PUBLIC REVIEW DRAFT

FRESNO GENERAL PLAN
RECIRCULATED PUBLIC REVIEW DRAFT
PROGRAM ENVIRONMENTAL IMPACT REPORT

STATE CLEARINGHOUSE NUMBER: 2019050005

LSA

March 2021

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STATE CLEARINGHOUSE NUMBER: 2019050005

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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
	building
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-35	State Route 35
SR-82	State Route 82
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	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 INTRODUCTION

The City of Fresno prepared and publicly circulated for review a Draft Program Environmental Impact Report (Draft PEIR) for the Fresno General Plan on March 6, 2020. The 45-day public comment period was scheduled to end on April 20, 2020. However, due to closures of public facilities in response to the Coronavirus disease 2019 (COVID-19), the City extended the public comment period to May 5, 2020, to allow public agencies and interested parties a total of 61 days to review and submit comments on the Draft PEIR.

Pursuant to the Guidelines for California Environmental Quality Act (CEQA Guidelines) Section 15088.5 (a), a lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the EIR for public review under Section 15087 but before certification of the EIR. New "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. As identified in Section 15088 (a) of the CEQA Guidelines, "Significant new information" requiring recirculation is defined to include disclosures of any of the following:

(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.

(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.

(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.

(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

The City has decided to revise portions of the Draft PEIR to address new information and comments received from the public on the Draft PEIR, as described below.

1.1 SUMMARY OF REVISIONS TO THE DRAFT PEIR

The following text provides a summary of the issues and revisions that are included in this Recirculated Draft PEIR.

1.1.1 Revisions to Draft PEIR Requiring Recirculation

The Draft PEIR was completed and circulated for public review before the City adopted Vehicle Miles Traveled (VMT) thresholds and guidelines. As such, consistent with sections 15064.3(c) and 15007 of

the CEQA Guidelines, no determination regarding VMT was made when the Draft PEIR was circulated for public review on March 6, 2020. In June 2020, following the close of the public comment period for the Draft PEIR on May 5, 2020, but before the PEIR was certified by the City, the City adopted VMT guidelines and thresholds to be effective on July 1, 2020. The thresholds and guidelines adopted by the City include standardized screening methods for VMT threshold compliance data, and VMT significance thresholds for development projects, transportation projects, and plans. In addition, the VMT guidelines also include feasible mitigation strategies applicable for development projects, transportation projects, and plans. The City has decided that the discussion and determination in the PEIR related to VMT impacts should be updated to account for the City's adopted VMT guidelines and thresholds. This change constitutes new significant information, thus triggering recirculation of the Draft PEIR. Section 4.16, Transportation, of the Draft PEIR has been revised accordingly.

1.1.2 Revisions to the Draft PEIR Not Requiring Recirculation

Additional revisions have been made to Chapter 3.0, Project Description, Section 4.3, Air Quality, and Section 4.8, Greenhouse Gas Emissions. Revisions to the chapter and sections, as shown in this Recirculated Draft PEIR, do not meet the requirements warranting recirculation of the Draft PEIR. However, the revisions were made to clarify the content and address comments raised during the public review of the Draft PEIR and to assure that public review opportunities are afforded.

Chapter 3.0, Project Description

- **Baseline of Analysis.** Consistent with the requirements of CEQA Guidelines Section 15125(a)(1), the baseline of the analysis in the Draft PEIR was identified as the date of issuance of the Notice of Preparation (NOP) on May 16, 2019. CEQA Guidelines Section 15125(a)(1) states that, "generally, the lead agency should describe physical environmental conditions 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 Project Description has been updated to state that the 2019 baseline presents the most accurate and understandable picture possible of expected impacts on current physical conditions of the General Plan as amended.

- **Master EIR versus Program EIR**. The Project Description has been updated to provide a comparison of a Master EIR and a Program EIR, and how tiering from the Program EIR will require additional CEQA analysis for future projects proposed under the approved General Plan.

Chapter 4.0, Evaluation of Environmental Impacts

Minor text revisions were made to this chapter in order to provide an introduction to Sections 4.3, 4.8, and 4.16.

Section 4.3, Air Quality

- **Coronavirus Disease 19 (COVID-19) Pandemic**. The Air Quality section of the Draft PEIR has been updated to address the COVID-19 pandemic. In March 2020, the Governor of the State of California declared a state of emergency relative to the Novel Coronavirus/COVID-19 pandemic. Subsequent orders from the State set forth new requirements for public noticing, as well as

public engagement with respect to documents prepared pursuant to the California Environmental Quality Act (CEQA). The City of Fresno has conducted noticing and circulation in compliance with CEQA Guidelines Section 15087 and Executive Order N-80-20. While COVID-19 is a highly communicable respiratory disease, the severity of which can vary for each infected person, its status as a pandemic is not expected to continue throughout the duration of the project. In addition, the potential risk of any future pandemics is not an environmental impact for CEQA purposes; instead, it is an impact of the environment on the Project, which is not required to be addressed in a CEQA analysis. The CEQA guidelines do not include any criteria or thresholds for evaluating communicable diseases, including COVID-19, and do not provide guidance or thresholds for evaluating the impact of criteria pollutants on susceptibility to communicable disease, beyond what is set forth in existing guidance. Moreover, the timing, nature, and scope of any future pandemics are unknown at this time. The extent to which residents of the plan area would be vulnerable to a future mass illness or pandemic would depend upon the nature of the illness and the primary means by which it spreads, both of which cannot be predicted at this time.

- **Community Emissions Reductions Program: Assembly Bill 617.** An expanded discussion regarding the applicability and implementation of the City's Community Emission Reduction Plan (CERP) has been included. The discussion includes a description of the contents of the CERP, including the technical analysis, implementation strategies, incentive funding measures, public engagement strategies, enforcement strategies, regulatory strategies, implementation schedule and metrics for tracking emission reductions.

Section 4.8, Greenhouse Gas Emissions

The Greenhouse Gas (GHG) Reduction Plan Update, included in Appendix G of this Recirculated Draft PEIR, has been updated to account for the City's adopted VMT guidelines and thresholds, the Fresno Council of Governments (COG) Electric Vehicle Readiness Plan,[1] and requirements related to implementation of GHG reduction measures. As such, changes to Section 4.8, Greenhouse Gas Emissions, have been made to reflect the changes to GHG Reduction Plan Update.

1.2 FORMAT FOR THE RECIRCULATED DRAFT PEIR

In accordance with CEQA Guidelines Section 15088.5 (c), if the revision is limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified. Therefore, this Recirculated Draft PEIR includes the following chapters, sections and appendices:

Chapter 1.0 Introduction

Chapter 2.0 Table 1-1, Executive Summary Matrix

Chapter 3.0 Project Description

Chapter 4.0 Evaluation of Environmental Impacts

[1] Fresno Council of Governments, Electric Vehicle Readiness Plan, January 2021.

Section 4.3	Air Quality
Section 4.8	Greenhouse Gas Emissions
Section 4.16	Transportation
Appendix C	Air Quality – CALEEMOD Output Files (No changes have been made to this appendix and it is included to facilitate public review of the Section 4.3, Air Quality)
Appendix G	Greenhouse Gas Reduction Plan Update
Appendix J	Traffic Impact Analysis (No changes have been made to this appendix and it is included to facilitate public review of the Section 4.16, Transportation)

With the exception of this introduction chapter, which is new text in its entirety, all chapters and sections of this Recirculated Draft PEIR indicate changes to the original Draft PEIR. For clarity, the text changes shown in the Response to Comments Document related to Chapter 3.0, Project Description, and Section 4.16, Transportation, have been incorporated into this Recirculated Draft PEIR, but those edits are not specifically identified. Only text edits made since the Response to Comments Document was published are shown in this Recirculated Draft PEIR.

As mentioned above, this Recirculated Draft PEIR shows text that has been changed. Text that has been modified and deleted is shown in ~~strikethrough~~ and new text is shown as double-underlined. This format is intended to provide clear identification of the changes since the circulation of the Draft PEIR and the Response to Comments Document and will simplify the reader's review of the revisions.

1.3 COMMENTING ON THE RECIRCULATED DRAFT PEIR

This Recirculated Draft PEIR will be circulated for public comment for a period of 45 days. Pursuant to CEQA guidelines Section 15088.5(f)(2), reviewers of this document are requested to limit their comments to the new material that has been included in the revised chapters or portions of the Recirculated Draft PEIR. The City of Fresno need only respond to 1) comments received during the initial circulation period for the Draft EIR that relate to chapters or portions of the document that were not revised and recirculated; and 2) comments received during the recirculation period that relate to the chapters or portions of the PEIR that were revised and recirculated. Therefore, agencies, organizations, and individuals who wish to comment on this document should limit their comments to the revised chapters or portions of this Recirculated Draft PEIR and the analysis contained herein.

2.0 EXECUTIVE SUMMARY

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 Recirculated Draft PEIR. Table 1-1 was included in the Draft PEIR pursuant to CEQA Guidelines Section 15123(b)(1). Table 1-1 includes all impacts identified in the Draft PEIR with applicable text revisions as included in this Recirculated Draft PEIR. In order to provide clear identification of the changes in text, text that has been eliminated is shown in ~~strikethrough~~ and new text is shown as double-underlined.

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Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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 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.	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
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.
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 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.	Significant and Unavoidable Impact.
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.

Table 1-1: Executive Summary Matrix

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

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		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.	
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), 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;	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
		• 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.	
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.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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 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	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
		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.	
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	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
		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.	
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 implemented in a ratio according to the size of the impacted wetland.	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
		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.
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,	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
		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.	
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 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	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
		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.	
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	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
		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.	
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.
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.
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.
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 wastewater 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 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	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
		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.	
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
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:** Prior to the City's approval of subsequent discretionary projects, the Director of the City Planning and Development Department, or designee, shall confirm that Ddevelopment projects ~~that require discretionary approval shall be~~are consistent with the Recirculated GHG Reduction Plan Update (2021~~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.

Table 1-1: Executive Summary Matrix

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

Table 1-1: Executive Summary Matrix

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

Table 1-1: Executive Summary Matrix

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

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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.
PUBLIC SERVICES AND RECREATION			
PSR-1: The proposed project would not 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.
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.

Table 1-1: Executive Summary Matrix

Potential Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
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~~and would be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)	Potentially Significant Impact~~Less than Significant Impact~~.	No feasible mitigation measures are available~~No mitigation is required~~.	Significant and unavoidable impact~~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.
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	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
		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.	
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	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.	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
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.		• 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.	
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, 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.	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
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.
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.

Table 1-1: Executive Summary Matrix

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

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.

Following the public review of the Draft PEIR in March 2020, and the publication of the Response to Comment Document in July 2020, the City decided to recirculate the Draft PEIR to provide clarifying text and to address the City's Guidelines for Vehicle Miles Traveled (VMT) Thresholds, which were adopted in June 2020, after circulation of the Draft PEIR.

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 ~~C~~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. SR 99 is designated in Caltrans' Interregional Transportation Strategic Plan as a High Emphasis Focus Route. A High Emphasis Focus Route is a high-volume, primary artery in which lower-volume and facility-standard State highway routes connect for purposes of longer interregional trips and access to statewide gateways. 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

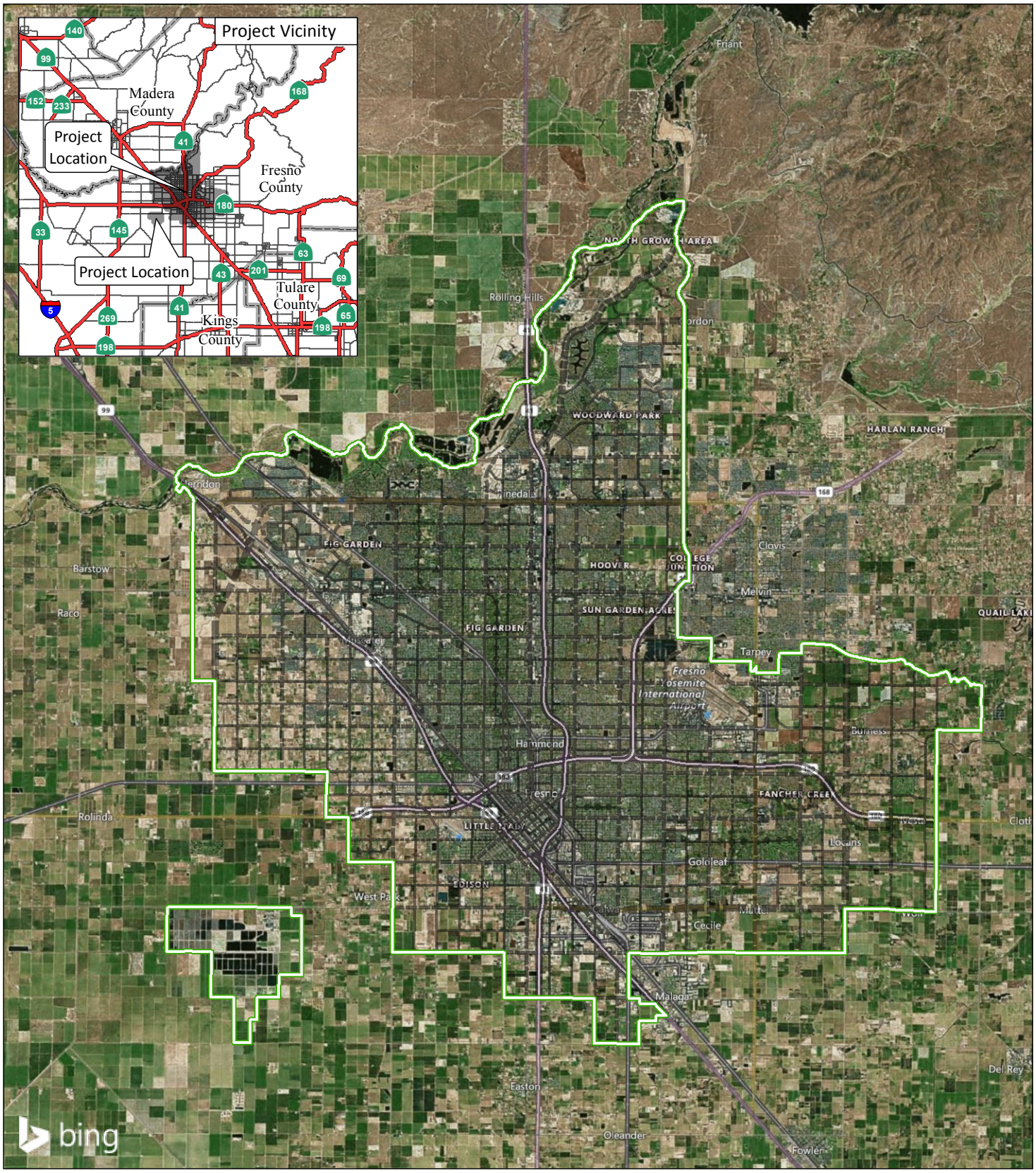
approximately 166 square miles of both incorporated (approximately 72,200 acres) and unincorporated (approximately 33,800 acres) land bearing relation to the City's future growth. The Planning Area is generally bounded by the San Joaquin River to the north, American Avenue to the south, Garfield Avenue 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.

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 3.2.2.

