be fewer.

6.5.4 Project Objectives

The Net Zero Energy Consumption Alternative would continue to implement the approved General Plan, and would not preclude the City from achieving any of the seventeen objectives identified in the approved General Plan because development would still occur consistent with the policies of the approved General Plan. However, new development would have to implement different building practices in order to achieve net zero energy consumption. These building practices, such as installation of high efficiency appliances and energy self-generation through solar power or other means, would not result in greater physical impacts than the proposed project because the means to make development projects more efficient is largely achieved through technological advancements in construction and operations changes.

6.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of an Environmentally Superior Alternative. *State CEQA Guidelines* Section 15126.6(e)(2) states that if the No Project Alternative is the Environmentally Superior Alternative, then the EIR shall also identify an Environmentally Superior Alternative among the other alternatives. Table 6-1 provides, in summary format, a comparison of the level of impacts for each alternative to the proposed project.

The Net Zero Energy Consumption Alternative has the least impact to the environment because it would result in few impacts related to energy and greenhouse gas emissions. In addition, the Net Zero Energy Consumption Alternative would meet all of the objectives to the same degree as the approved General Plan.

Table 6-1: Comparison of the Environmental Impacts of the Proposed Project and the Project Alternatives

Environmental Topic	Proposed Project Level of Impact After Mitigation	Alternative 1: No Project Alternative	Alternative 2: Net Zero Energy Consumption Alternative
Aesthetics	Significant and Unavoidable	Similar	Similar
Agriculture and Forestry Resources	Significant and Unavoidable	Similar	Similar
Air Quality	Significant and Unavoidable	Similar	Similar
Biological Resources	Less Than Significant	Similar	Similar
Cultural Resources and Tribal Cultural Resources	Less Than Significant	Similar	Similar
Energy	Less Than Significant	Similar	Fewer
Geology and Soils	Less Than Significant	Similar	Similar
Greenhouse Gas Emissions	Less Than Significant	Similar +	Fewer
Hazards and Hazardous Materials	Less Than Significant	Similar	Similar
Hydrology and Water Quality	Less Than Significant	Similar	Similar
Land Use and Planning	Less Than Significant	Similar	Similar
Mineral Resources	Less Than Significant	Similar	Similar
Noise	Significant and Unavoidable	Similar	Similar
Population and Housing	Less Than Significant	Similar	Similar
Public Services and Recreation	Less Than Significant	Similar	Similar
Transportation	Significant and Unavoidable	Similar	Similar
Utilities and Service Systems	Significant and Unavoidable	Similar	Similar
Wildfire	Less Than Significant	Similar	Similar
Attainment of Project Objectives	*Meets all of the Project Objectives*	*Meets all of the Project Objectives but to a lesser level*	*Meets all of the Project Objectives*

Source: LSA (February 2020).
Greater = Greater impacts than the proposed project
Fewer = Fewer impacts than the proposed project
Similar = Similar impacts as the proposed project
Similar - = Similar, although incrementally fewer impacts as compared to the proposed project
Similar + = Similar, although incrementally greater impacts as compared to the proposed project
VMT = vehicle miles traveled

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