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



LSA

LEGEND

Planning Area

FIGURE 3-1

N

0 1.5 3

Miles

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

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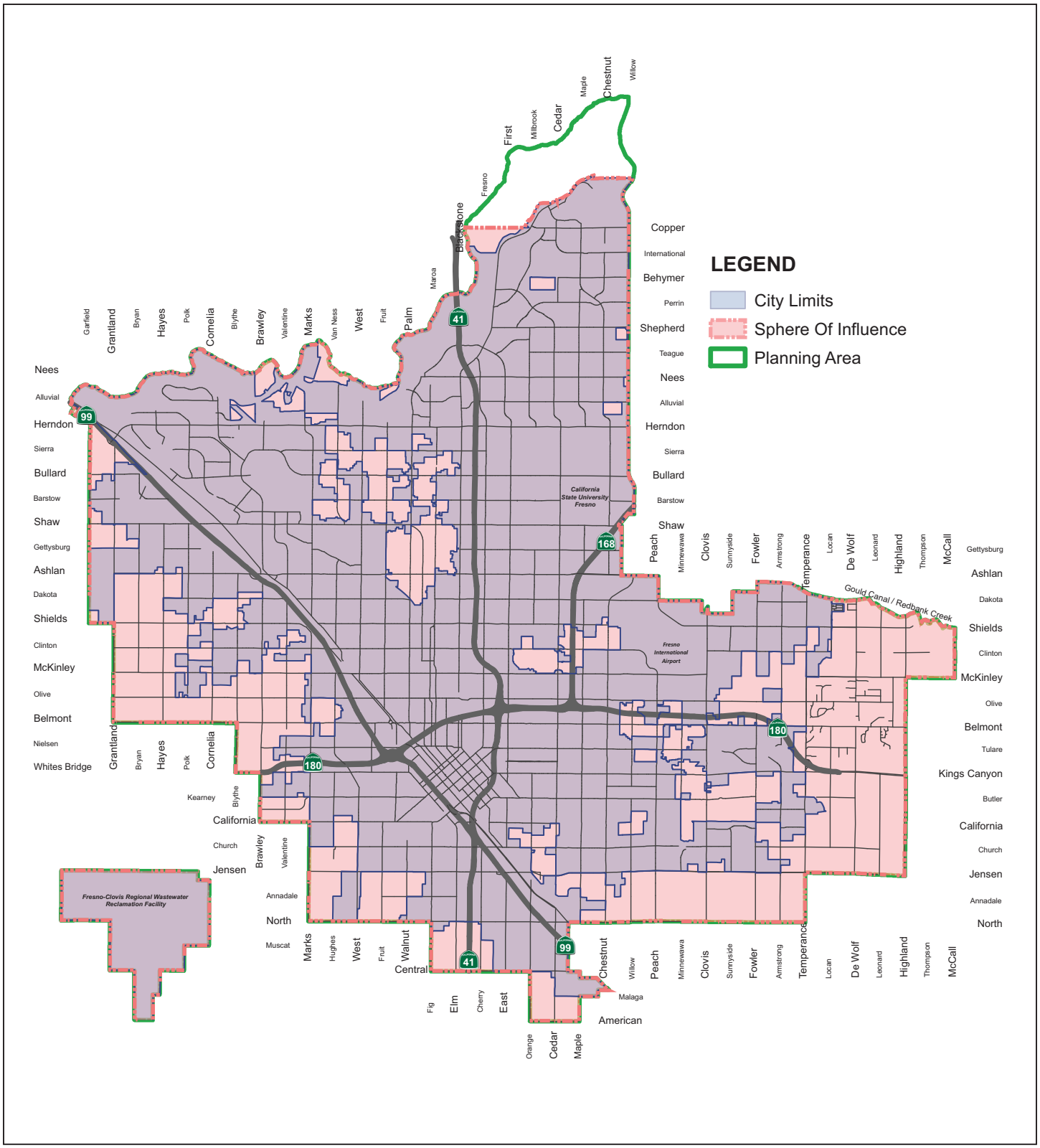
City of Fresno General Plan
Program Environmental Impact Report

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

- **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).

Use of a baseline consistent with the date of issuance of the Notice of Preparation for the Draft PEIR (i.e. 2019) is consistent with the requirements of CEQA Guidelines Section 15125(a)(1), which provides that "[g]enerally, the lead agency should describe physical environmental conditions 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."

This baseline presents the most accurate and understandable picture possible of expected impacts on current physical conditions of the General Plan as amended. It also accounts for changes in City planning documents and new local, state, and/or federal regulations that have taken effect since the MEIR was certified and the General Plan was adopted in 2014. Consistent with CEQA Guidelines Section 15125(a), the intent is "to give the public and decision makers the most accurate and understandable picture practically possible of the project's likely near-term and long-term impacts."

The City is not proposing any land use designation changes as part of the project, and the project will not result in any direct physical changes or new land uses. All previous changes to land use designations since the adoption of the General Plan in 2014 have already been evaluated under CEQA, as applicable, and those changes do not result in any new potential environmental impacts to be considered as part of this project.

Use of an alternative baseline would generally not lead to a comparably accurate picture of the expected impacts of the project. Baseline conditions other than 2019 would therefore not achieve CEQA's objective of informing the public and decision makers as to the potential impacts of the project compared with the baseline of the physical conditions at the time of publication of the Notice of Preparation. Therefore, if the PEIR used the same baseline as the MEIR, approximately five years of development in physical environmental conditions would not be accounted for and would not provide an accurate assessment of potential environmental effects that have occurred or would occur through continued implementation of the approved General Plan.

It should be noted that for the PEIR's greenhouse gas analysis, a baseline inventory year of 2016 was used because the City prepared an updated inventory in 2016 that accounted for regulations

adopted to that point in time. Therefore, the 2016 baseline provides the best available baseline for the GHG Reduction Plan Update because it can be compared directly with State progress to date and established targets. This year as the baseline inventory for greenhouse gas provides the most accurate and understandable picture of the environmental impacts of the project with respect to greenhouse gases.

As mentioned above, when the General Plan was adopted in 2014, the City utilized a MEIR to evaluate implementation of the General Plan. Because a MEIR is intended to streamline subsequent environmental reviews of projects by allowing for approvals of projects analyzed in the MEIR, the MEIR was used to addressed potential impacts that could occur at the project-level by including mitigation measures that would apply at the project level. The City used the MEIR as a basis to determine whether a project proposed under the approved General Plan was within the scope of the MEIR, pursuant to CEQA Guidelines Section 15177. If the City determined that a project was a subsequent project within the Scope of the MEIR, that project would be subject to only limited review to determine if the project would cause additional significant environmental effects on the environment beyond those analyzed in the MEIR. This process, referred to in the City as a Finding of Conformity, allowed for the incorporation of all feasible mitigation measures from the MEIR and did not require any additional environmental analysis beyond the analysis required by CEQA Guidelines Section 15177.

Although similar to a MEIR, a PEIR consistent with CEQA Guidelines Section 15168 serves as a first-tier environmental document that analyzes and documents the broad potential environmental impacts that could result from implementation of a plan with the understanding that a more detailed site-specific review may be required to assess future projects implemented under the program. A PEIR does not provide analysis of specific projects that can be used to complete a Finding of Conformity, but is intended to provide the City's decision makers with sufficient analysis to intelligently consider the environmental consequences of the General Plan. In addition, the process described by CEQA Guidelines Section 15177, and implemented by the City as Finding of Conformity, applies exclusively to MEIRs and cannot be used with a PEIR. The use of a PEIR allows for future plans and projects to rely on analysis included in the PEIR to tier from for subsequent analysis. This would allow for future plans and projects to utilize the baseline information included in the PEIR; however, because a Program EIR does not provide detailed analysis to address project-level impacts, in many cases subsequent analysis of future plans and project will require specific project-related analysis and mitigation.

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 3.2.2, 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 3.2.2, 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~~is 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 3.2.A 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 3.2.A: 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 impacts and 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-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. Caltrans has indicated that California's transportation system cannot meet the State's needs with just highways and supports guidelines meant to improve Caltrans' design of bicycle facilities. The guidelines were developed by the American Association of State Highway Transportation Officials and the National Association of City Transportation Officials. These guidelines promote a network of Class 1 bicycle facilities that connect major origins and destinations linked with a network of Class 2 facilities on all possible streets. A Class 1 bicycle facility is situated on a separate right-of-way or with some sort of physical barrier placed on the street between the bicycle and motor vehicle, while a Class 2 facility shares the travel way with motor vehicles separated by striping. These standards should be considered as transportation system developments so as not to preclude future design options.

Table 3.2.A: Text Changes to General Plan Policies related to Level of Service

Policy Number	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.*
~~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.~~

Source: City of Fresno General Plan (LSA 2020).

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.

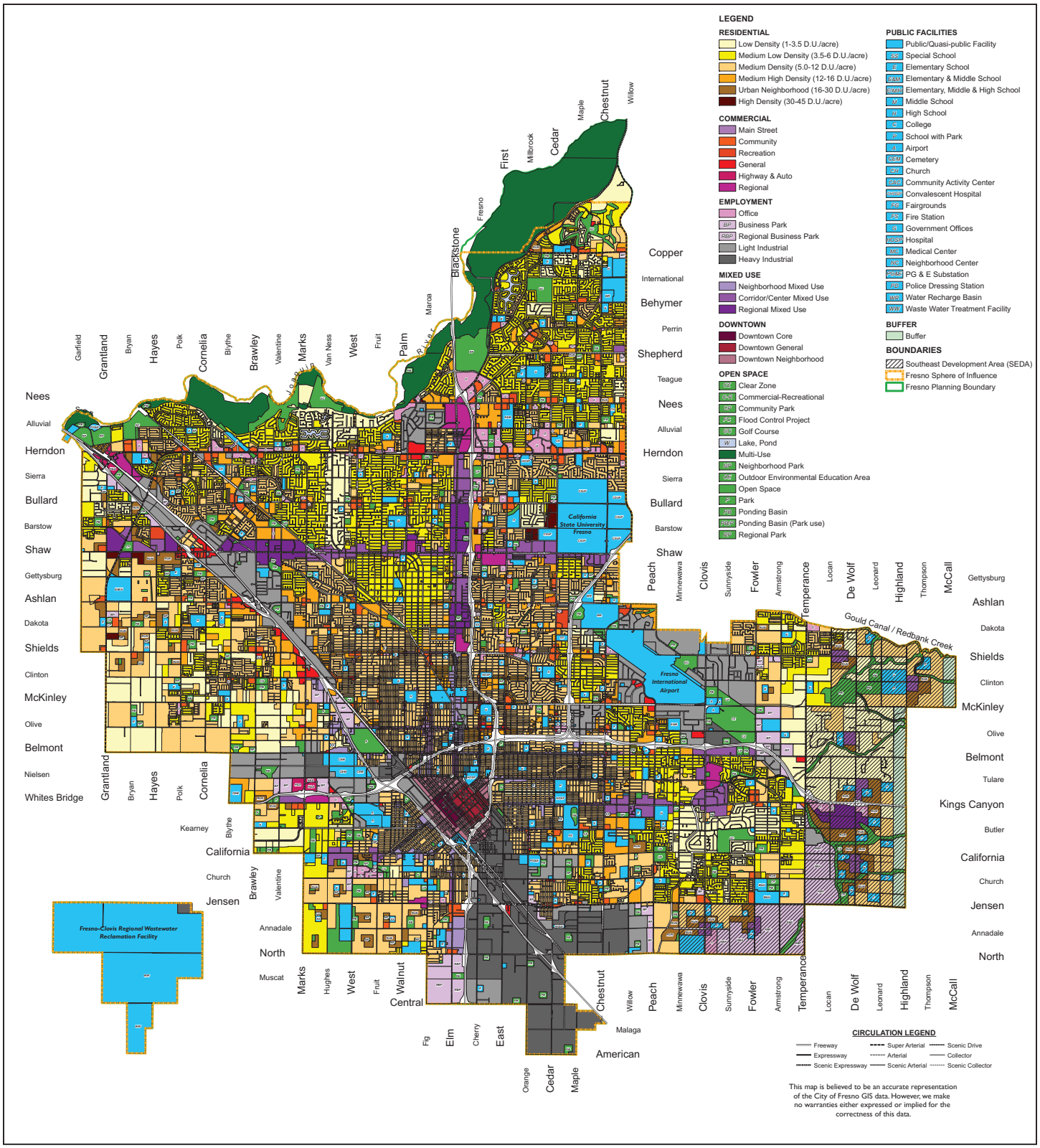

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FIGURE 3-3

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SOURCE: City of Fresno, Planning and Development Department

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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.B. The Planning Area encompasses the ~~c~~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.B: 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 3.2.C, 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 3.2.C: 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.

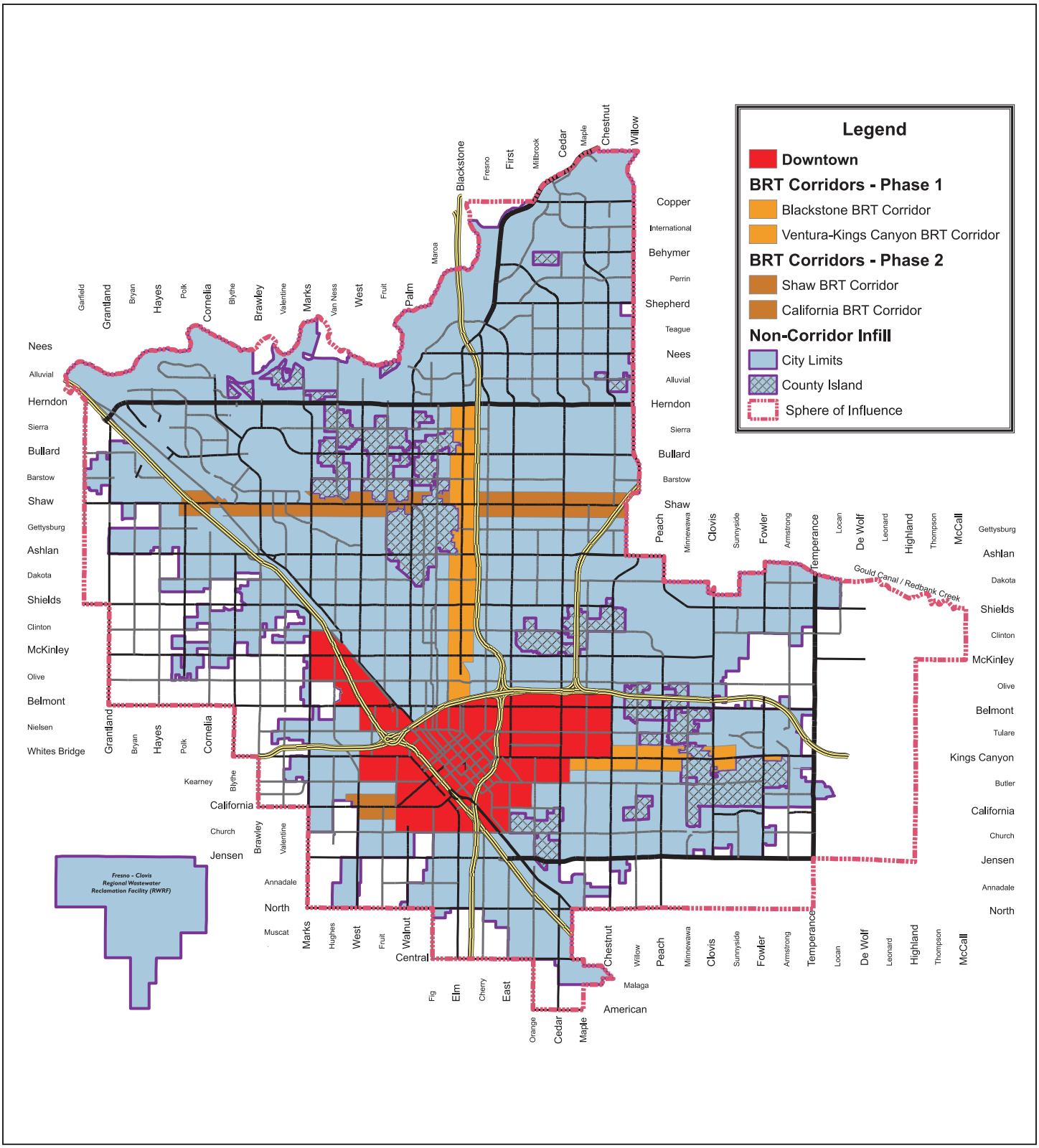

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FIGURE 3-4

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SOURCE: DARM; Infill/InfillAreas-MEIR

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City of Fresno General Plan
Program Environmental Impact Report

Infill Areas

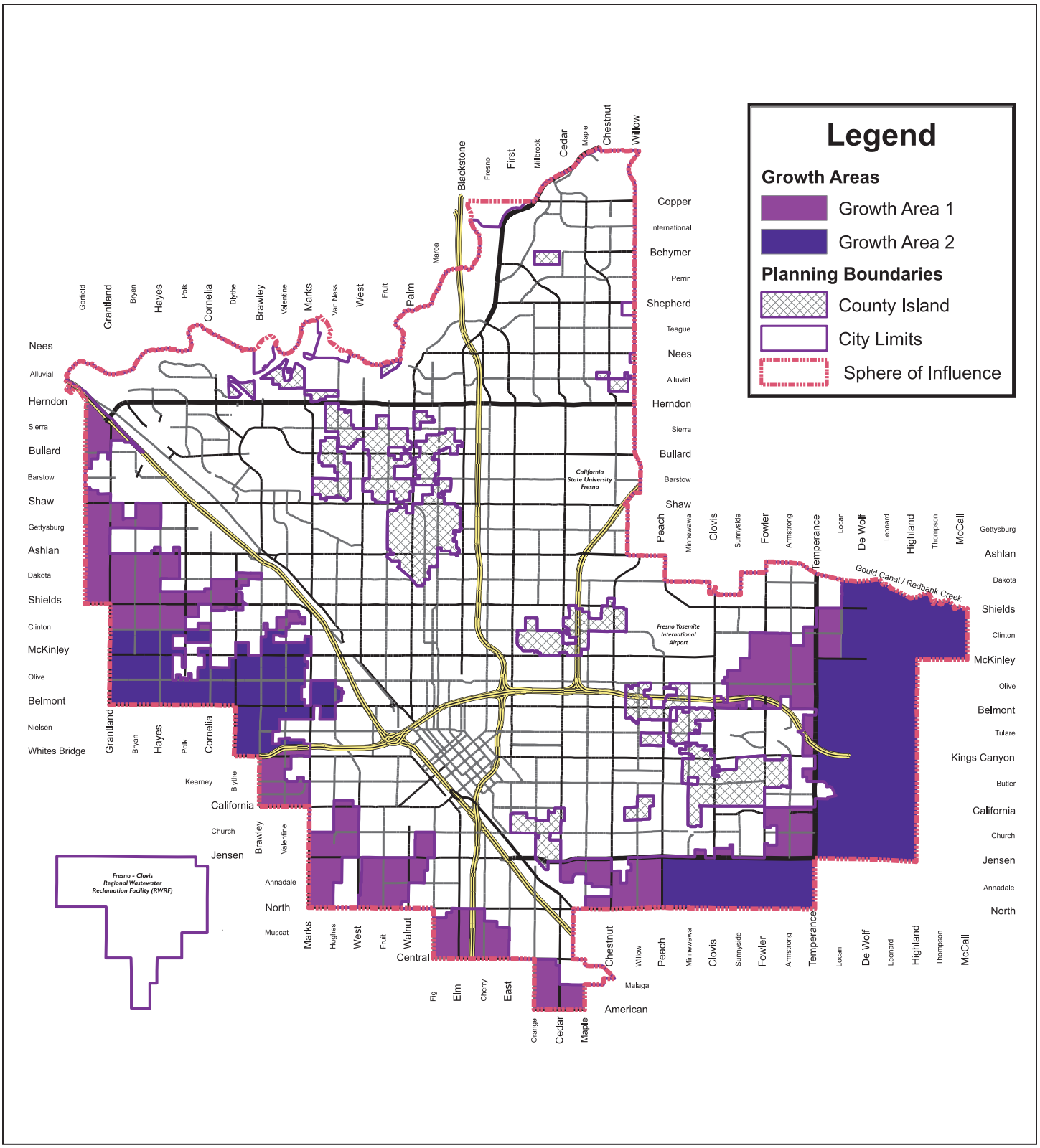

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FIGURE 3-5

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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.

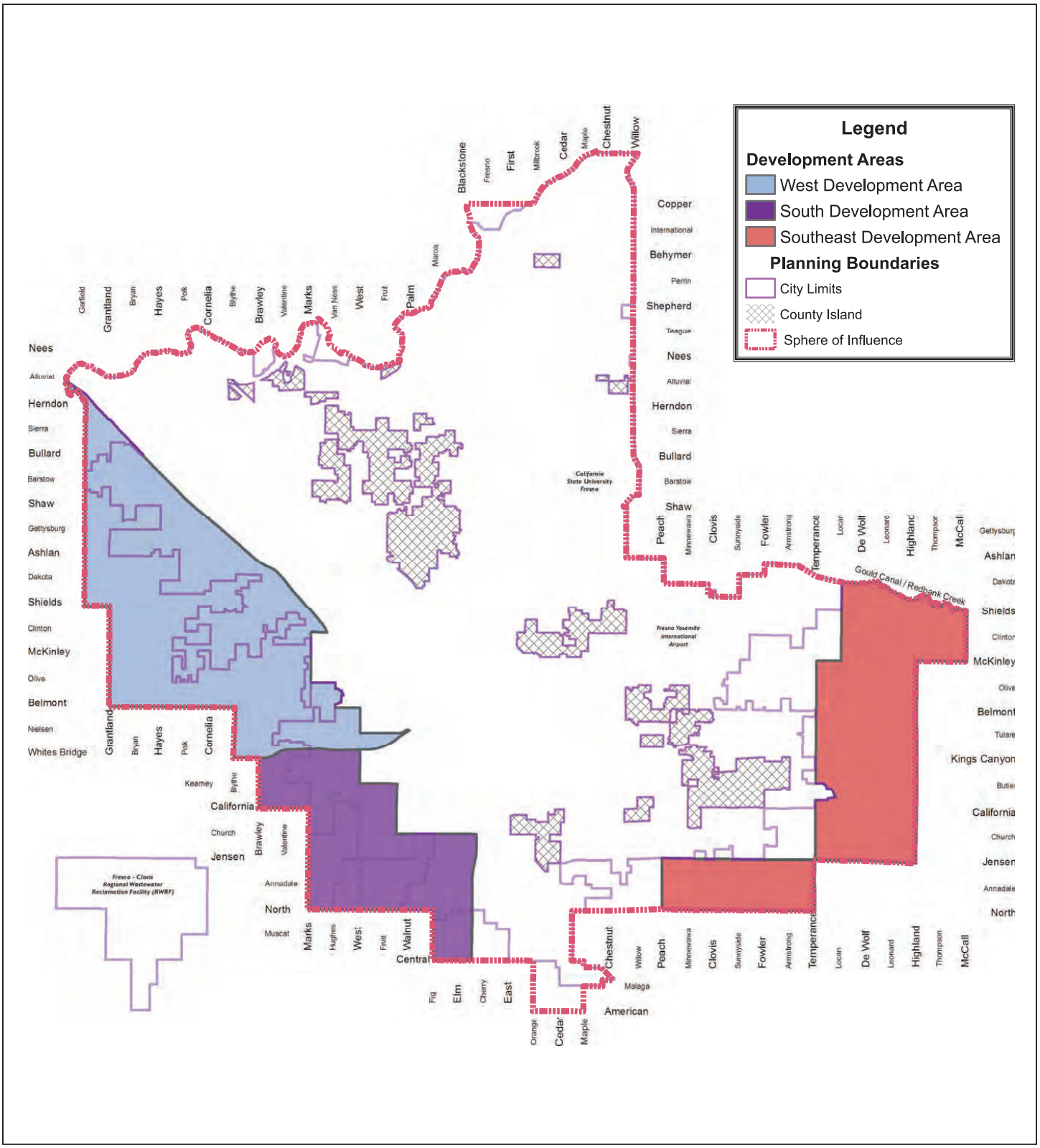
13. Emphasize the City as a role model for good growth management planning, efficient processing and permit streamlining, effective urban development policies, environmental quality, and a strong economy. Work collaboratively with other jurisdictions and institutions to further these values throughout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



LSA

FIGURE 3-6

SOURCE: DARM; Infill/DevelopmentAreas

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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 Vehicle Miles Traveled (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 (PEIR) 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~~PEIR 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~~PEIR 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~~PEIR must be further evaluated in light of the ~~Program EIR~~PEIR 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. The~~This~~ Draft EIR has been prepared as a ~~Program EIR~~PEIR 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~~PEIR is appropriate in evaluating project-related environmental impacts resulting from implementation of the proposed project.

~~4.2~~ ISSUES ADDRESSED IN THE DRAFT PEIR

Sections 4.1 through 4.18 of this chapter of the Draft PEIR describe the environmental setting of the project as evaluated in the Draft ~~Program EIR~~PEIR, 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
4.2 Agriculture and Forestry Resources
4.3 Air Quality
4.4 Biological Resources
4.5 Cultural Resources and Tribal Cultural Resources
4.6 Energy
4.7 Geology and Soils
4.8 Greenhouse Gas Emissions
4.9 Hazards and Hazardous Materials
4.10 Hydrology and Water Quality
4.11 Land Use and Planning
4.12 Mineral Resources
4.13 Noise
4.14 Population and Housing
4.15 Public Services and Recreation
4.16 Transportation
4.17 Utilities and Service Systems
4.18 Wildfire

The following sections of the Draft PEIR have been updated in this Recirculated Draft PEIR.

4.3 Air Quality
4.8 Greenhouse Gas Emissions
4.16 Transportation

~~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~~most of the environmental topical sections in this chapter includes a discussion of physical conditions in the Planning Area on or around May 16, 2019. As described in Chapter 3.0, Project Description, the PEIR uses a baseline inventory year of 2016 for the greenhouse gas analysis. This was done because the City prepared an updated inventory in 2016 that accounted for regulations adopted to that point in time. As a result, the 2016 baseline year provides the most accurate and understandable picture of the environmental impacts of the project for the greenhouse gas analysis.

~~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 in the Draft PEIR:

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 in the Draft PEIR 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.

Sections 4.3, 4.8, and 4.16 of the Draft PEIR have been modified and are the only Chapter 4.0 sections included in the Recirculated Draft PEIR. Text that has been modified and deleted is shown in ~~strikethrough~~ and new text is shown as double-underlined. This format is intended to provide clear identification of the changes since the circulation of the Draft PEIR and the Response to Comments Document and will simplify the reader's review of the revisions.

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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. This section has been recirculated to address the applicability of the Community Emission Reduction Plan (CERP) to implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and the updates to the Greenhouse Gas Reduction Plan.

In March 2020, the Governor of the State of California declared a state of emergency relative to the Novel Coronavirus/COVID-19 pandemic. Subsequent orders from the State set forth new requirements for public noticing, as well as public engagement with respect to documents prepared pursuant to the California Environmental Quality Act (CEQA). The City of Fresno has conducted noticing and circulation in compliance with CEQA Guidelines Section 15087 and Executive Order N-80-20. While COVID-19 is a highly communicable respiratory disease, the severity of which can vary for each infected person, its status as a pandemic is not expected to continue throughout the duration of the project. In addition, the potential risk of any future pandemics is not an environmental impact for CEQA purposes; instead, it is an impact of the environment on the Project, which is not required to be addressed in a CEQA analysis.[2] The CEQA guidelines do not include any criteria or thresholds for evaluating communicable diseases, including COVID-19, and do not provide guidance or thresholds for evaluating the impact of criteria pollutants on susceptibility to communicable disease, beyond what is set forth in existing guidance. Moreover, the timing, nature, and scope of any future pandemics are unknown at this time. The extent to which residents of the plan area would be vulnerable to a future mass illness or pandemic would depend upon the nature of the illness and the primary means by which it spreads, both of which cannot be predicted at this time.

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

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).

2 California Bldg. Indus. Ass'n v Bay Area Air Quality Mgmt. Dist. (2015) 62 Cal. 4th 369; CEQA Guidelines § 15126.2(a).

(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").

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. Accordingly, use of a baseline consistent with the date of issuance of the Notice of Preparation (NOP) in 2019, as required by CEQA Guidelines Section 15125, presents the most accurate and understandable picture possible of the project's expected impacts on current physical conditions of the General Plan as amended.

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.

4.3.3 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[3] and the accompanying Technical Document[4].

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.

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3 Ibid.

4 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).

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.

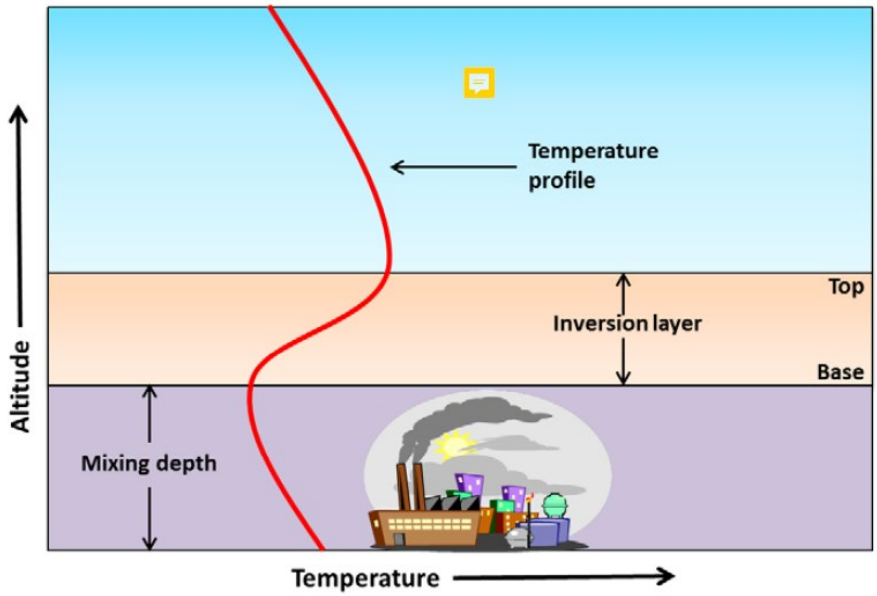
During the summer months, high temperatures, atmospheric stagnation, and temperature inversions create an environment conducive for the formation of elevated ozone levels. The Valley averages over 260 sunny days per year. Nearly 90 percent of the annual precipitation in the Valley falls between the months 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.[5]

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 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

[5] 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).

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.[6]

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.D for more information regarding the characteristics and health effects of these pollutants.

The data in Table 4.3.A 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.B. 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.B, 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.D for more information regarding the characteristics and health effects of these pollutants.

[6] 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.A: 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.A: 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/m³	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/m³	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/m³)	Clovis	8	10	13	14
			Drummond	13	17	17	19
			First Street	51	65	97	101
	days	Days > 24 Hour National Standard (150 µg/m³)	Clovis	0	0	0	0
			Drummond	0	0	0	0
			First Street	0	0	1	0
Fine Particulate Matter ($PM_{2.5}$)	µg/m³	Annual Average	Clovis	14.9	12.5	136	15.6
			First Street	14.5	13.6	14.8	16.6
	µg/m³	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/m³)	Clovis	14	8	19	26
			First Street	20	16	31	36

Source: CARB and USEPA (2019).
> = exceed
ppm = parts per million
µg/m³ = 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.B: 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.C.

Table 4.3.C: 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.[7]

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.D and Table 4.3.E.

[7] 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.D: 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.E: 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/m³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM10)[i]	24-Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		–		
Fine Particulate Matter (PM2.5)[i]	24-Hour	-		35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m³)	–	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m³)		–	–	
Nitrogen Dioxide (NO2)[j]	Annual Arithmetic Mean	0.03 ppm (57 µg/m³)	Gas Phase Chemi-luminescence	53 ppb (100 µg/m³)	Same as Primary Standard	Gas Phase Chemi-luminescence
	1-Hour	0.18 ppm (339 µg/m³)		100 ppb (188 µg/m³)	-	
Lead (Pb)[l,m]	30-Day Average	1.5 µg/m³	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m³ (for certain areas)[l]	Same as Primary Standard	
	Rolling 3-Month Average[i]	–		0.15 µg/m³		
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/m³)	
	1-Hour	0.25 ppm (655 µg/m³)		75 ppb (196 µg/m³)[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/m³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[j]	24-Hour	0.01 ppm (26 µg/m³)	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
g/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.[8] 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.

[8] 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.[9] 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,[10] 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.

9 Ibid.
10 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, off-road vehicles and engines, off-road recreational vehicles, off road diesel engines and equipment, off-road 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.[11] 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).[12]

[11] 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).

[12] 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.[13]

[13] Ibid.

Air Quality Land Use Handbook. The CARB has developed an Air Quality and Land Use Handbook[14] 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.F.

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

Table 4.3.F: 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 $PM_{2.5}$ ~~s~~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.G.

Table 4.3.G: 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.

South Central Fresno is geographically bounded by McKinley Avenue to the north, Chestnut Avenue to the east, American Avenue to the south, and includes the community of Malaga and its surrounding industrial area to the southeast. The western portion of the boundary ranges from Nielsen and Brawley Avenues in the northwest to State Route (SR) 41 and American Avenue in the southwest, which incorporates residential and industrial communities along SR-99 and west of SR-41 such as the Industrial Triangle and parts of West Fresno. The South Central Fresno community also includes downtown Fresno, Chinatown, Roeding Park, and encompasses multiple hospitals, schools, small businesses, and densely populated residential areas. The total population in this South Central Fresno community is estimated to be around 130,000.

The southwest portion of Fresno includes a number of industrial sources of emissions and includes SR-180 and SR-41, and their interchange. As such, the sources that affect South Central Fresno include freight operations, industry, and freeways.

Fresno's CERP was adopted by CARB and is now in the implementation phase. The CERP includes a technical analysis describing the sources of pollution impacting the community, as well as the location of sensitive receptors within the community. Sources of pollution that are of particular concern to South Central Fresno are identified, and possible strategies for reducing pollution impacts from these sources are evaluated. The strategies that were ultimately selected for implementation in the community are outlined in the CERP, including incentive funding measures, public engagement strategies, enforcement strategies, regulatory strategies, and strategies that will be completed in partnership with other agencies and local organizations. In addition, the CERP includes an implementation schedule and metrics for tracking emission reductions in annual reporting and at the 5-year milestone.

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 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 plans, including SJVACPD attainment plans and the South Central Fresno CERP.

SJVAPCD Attainment Plans. 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.

As discussed in Section 4.3.5.3, the SJVAPCD is responsible for formulating and implementing the 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; and 2004 Revision to the California State Implementation Plan for Carbon Monoxide. In order to determine the approved General Plan's consistency with these AQMPs, this ~~the~~ assessment uses~~d~~ 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.

For a project to be consistent with the attainment plans, the pollutants emitted from project operation should not exceed the SJVAPCD daily threshold or cause a significant impact on air quality, or the project must already have been included in the attainment plans projection. 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 SJVAPCD air quality attainment plans and would result in a less than significant impact. No mitigation would be required.

South Central Fresno CERP. As described above, South Central Fresno is geographically bounded by McKinley Avenue to the north, Chestnut Avenue to the east, American Avenue to the south, and Nielsen Avenue, Brawley Avenue, SR-41, and American Avenue to the west. The sources that affect South Central Fresno include freight operations, industry, and freeways.

Fresno's CERP was adopted by CARB on September 19, 2019, and is now in the implementation phase. The CERP includes a technical analysis describing the sources of pollution impacting the community, as well as the location of sensitive receptors within the community. Sources of pollution that are of particular concern to South Central Fresno are highlighted, and possible strategies for reducing pollution impacts from these sources are evaluated. The strategies that were ultimately selected for implementation in the community are outlined in the CERP, including incentive funding measures, public engagement strategies, enforcement strategies, regulatory strategies, and strategies that will be completed in partnership with other agencies and local organizations. In addition, the CERP includes an implementation schedule and metrics for tracking emission reductions in annual reporting and at the five-year milestone.

The CERP is designed to focus on reducing individual criteria air pollutant and TAC emissions in South Central Fresno and identifies strategies to reduce the cumulative exposure burden in South Central Fresno. The CERP strategies relate to heavy duty trucks, high polluting and idling cars, residential wood burning, land use/industrial development, illegal burning, and industrial processes. The approved General Plan's consistency with these measures is discussed below.

> ***Heavy Duty Mobile Sources Measures.*** The heavy duty mobile source measures include the following incentive programs: provide enhanced incentive funding for zero and near-zero emission technology; deployment of zero emission yard trucks and truck refrigeration units (TRUs); measures to reduce idling: charging plugs for trucks; support planning and development of clean fueling infrastructure: alternative fuel fueling station; enhance outreach and access to incentive funding for new school buses; incentives for locomotives; incentives for railcar movers/switchers. All of these measures are the responsibility of the SJVAPCD and CARB to implement and the 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 conflict with these incentive programs and measures.
>
> ***Older/High Polluting Passenger Cars Measures.*** The older/high polluting passenger cars measures include incentives intended to increase the deployment of electric vehicles through the replacement of gas-powered vehicles currently in use; providing additional charging infrastructure throughout the community; providing for electric vehicle maintenance training to increase available repair facilities and job skills in the community; and repairing high polluting

passenger vehicles. 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. The City is launching an EV charging pilot program, designed to assist the State with their goals to increase the number of EVs in California and improve the air quality in our communities. The 87 Level 2 EV Chargers locations are currently being installed and almost ready for use throughout the city. The majority of the costs to purchase and install the chargers are covered by grants and incentives from the SJVAPCD, and the California Electric Vehicle Implementation Program (CAL-EVIP). The grants and incentives obtained by the City were also targeted for disadvantaged communities. A significant number of the EV Chargers will be installed in areas that are currently underserved with EV infrastructure. The EV Chargers will be available for both public use and for City vehicles to allow for optimal usage. The 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 conflict with these incentives and measures.

Residential Burning Measures. The SJVAPCD is committed to reducing emissions from residential burning. Building upon the SJVACPD's wood burning reduction strategy, the residential burning measures in the CERP provide enhanced incentives to replace wood burning devices, increased efforts to educate public about harmful impacts of wood smoke, enhanced enforcement of wood burning curtailments, focused outreach to reduce illegal activity, and enhanced enforcement to reduce illegal burning of residential waste. All of these measures are the responsibility of the SJVAPCD and CARB to implement and the 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 conflict with these measures.

Agricultural Operations Measures. Due to the proximity of the South Central Fresno community to areas that are currently used for agricultural operations, but that are zoned for future industrial development under the approved General Plan, members of the South Central Fresno Steering Committee expressed concerns about the impacts of emissions from removing orchards and vineyards and disposing of the resulting agricultural biomass. To address these concerns and help to reduce agricultural burning in the area, the agricultural operations measures include an incentive program for deploying on-field alternatives to the open burning of agricultural materials, such as chipping/soil incorporation. This measure would be the responsibility of the SJVAPCD and CARB to implement and the 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 conflict with this measure.

Industrial Source Measures. Industrial source measures include incentives, with regulatory requirements, to plating operations to further reduce chrome emissions, enhanced stationary source inspection frequency, pilot training program for conducting self-inspections at gas stations, explore potential incentives to install advanced control technology to achieve emission reductions beyond regulatory requirements (BACT and BARCT), and the following regulatory actions: evaluation of BARCT requirements for rules that apply to cap-and-trade facilities; evaluation of rules to determine whether additional reductions are possible for sources of NO_x and $PM_{2.5}$; and expedited facility risk assessment and risk reduction under district

implementation of the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588). All of these measures are the responsibility of the SJVAPCD and CARB to implement and the 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 conflict with these incentives and measures.

Emissions Exposure and Land Use Measures. Measures to reduce land use and urban sources and exposure reduction include incentives to install solar panels, incentives to reduce PM from commercial underfired charbroilers, incentives for replacement of residential lawn and garden equipment, enhanced outreach and access to incentive funding for commercial lawn and garden equipment, enhanced outreach and access to incentive funding for public fleet vehicles, incentive programs to install advanced air filtration systems in community schools, reducing children's exposure through increased enrollment in the Healthy Air Living Schools program, incentive programs for weatherization and energy efficiency, automobile idle-reduction outreach, and community outreach to increase community awareness and knowledge of air quality. All of these measures are the responsibility of the SJVAPCD to implement and the 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 conflict with these measures.

Additional emissions exposure and land use measures include supporting projects that reduce VMT, providing assistance during the CEQA process, providing education and outreach on available tools for public information regarding land use projects, collaborating to enhance community participation in land use processes, enhanced enforcement of SJVAPCD Regulation VIII (Fugitive Dust Prohibitions), street sweeping, road paving improvements, increased urban greening and forestry to improve air quality, and installation of vegetative barriers around/near sources of concern. The 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 be consistent with these measures as the 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. As a result, transportation energy demand in the Planning Area would be reduced. Continued implementation of the approved General Plan, text changes to the Mobility and Transportation Element, and the updates to the Greenhouse Gas Reduction 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 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. Further, individual projects to be developed under the approved General Plan would be required to undergo CEQA review and

would be subject to District Rules and Regulations, including Regulation VIII (Fugitive Dust Prohibitions).

Summary. As discussed above, although most of the measures are the responsibility of the SJVAPCD and CARB to implement, the proposed project would generally implement the applicable measures outlined in the CERP, including emissions exposure and land use measures. Therefore, 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 conflict with or hinder implementation of the CERP.

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 ~~C~~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.H for ROG, NO_x, PM_{10}, and $PM_{2.5}$.

As shown in Table 4.3.H, 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.H: 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. I: 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.H.

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 ~~c~~City of Fresno Planning Area are shown in Table 4.3.J.

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.J: 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 µg/$m^3$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 µg/m^3 for the applicable emissions.

The total emissions inventory for Fresno County is shown in Table 4.3.B. As shown in Table 4.3.I 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)[15], 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).

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 SJVAPCD 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.

[15] 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).

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 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.[16] Children who live near major roadways and freeways have been found to have higher asthma rates and reduced lung function.[17] 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.[18] 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.[19]

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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16 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.

17 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).

18 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.

19 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.

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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 and Recirculated Greenhouse Gas Reduction Plan Update. This section has been recirculated to make it consistent with the Recirculated Greenhouse Gas Reduction Plan Update (2021), included as Appendix G to this PEIR.

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").

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. Accordingly, most of the PEIR uses a baseline consistent with the date of issuance of the Notice of Preparation (NOP) in 2019, as required by CEQA Guidelines Section 15125. However, it should be noted that for the PEIR's greenhouse gas analysis, a baseline inventory year of 2016 was used because the City prepared an updated inventory in 2016 that accounted for regulations adopted to that point in time. Therefore, the 2016 baseline provides the best available baseline for the GHG Reduction Plan Update because it can be compared directly with State progress to date and established targets. This year as the baseline inventory for greenhouse gas provides the most accurate and understandable picture of the environmental impacts of the project with respect to greenhouse gases.

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. The baseline for the analysis of greenhouse gas emissions and the updates to the Greenhouse Gas Reduction Plan Update does not change.

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:

- 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

[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.

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.

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]

[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).
[3] Ibid.
[4] Ibid.

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 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.A.

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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.

7 U.S. Environmental Protection Agency. 2017. *Black Carbon*. September. Website: 19january2017 snapshot.epa.gov/www3/airquality/blackcarbon/basic.html (accessed February 2020).

Table 4.8.A: 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. 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.

[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.

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 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.

[10] California Department of Water Resources (DWR). 2008. Managing an Uncertain Future: Climate Change Adaptation Strategies for California Water.

[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*.

- 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 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 201~~7~~8, the United States emitted about ~~6,457~~6,676 million metric tons of CO_2e. The percentage of emissions for the United States is ~~12.2~~13.4 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~~425.3 million metric tons of CO_2e (million metric tons CO_2e) emissions in ~~2017~~8.

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.B shows the baseline inventory.

Table 4.8.B: 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.B, 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.

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

[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).

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. 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.

[14] California Air Resources Board (CARB). 2011. *LEV III Staff Report and Initial Statement of Reasons*. December 7.

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. In December of 2018, OPR released guidelines on evaluating traffic impacts in CEQA. The new guidelines replace the previous LOS metric with a VMT metric for determining a significant environmental impact under CEQA as they relate to traffic.

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. Fresno COG's 2018 RTP/SCS was approved by all reviewing Federal and State authorities, including the CARB. In the spring of 2018, CARB adopted new GHG targets for all the 18 MPOs in the State based on the 2017 Scoping Plan and other new data. CARB established a 13 percent GHG reduction target for 2035 for the Fresno region's 2018 RTP/SCS. The State of California recognizes Fresno County's contribution to the aggregate 15 percent Statewide GHG emission reduction is 13 percent. 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.

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.

[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).

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 ~~c~~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

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.

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

13. Assist local land-use agencies with California Environmental Quality Act (CEQA) issues relative to projects with GHG emissions increases.

14. Assist Valley businesses in complying with mandates of AB 32 (Global Warming Solutions Act of 2006).

15. 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.

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.

CEQA Guidelines for Vehicle Miles Traveled Thresholds. In June 2020, the City adopted VMT thresholds and guidelines to address the shift from delay-based LOS CEQA traffic analyses to VMT CEQA traffic analyses, as required by SB 743. The City's document serves as a detailed guideline for preparing VMT analyses consistent with SB 743 requirements for development projects, transportation projects, and plans. Project applicants will be required to follow the guidance provided in this document for preparation of CEQA VMT analysis. The document includes the following:

- Definition of region for VMT analysis;
- Standardized screening methods for VMT threshold compliance data;

- Recommendations for appropriate VMT significance thresholds for development projects, transportation projects, and plans; and

- Feasible mitigation strategies applicable for development projects, transportation projects, and plans.

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~~ GHG emissions 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 Recirculated GHG Reduction Plan Update (2021~~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[19], 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 corresponds 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

[19] A 2020 emissions inventory has not been conducted for the City of Fresno, therefore projects were used for 2020 based on the 2016 inventory and growth data.

2050 Growth Projections developed by Fresno Council of Governments.[20] The BAU inventory for each forecast year is provided in Table 4.8.C.

Table 4.8.C: 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.[21] Only the measures that have been adopted or put into practice are included in this assessment. The following regulations are included:

[20] 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.

[21] 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.[22] 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

[22] 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.[23] 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.[24]

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.[25]

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

[23] 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).

[24] 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).

[25] 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.D.

Table 4.8.D: 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.E 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.E: 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.F, 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.F).

Table 4.8.F: 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.G.

Table 4.8.G: 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 6 percent by 2020 and 13 percent by 2035 (CARB 2018). The City's VMT threshold of a 13 percent reduction in VMT per capita is consistent with SB 743 and corresponds to CARB's 13 percent by 2035 CO_2e reduction target. The key strategies envisioned to achieve these CO_2e reduction targets~~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 and SB 743 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.[26] The SJVAPCD Rule 9410 – Employer Trip Reduction would provide a~~t~~ 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.

To comply with the VMT threshold that the City adopted for SB 743 implementation, the City would implement other TDM strategies outlined in the City's General Plan policies that will contribute to VMT reduction and will be applicable to both new commercial and residential development projects. The approved General Plan includes several

[26] Transportation Demand Management (TDM) is defined by Caltrans as: policies, programs and actions directed toward decreasing use of single occupant vehicles and shifting travel from peak periods.

policies to reduce VMT such as Policy MT-4a: Active Transportation Plan, Policy MT-4b: Bikeway Improvements, Policy MT-5a: Sidewalk Development. These policies and other policies along with the revisions to the approved General Plan will facilitate the adoption of VMT policies to reduce VMT citywide. The City General Plan objectives and policies that contribute to VMT reduction through implementation of TDM strategies are outlined in Table 2-1 of Appendix A to the GHG Reduction Plan Update.

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[27], 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. The City is launching an EV charging pilot program, designed to assist the State with its goals to increase the number of EVs in California and improve the air quality in our communities. 87 Level 2 EV Chargers locations are currently being installed and almost ready for use throughout the city (see Figure 5-2 of the GHG Reduction Plan Update, included as Appendix G). The majority of the costs to purchase and install the chargers are covered by grants and incentives from the San Joaquin Valley Air Pollution Control District (SJVACD), and the California Electric Vehicle Implementation Program (CAL-EVIP). The grants and incentives obtained by the City were also targeted for disadvantaged communities. A significant number of the EV Chargers will be installed in areas that are currently underserved with EV infrastructure. The EV Chargers will be available for both public use and for City vehicles to allow for optimal usage.

Implementation Support for Zero Emission Buses. To implement the State of California's Innovative Clean Transit regulation[28] of 100 percent zero emission buses by 2040,[29] FAX

[27] 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).

[28] 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

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.

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

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.

29 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).

in the ~~c~~City's water service area to 230 gallons per day per capita (25 percent below the current consumption rate) in 2035. The ~~c~~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.[30]

- **Water-Efficient Dishwashers.**Install Energy Star-certified units. Water savings: 5000 gallons per residential unit per year.[31]

- **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[32]. 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.[33] Cost: $800 for a high-efficiency washing machine.

30 Water Pressure Reducing Valves: Frequently Asked Questions: Website: www.watts.com/resources/references-tools/waterpressurereducingvalvesfaq (accessed February 19, 2020).

31 Energy Star Appliances: Dishwashers Vs. Handwashing Dishes Website: www.energystar.gov/products/appliances/dishwashers/dishwasher_hand_washing (accessed August 10, 2019).

32 Energy Efficient Toilets Comparison: Constellation Energy. Website: www.blog.constellation.com/2017/09/25/energy-efficient-toilets-comparison/ (accessed August 10, 2019).

33 Energy Star High Efficiency Clothes Washers. Website: www.energystar.gov/products/appliances/clothes_washers (accessed August 10, 2019).

- **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.[34] 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.

- **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

[34] Energy Star Point of Contact Heaters. Website: www.energystar.gov/products/water_heaters/point_use_pou_water_heaters (accessed August 10, 2019).

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.H summarizes the local reductions from the measures described above.

Table 4.8.H: 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
Transportation	Electric Vehicle Charging Stations	--	84,115	116,816
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~~ 313,053**	**~~279,375~~ 396,191**

Source: Compiled by LSA Associates, Inc. (~~2019~~2021).

Table 4.8.I 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~~1,626,272 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~~1,404,946 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.I: 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*	*313,053* ~~*228,938*~~	*396,191* ~~*297,375*~~
Total Adjusted Emissions	-	-	2,081,167	1,626,272 ~~1,710,386~~	1,404,946 ~~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~~2021).
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 Prior to the City's approval of subsequent discretionary projects, the Director of the City Planning and Development Department, or designee, shall confirm that ~~D~~development projects ~~that require discretionary approval shall be~~are consistent with the Recirculated GHG Reduction Plan Update (2021~~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.I, 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.I, 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 Recirculated GHG Reduction Plan Update (2021~~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.I, 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~~1,626,272 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~~1,404,946 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 With~~out~~ Mitigation: Less Than Significant Impact.

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~~the Draft P~~rogram~~ EIR, and this Recirculated Draft PEIR. 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 Travel~~l~~ed (VMT), and the Sustainable Groundwater Management Act (SGMA) (2014). The Project Description, as described in Chapter 3.0 of this Recirculated Draft 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").

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. Accordingly, use of a baseline consistent with the date of issuance of the Notice of Preparation (NOP) in 2019, as required by CEQA Guidelines Section 15125, presents the most accurate and understandable picture possible of the project's expected impacts on current physical conditions of the General Plan as amended.

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. The baseline for the analysis of potential transportation impacts and the TIA does not change from that of the Draft PEIR.

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 ~~C~~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, Temperance 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.

Local Streets. Local streets are generally two-lane undivided roadways that are used for the principal purpose of serving as access to abutting property. The posted speed limit of a Local Street is commonly 25 mph.

4.16.3.2 Study Area Roadways

The TIA, included as Appendix J of the~~is~~ Draft PEIR and this Recirculated Draft 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.A and shown in Figure 2.3 of the TIA.

Table 4.16.A: 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

Table 4.16.A: Level of Service Definitions

LOS	Description
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 ~~C~~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 ~~C~~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 ~~C~~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 ~~C~~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 ~~C~~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 ~~C~~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. Separate Bikeways (Class IV), also called ~~C~~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~~and the first Class IV project has been installed on R Street between Tulare Street and Ventura Street. Additional details on bicycle facilities in the ~~C~~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]

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.

[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).

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~~October 10, 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).

Guidelines for the Preparation of Traffic Impact Studies within the County of Fresno. Fresno County has established general procedures and requirements for the preparation of traffic impact studies associated with development within the County of Fresno. The guidelines help ensure that traffic impact studies evaluate the impact of proposed new development in a consistent manner, utilize assumptions consistent with the County's generally accepted methodologies and parameters and will be comparable to other traffic studies submitted to the County for review, provide a standard approach and will reduce confusion and delay in processing development applications, and assist staff in reviewing traffic studies and reduce revisions and resubmissions.

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).

City of Fresno Traffic Impact Study Report Guidelines. The City established general procedures and requirements for the preparation of traffic impact studies associated with development within the City of Fresno. The guidelines include, but are not limited to, discussion of study areas of traffic impact studies, the use of LOS as a metric for determining impacts, traffic analysis scenarios, traffic counts, and trip generation.

City of Fresno CEQA Guidelines for Vehicle Miles Traveled Thresholds. In June 2020, the City adopted VMT thresholds and guidelines to address the shift from delay-based LOS CEQA traffic analyses to VMT CEQA traffic analyses, as required by SB 743. The City's document serves as a detailed guideline for preparing VMT analyses consistent with SB 743 requirements for development projects, transportation projects, and plans. Project applicants will be required to follow the guidance provided in the City's document for preparation of CEQA VMT analysis. The document includes the following:

- Definition of region for VMT analysis
- Standardized screening methods for VMT threshold compliance data
- Recommendations for appropriate VMT significance thresholds for development projects, transportation projects, and plans
- Feasible mitigation strategies applicable for development projects, transportation projects, and plans
- For purposes of this analysis, the Fresno COG ABM[5] was used to develop screening maps. The Fresno COG ABM base year was updated from 2014 to 2019 based on consultation with Fresno COG staff. The appropriate use of the ABM for VMT calculations has been further elaborated in subsequent chapters of the VMT thresholds and guidelines document.

~~**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;~~

[5] LSA. 2020. Fresno County SB 743 Implementation Regional Guidelines. July .Available online at: www.fresnocog.org/wp-content/uploads/2017/06/Fresno-COGABM-Report.pdf

- 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 (of the approved General Plan), 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-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 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 impacts and 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.*

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.

Caltrans has indicated that California's transportation system cannot meet the State's needs with just highways and supports guidelines meant to improve Caltrans' design of bicycle facilities. The guidelines were developed by the American Association of State Highway Transportation Officials and the National Association of City Transportation Officials. These guidelines promote a network of Class I bicycle facilities that connect major origins and destinations linked with a network of Class II facilities on all possible streets. A Class I bicycle facility is situated on a separate right-of-way or with some sort of physical barrier placed on the street between the bicycle and motor vehicle, while a Class II facility shares the travel way with motor vehicles separated by striping. These standards should be considered as transportation system developments so as not to preclude future design options.

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~~proposed to be widened to a six-lane Super Arterial between Herndon Avenue and International Avenue.

- **Fowler Avenue:** This roadway segment is ~~going~~proposed 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~~proposed to be widened to a six-lane Super Arterial between Jensen Avenue and Shaw Avenue.

- **Shaw Avenue:** This roadway segment is ~~going~~proposed to be widened to a four-lane Arterial between Grantland Avenue and Polk Avenue.

- **Ashlan Avenue:** This roadway segment is ~~going~~proposed to be widened to a four-lane Arterial between Grantland Avenue and Cornelia Avenue.

- **McKinley Avenue:** This roadway segment is ~~going~~proposed to be widened to a four-lane Arterial between Polk Avenue and Hughes Avenue.

- **Jensen Avenue:** This roadway segment is ~~going~~proposed 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~~proposed 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 ~~C~~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 <u>of LOS standards identified in the General Plan, and therefore, continued implementation of the approved General Plan would result in conflicts to General Plan polices establishing</u>~~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~~<u>and would</u> 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~~ address their impacts through TDM measures such as car sharing, improved transit, ~~and~~ enhanced bicycle infrastructure, design modifications or mitigation fees, among other measures. Lead agencies are allowed to opt into 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 adopted VMT thresholds to be effective on July 1, 2020. With adopted VMT thresholds for the City, ~~the~~ project impacts would be evaluated to determine the significance and identify mitigation measures, similar to LOS methodology.

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 total daily VMT, daily VMT per capita, and VMT per employee for the entire County and the City for the existing (2019) and General Plan (2035) conditions. Table 4.16.B summarizes this VMT data.

Table 4.16.B: 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.B, 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 ~~C~~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~~would 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 impacts and 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.

In June 2020, the City adopted thresholds for which to evaluate potential VMT impacts related to proposed projects or continued implementation of the approved General Plan. Although ~~I~~implementation of Policy MT-2-m would allow the City to address potential VMT impacts for future projects as they are proposed, because per capita and per employee VMT increase with the City's implementation of the General Plan (2035) compared to existing (2019) conditions, a significant impact related to State CEQA Guidelines Section 15064.3 subdivision (b) would occur. ~~At the time this program EIR was prepared, consistent with CEQA Sections 15064.3(c) and 15007, no determination regarding VMT was made because the City did not have adopted thresholds and guidelines when the Draft PEIR was circulated for public comment. However, 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.

- City of Fresno CEQA Guidelines for Vehicle Miles Traveled Thresholds.

Level of Significance Without Mitigation: Significant and unavoidable. Continued implementation of the approved General Plan would result in an increase in VMT per capita and per employee. The City's Guidelines for VMT Thresholds includes a summary of the VMT mitigation measures and project alternatives that could be used to reduce VMT at a project-level. However, these efforts would take place through continued implementation of the approved General Plan and as discretionary projects are proposed. Therefore, because these future projects are unknown at this time, VMT impacts remain significant and unavoidable at a plan level~~Less Than Significant Impact. VMT Thresholds were not adopted prior to publication of this Draft PEIR. With the adoption of Policy MT-2-m, the City will use VMT as the criteria for transportation impacts as the approved General Plan is continued to be implemented. 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 ~~C~~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 established thresholds related to VMT in June 2020. Effective July 1, 2020, the City will have VMT thresholds, and future project impacts would be evaluated against established thresholds to determine the significance and identify mitigation measures, similar to LOS methodology. Because thresholds and methodologies for project impact evaluation were not established prior to distribution of this Draft PEIR, VMT is provided in this Draft PEIR for disclosure purposes only. However, within implementation of the City's VMT Guidelines, effective July 1, 2020, impacts related to VMT would be reduced through mitigation measures identified in the City's VMT Guidelines that include, but are not limited to, improving or increasing access to transit, implementing employer-based trip reduction programs, and increasing development density. With implementation of the City's VMT Guidelines and mitigation measures associated with VMT, the impacts related to VMT would be considered less than significant.

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.

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APPENDIX C

AIR QUALITY – CALEEMOD OUTPUT FILES

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Fresno General Plan Update - Residential

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	60.00	Dwelling Unit	19.48	108,000.00	172
Apartments Mid Rise	84.00	Dwelling Unit	2.21	84,000.00	240

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity based on 5-year average (PG&E 2015)

Land Use -

Fresno General Plan Update - Residential - Fresno County, Annual

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Residential_Exterior	129600	0
tblAreaCoating	Area_Residential_Interior	388800	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8
tblWoodstoves	NumberCatalytic	2.21	0.00
tblWoodstoves	NumberCatalytic	19.48	0.00
tblWoodstoves	NumberNoncatalytic	2.21	0.00
tblWoodstoves	NumberNoncatalytic	19.48	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2034	0.2339	1.3026	2.3488	5.7500e-003	0.3204	0.0290	0.3495	0.1336	0.0290	0.1626	0.0000	505.5348	505.5348	0.0209	0.0000	506.0580
2035	1.9343	0.7904	1.6704	3.7300e-003	0.0685	0.0102	0.0787	0.0184	0.0101	0.0286	0.0000	322.4864	322.4864	0.0126	0.0000	322.8002
Maximum	**1.9343**	**1.3026**	**2.3488**	**5.7500e-003**	**0.3204**	**0.0290**	**0.3495**	**0.1336**	**0.0290**	**0.1626**	**0.0000**	**505.5348**	**505.5348**	**0.0209**	**0.0000**	**506.0580**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2034	0.2339	1.3026	2.3488	5.7500e-003	0.3204	0.0290	0.3495	0.1336	0.0290	0.1626	0.0000	505.5343	505.5343	0.0209	0.0000	506.0575
2035	1.9343	0.7904	1.6704	3.7300e-003	0.0685	0.0102	0.0787	0.0184	0.0101	0.0286	0.0000	322.4861	322.4861	0.0126	0.0000	322.7999
Maximum	**1.9343**	**1.3026**	**2.3488**	**5.7500e-003**	**0.3204**	**0.0290**	**0.3495**	**0.1336**	**0.0290**	**0.1626**	**0.0000**	**505.5343**	**505.5343**	**0.0209**	**0.0000**	**506.0575**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Fresno General Plan Update - Residential - Fresno County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-2-2034	4-1-2034	0.4955	0.4955
2	4-2-2034	7-1-2034	0.3455	0.3455
3	7-2-2034	10-1-2034	0.3493	0.3493
4	10-2-2034	1-1-2035	0.3493	0.3493
5	1-2-2035	4-1-2035	0.3137	0.3137
6	4-2-2035	7-1-2035	0.3169	0.3169
7	7-2-2035	9-30-2035	0.4023	0.4023
		Highest	0.4955	0.4955

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7880	0.0662	1.0884	4.0000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	64.1284	64.1284	2.8600e-003	1.1400e-003	64.5407
Energy	0.0140	0.1194	0.0508	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003	0.0000	273.0242	273.0242	0.0145	4.9900e-003	274.8757
Mobile	0.2044	3.2497	1.9934	0.0174	1.2482	6.6300e-003	1.2548	0.3361	6.2300e-003	0.3424	0.0000	1,628.8168	1,628.8168	0.1200	0.0000	1,631.8170
Waste						0.0000	0.0000		0.0000	0.0000	20.4128	0.0000	20.4128	1.2064	0.0000	50.5718
Water						0.0000	0.0000		0.0000	0.0000	2.9765	10.6590	13.6355	0.3067	7.4100e-003	23.5111
Total	**1.0064**	**3.4352**	**3.1326**	**0.0186**	**1.2482**	**0.0266**	**1.2748**	**0.3361**	**0.0262**	**0.3623**	**23.3893**	**1,976.6284**	**2,000.0177**	**1.6504**	**0.0135**	**2,045.3163**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7880	0.0662	1.0884	4.0000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	64.1284	64.1284	2.8600e-003	1.1400e-003	64.5407
Energy	0.0140	0.1194	0.0508	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003	0.0000	273.0242	273.0242	0.0145	4.9900e-003	274.8757
Mobile	0.2044	3.2497	1.9934	0.0174	1.2482	6.6300e-003	1.2548	0.3361	6.2300e-003	0.3424	0.0000	1,628.8168	1,628.8168	0.1200	0.0000	1,631.8170
Waste						0.0000	0.0000		0.0000	0.0000	20.4128	0.0000	20.4128	1.2064	0.0000	50.5718
Water						0.0000	0.0000		0.0000	0.0000	2.9765	10.6590	13.6355	0.3067	7.4100e-003	23.5111
Total	**1.0064**	**3.4352**	**3.1326**	**0.0186**	**1.2482**	**0.0266**	**1.2748**	**0.3361**	**0.0262**	**0.3623**	**23.3893**	**1,976.6284**	**2,000.0177**	**1.6504**	**0.0135**	**2,045.3163**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Fresno General Plan Update - Residential - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/2/2034	1/27/2034	5	20	
2	Site Preparation	Site Preparation	1/28/2034	2/10/2034	5	10	
3	Grading	Grading	2/11/2034	3/31/2034	5	35	
4	Building Construction	Building Construction	4/1/2034	8/31/2035	5	370	
5	Paving	Paving	9/1/2035	9/28/2035	5	20	
6	Architectural Coating	Architectural Coating	9/29/2035	10/26/2035	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 87.5

Acres of Paving: 0

Residential Indoor: 388,800; Residential Outdoor: 129,600; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Fresno General Plan Update - Residential - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	82.00	15.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0208	0.0978	0.1892	4.6000e-004		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003	0.0000	39.7218	39.7218	1.6800e-003	0.0000	39.7637
Total	**0.0208**	**0.0978**	**0.1892**	**4.6000e-004**		**3.5100e-003**	**3.5100e-003**		**3.5100e-003**	**3.5100e-003**	**0.0000**	**39.7218**	**39.7218**	**1.6800e-003**	**0.0000**	**39.7637**

3.2 Demolition - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.1000e-004	1.4900e-003	1.0000e-005	1.2000e-003	0.0000	1.2000e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.6793	0.6793	1.0000e-005	0.0000	0.6795
Total	**2.3000e-004**	**1.1000e-004**	**1.4900e-003**	**1.0000e-005**	**1.2000e-003**	**0.0000**	**1.2000e-003**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**0.6793**	**0.6793**	**1.0000e-005**	**0.0000**	**0.6795**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0208	0.0978	0.1892	4.6000e-004		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003	0.0000	39.7218	39.7218	1.6800e-003	0.0000	39.7637
Total	**0.0208**	**0.0978**	**0.1892**	**4.6000e-004**		**3.5100e-003**	**3.5100e-003**		**3.5100e-003**	**3.5100e-003**	**0.0000**	**39.7218**	**39.7218**	**1.6800e-003**	**0.0000**	**39.7637**

3.2 Demolition - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.1000e-004	1.4900e-003	1.0000e-005	1.2000e-003	0.0000	1.2000e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.6793	0.6793	1.0000e-005	0.0000	0.6795
Total	**2.3000e-004**	**1.1000e-004**	**1.4900e-003**	**1.0000e-005**	**1.2000e-003**	**0.0000**	**1.2000e-003**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**0.6793**	**0.6793**	**1.0000e-005**	**0.0000**	**0.6795**

3.3 Site Preparation - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0122	0.0683	0.0815	2.3000e-004		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	20.0023	20.0023	9.9000e-004	0.0000	20.0270
Total	**0.0122**	**0.0683**	**0.0815**	**2.3000e-004**	**0.0903**	**2.1800e-003**	**0.0925**	**0.0497**	**2.1800e-003**	**0.0518**	**0.0000**	**20.0023**	**20.0023**	**9.9000e-004**	**0.0000**	**20.0270**

3.3 Site Preparation - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	7.0000e-005	8.9000e-004	0.0000	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.4076	0.4076	0.0000	0.0000	0.4077
Total	**1.4000e-004**	**7.0000e-005**	**8.9000e-004**	**0.0000**	**7.2000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.4076**	**0.4076**	**0.0000**	**0.0000**	**0.4077**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0122	0.0683	0.0815	2.3000e-004		2.1800e-003	2.1800e-003		2.1800e-003	2.1800e-003	0.0000	20.0023	20.0023	9.9000e-004	0.0000	20.0270
Total	**0.0122**	**0.0683**	**0.0815**	**2.3000e-004**	**0.0903**	**2.1800e-003**	**0.0925**	**0.0497**	**2.1800e-003**	**0.0518**	**0.0000**	**20.0023**	**20.0023**	**9.9000e-004**	**0.0000**	**20.0270**

3.3 Site Preparation - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	7.0000e-005	8.9000e-004	0.0000	7.2000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.4076	0.4076	0.0000	0.0000	0.4077
Total	**1.4000e-004**	**7.0000e-005**	**8.9000e-004**	**0.0000**	**7.2000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.4076**	**0.4076**	**0.0000**	**0.0000**	**0.4077**

3.4 Grading - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1518	0.0000	0.1518	0.0629	0.0000	0.0629	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0574	0.2423	0.4029	1.2200e-003		8.5400e-003	8.5400e-003		8.5400e-003	8.5400e-003	0.0000	114.5134	114.5134	4.6300e-003	0.0000	114.6291
Total	**0.0574**	**0.2423**	**0.4029**	**1.2200e-003**	**0.1518**	**8.5400e-003**	**0.1603**	**0.0629**	**8.5400e-003**	**0.0715**	**0.0000**	**114.5134**	**114.5134**	**4.6300e-003**	**0.0000**	**114.6291**

3.4 Grading - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	2.5000e-004	3.4700e-003	2.0000e-005	2.8000e-003	1.0000e-005	2.8100e-003	7.4000e-004	1.0000e-005	7.5000e-004	0.0000	1.5850	1.5850	2.0000e-005	0.0000	1.5854
Total	**5.5000e-004**	**2.5000e-004**	**3.4700e-003**	**2.0000e-005**	**2.8000e-003**	**1.0000e-005**	**2.8100e-003**	**7.4000e-004**	**1.0000e-005**	**7.5000e-004**	**0.0000**	**1.5850**	**1.5850**	**2.0000e-005**	**0.0000**	**1.5854**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1518	0.0000	0.1518	0.0629	0.0000	0.0629	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0574	0.2423	0.4029	1.2200e-003		8.5400e-003	8.5400e-003		8.5400e-003	8.5400e-003	0.0000	114.5133	114.5133	4.6300e-003	0.0000	114.6290
Total	**0.0574**	**0.2423**	**0.4029**	**1.2200e-003**	**0.1518**	**8.5400e-003**	**0.1603**	**0.0629**	**8.5400e-003**	**0.0715**	**0.0000**	**114.5133**	**114.5133**	**4.6300e-003**	**0.0000**	**114.6290**

3.4 Grading - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	2.5000e-004	3.4700e-003	2.0000e-005	2.8000e-003	1.0000e-005	2.8100e-003	7.4000e-004	1.0000e-005	7.5000e-004	0.0000	1.5850	1.5850	2.0000e-005	0.0000	1.5854
Total	**5.5000e-004**	**2.5000e-004**	**3.4700e-003**	**2.0000e-005**	**2.8000e-003**	**1.0000e-005**	**2.8100e-003**	**7.4000e-004**	**1.0000e-005**	**7.5000e-004**	**0.0000**	**1.5850**	**1.5850**	**2.0000e-005**	**0.0000**	**1.5854**

3.5 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1276	0.7736	1.5753	3.0200e-003		0.0144	0.0144		0.0144	0.0144	0.0000	256.2895	256.2895	0.0103	0.0000	256.5465
Total	**0.1276**	**0.7736**	**1.5753**	**3.0200e-003**		**0.0144**	**0.0144**		**0.0144**	**0.0144**	**0.0000**	**256.2895**	**256.2895**	**0.0103**	**0.0000**	**256.5465**

3.5 Building Construction - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4300e-003	0.1143	0.0148	3.8000e-004	9.6900e-003	1.0000e-004	9.8000e-003	2.8000e-003	1.0000e-004	2.9000e-003	0.0000	36.1295	36.1295	2.9500e-003	0.0000	36.2033
Worker	0.0125	5.8100e-003	0.0793	4.0000e-004	0.0639	2.1000e-004	0.0641	0.0170	1.9000e-004	0.0172	0.0000	36.2064	36.2064	3.8000e-004	0.0000	36.2159
Total	**0.0149**	**0.1201**	**0.0941**	**7.8000e-004**	**0.0736**	**3.1000e-004**	**0.0739**	**0.0198**	**2.9000e-004**	**0.0201**	**0.0000**	**72.3359**	**72.3359**	**3.3300e-003**	**0.0000**	**72.4191**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1276	0.7736	1.5753	3.0200e-003		0.0144	0.0144		0.0144	0.0144	0.0000	256.2892	256.2892	0.0103	0.0000	256.5462
Total	**0.1276**	**0.7736**	**1.5753**	**3.0200e-003**		**0.0144**	**0.0144**		**0.0144**	**0.0144**	**0.0000**	**256.2892**	**256.2892**	**0.0103**	**0.0000**	**256.5462**

3.5 Building Construction - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4300e-003	0.1143	0.0148	3.8000e-004	9.6900e-003	1.0000e-004	9.8000e-003	2.8000e-003	1.0000e-004	2.9000e-003	0.0000	36.1295	36.1295	2.9500e-003	0.0000	36.2033
Worker	0.0125	5.8100e-003	0.0793	4.0000e-004	0.0639	2.1000e-004	0.0641	0.0170	1.9000e-004	0.0172	0.0000	36.2064	36.2064	3.8000e-004	0.0000	36.2159
Total	**0.0149**	**0.1201**	**0.0941**	**7.8000e-004**	**0.0736**	**3.1000e-004**	**0.0739**	**0.0198**	**2.9000e-004**	**0.0201**	**0.0000**	**72.3359**	**72.3359**	**3.3300e-003**	**0.0000**	**72.4191**

3.5 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1065	0.6266	1.4103	2.7100e-003		7.9100e-003	7.9100e-003		7.9100e-003	7.9100e-003	0.0000	230.0034	230.0034	8.5700e-003	0.0000	230.2176
Total	**0.1065**	**0.6266**	**1.4103**	**2.7100e-003**		**7.9100e-003**	**7.9100e-003**		**7.9100e-003**	**7.9100e-003**	**0.0000**	**230.0034**	**230.0034**	**8.5700e-003**	**0.0000**	**230.2176**

3.5 Building Construction - 2035

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1700e-003	0.1023	0.0132	3.4000e-004	8.7000e-003	9.0000e-005	8.7900e-003	2.5100e-003	9.0000e-005	2.6000e-003	0.0000	32.4141	32.4141	2.6300e-003	0.0000	32.4799
Worker	0.0105	4.9300e-003	0.0678	3.5000e-004	0.0574	1.7000e-004	0.0575	0.0153	1.6000e-004	0.0154	0.0000	32.0322	32.0322	3.2000e-004	0.0000	32.0401
Total	**0.0127**	**0.1073**	**0.0810**	**6.9000e-004**	**0.0661**	**2.6000e-004**	**0.0663**	**0.0178**	**2.5000e-004**	**0.0180**	**0.0000**	**64.4463**	**64.4463**	**2.9500e-003**	**0.0000**	**64.5200**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1065	0.6266	1.4103	2.7100e-003		7.9100e-003	7.9100e-003		7.9100e-003	7.9100e-003	0.0000	230.0031	230.0031	8.5700e-003	0.0000	230.2173
Total	**0.1065**	**0.6266**	**1.4103**	**2.7100e-003**		**7.9100e-003**	**7.9100e-003**		**7.9100e-003**	**7.9100e-003**	**0.0000**	**230.0031**	**230.0031**	**8.5700e-003**	**0.0000**	**230.2173**

3.5 Building Construction - 2035

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1700e-003	0.1023	0.0132	3.4000e-004	8.7000e-003	9.0000e-005	8.7900e-003	2.5100e-003	9.0000e-005	2.6000e-003	0.0000	32.4141	32.4141	2.6300e-003	0.0000	32.4799
Worker	0.0105	4.9300e-003	0.0678	3.5000e-004	0.0574	1.7000e-004	0.0575	0.0153	1.6000e-004	0.0154	0.0000	32.0322	32.0322	3.2000e-004	0.0000	32.0401
Total	**0.0127**	**0.1073**	**0.0810**	**6.9000e-004**	**0.0661**	**2.6000e-004**	**0.0663**	**0.0178**	**2.5000e-004**	**0.0180**	**0.0000**	**64.4463**	**64.4463**	**2.9500e-003**	**0.0000**	**64.5200**

3.6 Paving - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0114	0.0488	0.1582	2.8000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003	0.0000	24.0995	24.0995	9.3000e-004	0.0000	24.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0114**	**0.0488**	**0.1582**	**2.8000e-004**		**1.8700e-003**	**1.8700e-003**		**1.8700e-003**	**1.8700e-003**	**0.0000**	**24.0995**	**24.0995**	**9.3000e-004**	**0.0000**	**24.1227**

3.6 Paving - 2035

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.0000e-004	1.4200e-003	1.0000e-005	1.2000e-003	0.0000	1.2000e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.6697	0.6697	1.0000e-005	0.0000	0.6698
Total	**2.2000e-004**	**1.0000e-004**	**1.4200e-003**	**1.0000e-005**	**1.2000e-003**	**0.0000**	**1.2000e-003**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**0.6697**	**0.6697**	**1.0000e-005**	**0.0000**	**0.6698**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0114	0.0488	0.1582	2.8000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003	0.0000	24.0995	24.0995	9.3000e-004	0.0000	24.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0114**	**0.0488**	**0.1582**	**2.8000e-004**		**1.8700e-003**	**1.8700e-003**		**1.8700e-003**	**1.8700e-003**	**0.0000**	**24.0995**	**24.0995**	**9.3000e-004**	**0.0000**	**24.1227**

3.6 Paving - 2035

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.0000e-004	1.4200e-003	1.0000e-005	1.2000e-003	0.0000	1.2000e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.6697	0.6697	1.0000e-005	0.0000	0.6698
Total	**2.2000e-004**	**1.0000e-004**	**1.4200e-003**	**1.0000e-005**	**1.2000e-003**	**0.0000**	**1.2000e-003**	**3.2000e-004**	**0.0000**	**3.2000e-004**	**0.0000**	**0.6697**	**0.6697**	**1.0000e-005**	**0.0000**	**0.6698**

3.7 Architectural Coating - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.8021					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1800e-003	7.5800e-003	0.0179	3.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	2.5533	2.5533	9.0000e-005	0.0000	2.5556
Total	**1.8033**	**7.5800e-003**	**0.0179**	**3.0000e-005**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**2.5533**	**2.5533**	**9.0000e-005**	**0.0000**	**2.5556**

3.7 Architectural Coating - 2035

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.1000e-004	1.5100e-003	1.0000e-005	1.2800e-003	0.0000	1.2800e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.7143	0.7143	1.0000e-005	0.0000	0.7145
Total	**2.3000e-004**	**1.1000e-004**	**1.5100e-003**	**1.0000e-005**	**1.2800e-003**	**0.0000**	**1.2800e-003**	**3.4000e-004**	**0.0000**	**3.4000e-004**	**0.0000**	**0.7143**	**0.7143**	**1.0000e-005**	**0.0000**	**0.7145**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.8021					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1800e-003	7.5800e-003	0.0179	3.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	2.5533	2.5533	9.0000e-005	0.0000	2.5556
Total	**1.8033**	**7.5800e-003**	**0.0179**	**3.0000e-005**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**2.5533**	**2.5533**	**9.0000e-005**	**0.0000**	**2.5556**

3.7 Architectural Coating - 2035

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.1000e-004	1.5100e-003	1.0000e-005	1.2800e-003	0.0000	1.2800e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.7143	0.7143	1.0000e-005	0.0000	0.7145
Total	**2.3000e-004**	**1.1000e-004**	**1.5100e-003**	**1.0000e-005**	**1.2800e-003**	**0.0000**	**1.2800e-003**	**3.4000e-004**	**0.0000**	**3.4000e-004**	**0.0000**	**0.7143**	**0.7143**	**1.0000e-005**	**0.0000**	**0.7145**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2044	3.2497	1.9934	0.0174	1.2482	6.6300e-003	1.2548	0.3361	6.2300e-003	0.3424	0.0000	1,628.8168	1,628.8168	0.1200	0.0000	1,631.8170
Unmitigated	0.2044	3.2497	1.9934	0.0174	1.2482	6.6300e-003	1.2548	0.3361	6.2300e-003	0.3424	0.0000	1,628.8168	1,628.8168	0.1200	0.0000	1,631.8170

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	558.60	536.76	492.24	1,599,600	1,599,600
Single Family Housing	571.20	594.60	517.20	1,660,620	1,660,620
Total	1,129.80	1,131.36	1,009.44	3,260,220	3,260,220

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	48.40	15.90	35.70	86	11	3
Single Family Housing	10.80	7.30	7.50	48.40	15.90	35.70	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405
Single Family Housing	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	134.7236	134.7236	0.0119	2.4600e-003	135.7533
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	134.7236	134.7236	0.0119	2.4600e-003	135.7533
NaturalGas Mitigated	0.0140	0.1194	0.0508	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003	0.0000	138.3006	138.3006	2.6500e-003	2.5400e-003	139.1224
NaturalGas Unmitigated	0.0140	0.1194	0.0508	7.6000e-004		9.6600e-003	9.6600e-003		9.6600e-003	9.6600e-003	0.0000	138.3006	138.3006	2.6500e-003	2.5400e-003	139.1224

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.02294e+006	5.5200e-003	0.0471	0.0201	3.0000e-004		3.8100e-003	3.8100e-003		3.8100e-003	3.8100e-003	0.0000	54.5880	54.5880	1.0500e-003	1.0000e-003	54.9124
Single Family Housing	1.56871e+006	8.4600e-003	0.0723	0.0308	4.6000e-004		5.8400e-003	5.8400e-003		5.8400e-003	5.8400e-003	0.0000	83.7126	83.7126	1.6000e-003	1.5300e-003	84.2100
Total		**0.0140**	**0.1194**	**0.0508**	**7.6000e-004**		**9.6500e-003**	**9.6500e-003**		**9.6500e-003**	**9.6500e-003**	**0.0000**	**138.3006**	**138.3006**	**2.6500e-003**	**2.5300e-003**	**139.1224**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.02294e+006	5.5200e-003	0.0471	0.0201	3.0000e-004		3.8100e-003	3.8100e-003		3.8100e-003	3.8100e-003	0.0000	54.5880	54.5880	1.0500e-003	1.0000e-003	54.9124
Single Family Housing	1.56871e+006	8.4600e-003	0.0723	0.0308	4.6000e-004		5.8400e-003	5.8400e-003		5.8400e-003	5.8400e-003	0.0000	83.7126	83.7126	1.6000e-003	1.5300e-003	84.2100
Total		**0.0140**	**0.1194**	**0.0508**	**7.6000e-004**		**9.6500e-003**	**9.6500e-003**		**9.6500e-003**	**9.6500e-003**	**0.0000**	**138.3006**	**138.3006**	**2.6500e-003**	**2.5300e-003**	**139.1224**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	377685	56.3284	4.9700e-003	1.0300e-003	56.7589
Single Family Housing	525644	78.3952	6.9100e-003	1.4300e-003	78.9944
Total		**134.7236**	**0.0119**	**2.4600e-003**	**135.7533**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	377685	56.3284	4.9700e-003	1.0300e-003	56.7589
Single Family Housing	525644	78.3952	6.9100e-003	1.4300e-003	78.9944
Total		**134.7236**	**0.0119**	**2.4600e-003**	**135.7533**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7880	0.0662	1.0884	4.0000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	64.1284	64.1284	2.8600e-003	1.1400e-003	64.5407
Unmitigated	0.7880	0.0662	1.0884	4.0000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	64.1284	64.1284	2.8600e-003	1.1400e-003	64.5407

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7499					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.3000e-003	0.0539	0.0229	3.4000e-004		4.3600e-003	4.3600e-003		4.3600e-003	4.3600e-003	0.0000	62.3819	62.3819	1.2000e-003	1.1400e-003	62.7526
Landscaping	0.0319	0.0123	1.0655	6.0000e-005		5.9300e-003	5.9300e-003		5.9300e-003	5.9300e-003	0.0000	1.7466	1.7466	1.6600e-003	0.0000	1.7881
Total	**0.7880**	**0.0662**	**1.0884**	**4.0000e-004**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**64.1284**	**64.1284**	**2.8600e-003**	**1.1400e-003**	**64.5407**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7499					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.3000e-003	0.0539	0.0229	3.4000e-004		4.3600e-003	4.3600e-003		4.3600e-003	4.3600e-003	0.0000	62.3819	62.3819	1.2000e-003	1.1400e-003	62.7526
Landscaping	0.0319	0.0123	1.0655	6.0000e-005		5.9300e-003	5.9300e-003		5.9300e-003	5.9300e-003	0.0000	1.7466	1.7466	1.6600e-003	0.0000	1.7881
Total	**0.7880**	**0.0662**	**1.0884**	**4.0000e-004**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**64.1284**	**64.1284**	**2.8600e-003**	**1.1400e-003**	**64.5407**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	13.6355	0.3067	7.4100e-003	23.5111
Unmitigated	13.6355	0.3067	7.4100e-003	23.5111

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.47294 / 3.45033	7.9540	0.1789	4.3200e-003	13.7148
Single Family Housing	3.90924 / 2.46452	5.6815	0.1278	3.0900e-003	9.7963
Total		**13.6355**	**0.3067**	**7.4100e-003**	**23.5111**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.47294 / 3.45033	7.9540	0.1789	4.3200e-003	13.7148
Single Family Housing	3.90924 / 2.46452	5.6815	0.1278	3.0900e-003	9.7963
Total		**13.6355**	**0.3067**	**7.4100e-003**	**23.5111**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	20.4128	1.2064	0.0000	50.5718
Unmitigated	20.4128	1.2064	0.0000	50.5718

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	38.64	7.8436	0.4635	0.0000	19.4321
Single Family Housing	61.92	12.5692	0.7428	0.0000	31.1397
Total		**20.4128**	**1.2064**	**0.0000**	**50.5718**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	38.64	7.8436	0.4635	0.0000	19.4321
Single Family Housing	61.92	12.5692	0.7428	0.0000	31.1397
Total		**20.4128**	**1.2064**	**0.0000**	**50.5718**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Fresno General Plan Update - Commercial/Mixed-Use

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Regional Shopping Center	84.10	1000sqft	1.93	84,100.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity based on 5-year average (PG&E 2015)

Land Use -

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2034	0.1346	0.9429	1.4421	3.3000e-003	0.0482	0.0162	0.0644	0.0169	0.0162	0.0331	0.0000	278.3168	278.3168	0.0133	0.0000	278.6487
2035	0.5857	5.4900e-003	0.0140	2.0000e-005	2.5000e-004	1.0000e-004	3.5000e-004	7.0000e-005	1.0000e-004	1.7000e-004	0.0000	2.1208	2.1208	8.0000e-005	0.0000	2.1227
Maximum	**0.5857**	**0.9429**	**1.4421**	**3.3000e-003**	**0.0482**	**0.0162**	**0.0644**	**0.0169**	**0.0162**	**0.0331**	**0.0000**	**278.3168**	**278.3168**	**0.0133**	**0.0000**	**278.6487**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2034	0.1346	0.9429	1.4421	3.3000e-003	0.0482	0.0162	0.0644	0.0169	0.0162	0.0331	0.0000	278.3165	278.3165	0.0133	0.0000	278.6485
2035	0.5857	5.4900e-003	0.0140	2.0000e-005	2.5000e-004	1.0000e-004	3.5000e-004	7.0000e-005	1.0000e-004	1.7000e-004	0.0000	2.1208	2.1208	8.0000e-005	0.0000	2.1227
Maximum	**0.5857**	**0.9429**	**1.4421**	**3.3000e-003**	**0.0482**	**0.0162**	**0.0644**	**0.0169**	**0.0162**	**0.0331**	**0.0000**	**278.3165**	**278.3165**	**0.0133**	**0.0000**	**278.6485**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Fresno General Plan Update - Commercial/Mixed-Use - Fresno County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-6-2034	5-5-2034	0.2843	0.2843
2	5-6-2034	8-5-2034	0.3103	0.3103
3	8-6-2034	11-5-2034	0.3104	0.3104
4	11-6-2034	2-5-2035	0.7600	0.7600
		Highest	0.7600	0.7600

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3870	1.0000e-005	7.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-003	1.5000e-003	0.0000	0.0000	1.6000e-003
Energy	4.8500e-003	0.0441	0.0371	2.6000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	150.2441	150.2441	9.9400e-003	2.7500e-003	151.3107
Mobile	0.5211	8.9829	4.2399	0.0363	2.3284	0.0132	2.3416	0.6270	0.0124	0.6394	0.0000	3,401.3450	3,401.3450	0.3510	0.0000	3,410.1189
Waste						0.0000	0.0000		0.0000	0.0000	17.9241	0.0000	17.9241	1.0593	0.0000	44.4062
Water						0.0000	0.0000		0.0000	0.0000	1.9763	7.0202	8.9966	0.2036	4.9200e-003	15.5533
Total	**0.9130**	**9.0270**	**4.2777**	**0.0365**	**2.3284**	**0.0166**	**2.3449**	**0.6270**	**0.0158**	**0.6428**	**19.9004**	**3,558.6108**	**3,578.5112**	**1.6238**	**7.6700e-003**	**3,621.3907**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3870	1.0000e-005	7.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-003	1.5000e-003	0.0000	0.0000	1.6000e-003
Energy	4.8500e-003	0.0441	0.0371	2.6000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	150.2441	150.2441	9.9400e-003	2.7500e-003	151.3107
Mobile	0.5211	8.9829	4.2399	0.0363	2.3284	0.0132	2.3416	0.6270	0.0124	0.6394	0.0000	3,401.3450	3,401.3450	0.3510	0.0000	3,410.1189
Waste						0.0000	0.0000		0.0000	0.0000	17.9241	0.0000	17.9241	1.0593	0.0000	44.4062
Water						0.0000	0.0000		0.0000	0.0000	1.9763	7.0202	8.9966	0.2036	4.9200e-003	15.5533
Total	**0.9130**	**9.0270**	**4.2777**	**0.0365**	**2.3284**	**0.0166**	**2.3449**	**0.6270**	**0.0158**	**0.6428**	**19.9004**	**3,558.6108**	**3,578.5112**	**1.6238**	**7.6700e-003**	**3,621.3907**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Fresno General Plan Update - Commercial/Mixed-Use - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/6/2034	3/3/2034	5	20	
2	Site Preparation	Site Preparation	3/4/2034	3/7/2034	5	2	
3	Grading	Grading	3/8/2034	3/13/2034	5	4	
4	Building Construction	Building Construction	3/14/2034	12/18/2034	5	200	
5	Paving	Paving	12/19/2034	1/1/2035	5	10	
6	Architectural Coating	Architectural Coating	1/2/2035	1/15/2035	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 126,150; Non-Residential Outdoor: 42,050; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Fresno General Plan Update - Commercial/Mixed-Use - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Graders	1	8.00	187	0.41
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	27.00	14.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0133	0.0801	0.1297	2.8000e-004		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003	0.0000	24.1504	24.1504	1.0700e-003	0.0000	24.1771
Total	**0.0133**	**0.0801**	**0.1297**	**2.8000e-004**		**2.1500e-003**	**2.1500e-003**		**2.1500e-003**	**2.1500e-003**	**0.0000**	**24.1504**	**24.1504**	**1.0700e-003**	**0.0000**	**24.1771**

3.2 Demolition - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	9.0000e-005	1.2900e-003	1.0000e-005	1.0400e-003	0.0000	1.0400e-003	2.8000e-004	0.0000	2.8000e-004	0.0000	0.5887	0.5887	1.0000e-005	0.0000	0.5889
Total	**2.0000e-004**	**9.0000e-005**	**1.2900e-003**	**1.0000e-005**	**1.0400e-003**	**0.0000**	**1.0400e-003**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**0.5887**	**0.5887**	**1.0000e-005**	**0.0000**	**0.5889**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0133	0.0801	0.1297	2.8000e-004		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003	0.0000	24.1504	24.1504	1.0700e-003	0.0000	24.1771
Total	**0.0133**	**0.0801**	**0.1297**	**2.8000e-004**		**2.1500e-003**	**2.1500e-003**		**2.1500e-003**	**2.1500e-003**	**0.0000**	**24.1504**	**24.1504**	**1.0700e-003**	**0.0000**	**24.1771**

3.2 Demolition - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	9.0000e-005	1.2900e-003	1.0000e-005	1.0400e-003	0.0000	1.0400e-003	2.8000e-004	0.0000	2.8000e-004	0.0000	0.5887	0.5887	1.0000e-005	0.0000	0.5889
Total	**2.0000e-004**	**9.0000e-005**	**1.2900e-003**	**1.0000e-005**	**1.0400e-003**	**0.0000**	**1.0400e-003**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**0.5887**	**0.5887**	**1.0000e-005**	**0.0000**	**0.5889**

3.3 Site Preparation - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.8000e-004	4.7400e-003	5.9100e-003	2.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	1.8096	1.8096	8.0000e-005	0.0000	1.8115
Total	**9.8000e-004**	**4.7400e-003**	**5.9100e-003**	**2.0000e-005**	**5.8000e-003**	**1.6000e-004**	**5.9600e-003**	**2.9500e-003**	**1.6000e-004**	**3.1100e-003**	**0.0000**	**1.8096**	**1.8096**	**8.0000e-005**	**0.0000**	**1.8115**

3.3 Site Preparation - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0362	0.0362	0.0000	0.0000	0.0362
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0362**	**0.0362**	**0.0000**	**0.0000**	**0.0362**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.8000e-004	4.7400e-003	5.9100e-003	2.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	1.8096	1.8096	8.0000e-005	0.0000	1.8115
Total	**9.8000e-004**	**4.7400e-003**	**5.9100e-003**	**2.0000e-005**	**5.8000e-003**	**1.6000e-004**	**5.9600e-003**	**2.9500e-003**	**1.6000e-004**	**3.1100e-003**	**0.0000**	**1.8096**	**1.8096**	**8.0000e-005**	**0.0000**	**1.8115**

3.3 Site Preparation - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	8.0000e-005	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0362	0.0362	0.0000	0.0000	0.0362
Total	**1.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0362**	**0.0362**	**0.0000**	**0.0000**	**0.0362**

3.4 Grading - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6200e-003	7.9600e-003	9.8900e-003	3.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	2.9644	2.9644	1.3000e-004	0.0000	2.9676
Total	**1.6200e-003**	**7.9600e-003**	**9.8900e-003**	**3.0000e-005**	**9.8300e-003**	**2.6000e-004**	**0.0101**	**5.0500e-003**	**2.6000e-004**	**5.3100e-003**	**0.0000**	**2.9644**	**2.9644**	**1.3000e-004**	**0.0000**	**2.9676**

3.4 Grading - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	1.0000e-005	1.6000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0725	0.0725	0.0000	0.0000	0.0725
Total	**3.0000e-005**	**1.0000e-005**	**1.6000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0725**	**0.0725**	**0.0000**	**0.0000**	**0.0725**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6200e-003	7.9600e-003	9.8900e-003	3.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	2.9644	2.9644	1.3000e-004	0.0000	2.9676
Total	**1.6200e-003**	**7.9600e-003**	**9.8900e-003**	**3.0000e-005**	**9.8300e-003**	**2.6000e-004**	**0.0101**	**5.0500e-003**	**2.6000e-004**	**5.3100e-003**	**0.0000**	**2.9644**	**2.9644**	**1.3000e-004**	**0.0000**	**2.9676**

3.4 Grading - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	1.0000e-005	1.6000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0725	0.0725	0.0000	0.0000	0.0725
Total	**3.0000e-005**	**1.0000e-005**	**1.6000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0725**	**0.0725**	**0.0000**	**0.0000**	**0.0725**

3.5 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1081	0.7188	1.2110	2.3800e-003		0.0127	0.0127		0.0127	0.0127	0.0000	195.2857	195.2857	8.7400e-003	0.0000	195.5043
Total	**0.1081**	**0.7188**	**1.2110**	**2.3800e-003**		**0.0127**	**0.0127**		**0.0127**	**0.0127**	**0.0000**	**195.2857**	**195.2857**	**8.7400e-003**	**0.0000**	**195.5043**

3.5 Building Construction - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3200e-003	0.1094	0.0142	3.6000e-004	9.2800e-003	1.0000e-004	9.3800e-003	2.6800e-003	1.0000e-004	2.7800e-003	0.0000	34.5855	34.5855	2.8200e-003	0.0000	34.6561
Worker	4.2200e-003	1.9600e-003	0.0268	1.3000e-004	0.0216	7.0000e-005	0.0217	5.7400e-003	6.0000e-005	5.8000e-003	0.0000	12.2273	12.2273	1.3000e-004	0.0000	12.2305
Total	**6.5400e-003**	**0.1114**	**0.0409**	**4.9000e-004**	**0.0309**	**1.7000e-004**	**0.0310**	**8.4200e-003**	**1.6000e-004**	**8.5800e-003**	**0.0000**	**46.8128**	**46.8128**	**2.9500e-003**	**0.0000**	**46.8866**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1081	0.7188	1.2110	2.3800e-003		0.0127	0.0127		0.0127	0.0127	0.0000	195.2855	195.2855	8.7400e-003	0.0000	195.5040
Total	**0.1081**	**0.7188**	**1.2110**	**2.3800e-003**		**0.0127**	**0.0127**		**0.0127**	**0.0127**	**0.0000**	**195.2855**	**195.2855**	**8.7400e-003**	**0.0000**	**195.5040**

3.5 Building Construction - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3200e-003	0.1094	0.0142	3.6000e-004	9.2800e-003	1.0000e-004	9.3800e-003	2.6800e-003	1.0000e-004	2.7800e-003	0.0000	34.5855	34.5855	2.8200e-003	0.0000	34.6561
Worker	4.2200e-003	1.9600e-003	0.0268	1.3000e-004	0.0216	7.0000e-005	0.0217	5.7400e-003	6.0000e-005	5.8000e-003	0.0000	12.2273	12.2273	1.3000e-004	0.0000	12.2305
Total	**6.5400e-003**	**0.1114**	**0.0409**	**4.9000e-004**	**0.0309**	**1.7000e-004**	**0.0310**	**8.4200e-003**	**1.6000e-004**	**8.5800e-003**	**0.0000**	**46.8128**	**46.8128**	**2.9500e-003**	**0.0000**	**46.8866**

3.6 Paving - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6700e-003	0.0198	0.0426	7.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	6.3316	6.3316	3.0000e-004	0.0000	6.3390
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.6700e-003**	**0.0198**	**0.0426**	**7.0000e-005**		**7.8000e-004**	**7.8000e-004**		**7.8000e-004**	**7.8000e-004**	**0.0000**	**6.3316**	**6.3316**	**3.0000e-004**	**0.0000**	**6.3390**

3.6 Paving - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	4.0000e-005	5.8000e-004	0.0000	4.7000e-004	0.0000	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.2649	0.2649	0.0000	0.0000	0.2650
Total	**9.0000e-005**	**4.0000e-005**	**5.8000e-004**	**0.0000**	**4.7000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.2649**	**0.2649**	**0.0000**	**0.0000**	**0.2650**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.6700e-003	0.0198	0.0426	7.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	6.3316	6.3316	3.0000e-004	0.0000	6.3390
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.6700e-003**	**0.0198**	**0.0426**	**7.0000e-005**		**7.8000e-004**	**7.8000e-004**		**7.8000e-004**	**7.8000e-004**	**0.0000**	**6.3316**	**6.3316**	**3.0000e-004**	**0.0000**	**6.3390**

3.6 Paving - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	4.0000e-005	5.8000e-004	0.0000	4.7000e-004	0.0000	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.2649	0.2649	0.0000	0.0000	0.2650
Total	**9.0000e-005**	**4.0000e-005**	**5.8000e-004**	**0.0000**	**4.7000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.2649**	**0.2649**	**0.0000**	**0.0000**	**0.2650**

3.6 Paving - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.5000e-004	1.6800e-003	4.7200e-003	1.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7035	0.7035	3.0000e-005	0.0000	0.7042
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.5000e-004**	**1.6800e-003**	**4.7200e-003**	**1.0000e-005**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.7035**	**0.7035**	**3.0000e-005**	**0.0000**	**0.7042**

3.6 Paving - 2035

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	0.0000	6.0000e-005	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0290	0.0290	0.0000	0.0000	0.0290
Total	**1.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0290**	**0.0290**	**0.0000**	**0.0000**	**0.0290**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.5000e-004	1.6800e-003	4.7200e-003	1.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7035	0.7035	3.0000e-005	0.0000	0.7042
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.5000e-004**	**1.6800e-003**	**4.7200e-003**	**1.0000e-005**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.7035**	**0.7035**	**3.0000e-005**	**0.0000**	**0.7042**

3.6 Paving - 2035

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	0.0000	6.0000e-005	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0290	0.0290	0.0000	0.0000	0.0290
Total	**1.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0290**	**0.0290**	**0.0000**	**0.0000**	**0.0290**

3.7 Architectural Coating - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5847					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.9000e-004	3.7900e-003	8.9700e-003	1.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	1.2766	1.2766	5.0000e-005	0.0000	1.2778
Total	**0.5853**	**3.7900e-003**	**8.9700e-003**	**1.0000e-005**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**1.2766**	**1.2766**	**5.0000e-005**	**0.0000**	**1.2778**

3.7 Architectural Coating - 2035

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	2.4000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1116	0.1116	0.0000	0.0000	0.1116
Total	**4.0000e-005**	**2.0000e-005**	**2.4000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1116**	**0.1116**	**0.0000**	**0.0000**	**0.1116**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5847					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.9000e-004	3.7900e-003	8.9700e-003	1.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	1.2766	1.2766	5.0000e-005	0.0000	1.2778
Total	**0.5853**	**3.7900e-003**	**8.9700e-003**	**1.0000e-005**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**1.2766**	**1.2766**	**5.0000e-005**	**0.0000**	**1.2778**

3.7 Architectural Coating - 2035

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	2.4000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1116	0.1116	0.0000	0.0000	0.1116
Total	**4.0000e-005**	**2.0000e-005**	**2.4000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1116**	**0.1116**	**0.0000**	**0.0000**	**0.1116**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5211	8.9829	4.2399	0.0363	2.3284	0.0132	2.3416	0.6270	0.0124	0.6394	0.0000	3,401.3450	3,401.3450	0.3510	0.0000	3,410.1189
Unmitigated	0.5211	8.9829	4.2399	0.0363	2.3284	0.0132	2.3416	0.6270	0.0124	0.6394	0.0000	3,401.3450	3,401.3450	0.3510	0.0000	3,410.1189

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Regional Shopping Center	3,591.07	4,202.48	2122.68	6,081,591	6,081,591
Total	3,591.07	4,202.48	2,122.68	6,081,591	6,081,591

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Regional Shopping Center	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	102.2236	102.2236	9.0200e-003	1.8700e-003	103.0049
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	102.2236	102.2236	9.0200e-003	1.8700e-003	103.0049
NaturalGas Mitigated	4.8500e-003	0.0441	0.0371	2.6000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	48.0205	48.0205	9.2000e-004	8.8000e-004	48.3059
NaturalGas Unmitigated	4.8500e-003	0.0441	0.0371	2.6000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	48.0205	48.0205	9.2000e-004	8.8000e-004	48.3059

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Regional Shopping Center	899870	4.8500e-003	0.0441	0.0371	2.6000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	48.0205	48.0205	9.2000e-004	8.8000e-004	48.3059
Total		**4.8500e-003**	**0.0441**	**0.0371**	**2.6000e-004**		**3.3500e-003**	**3.3500e-003**		**3.3500e-003**	**3.3500e-003**	**0.0000**	**48.0205**	**48.0205**	**9.2000e-004**	**8.8000e-004**	**48.3059**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Regional Shopping Center	899870	4.8500e-003	0.0441	0.0371	2.6000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	48.0205	48.0205	9.2000e-004	8.8000e-004	48.3059
Total		**4.8500e-003**	**0.0441**	**0.0371**	**2.6000e-004**		**3.3500e-003**	**3.3500e-003**		**3.3500e-003**	**3.3500e-003**	**0.0000**	**48.0205**	**48.0205**	**9.2000e-004**	**8.8000e-004**	**48.3059**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Regional Shopping Center	685415	102.2236	9.0200e-003	1.8700e-003	103.0049
Total		**102.2236**	**9.0200e-003**	**1.8700e-003**	**103.0049**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Regional Shopping Center	685415	102.2236	9.0200e-003	1.8700e-003	103.0049
Total		**102.2236**	**9.0200e-003**	**1.8700e-003**	**103.0049**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3870	1.0000e-005	7.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-003	1.5000e-003	0.0000	0.0000	1.6000e-003
Unmitigated	0.3870	1.0000e-005	7.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-003	1.5000e-003	0.0000	0.0000	1.6000e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0585					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3285					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-003	1.5000e-003	0.0000	0.0000	1.6000e-003
Total	**0.3870**	**1.0000e-005**	**7.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.5000e-003**	**1.5000e-003**	**0.0000**	**0.0000**	**1.6000e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0585					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3285					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.0000e-005	1.0000e-005	7.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.5000e-003	1.5000e-003	0.0000	0.0000	1.6000e-003
Total	**0.3870**	**1.0000e-005**	**7.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.5000e-003**	**1.5000e-003**	**0.0000**	**0.0000**	**1.6000e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	8.9966	0.2036	4.9200e-003	15.5533
Unmitigated	8.9966	0.2036	4.9200e-003	15.5533

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Regional Shopping Center	6.2295 / 3.81808	8.9966	0.2036	4.9200e-003	15.5533
Total		**8.9966**	**0.2036**	**4.9200e-003**	**15.5533**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Regional Shopping Center	6.2295 / 3.81808	8.9966	0.2036	4.9200e-003	15.5533
Total		**8.9966**	**0.2036**	**4.9200e-003**	**15.5533**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	17.9241	1.0593	0.0000	44.4062
Unmitigated	17.9241	1.0593	0.0000	44.4062

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Regional Shopping Center	88.3	17.9241	1.0593	0.0000	44.4062
Total		**17.9241**	**1.0593**	**0.0000**	**44.4062**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Regional Shopping Center	88.3	17.9241	1.0593	0.0000	44.4062
Total		**17.9241**	**1.0593**	**0.0000**	**44.4062**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Fresno General Plan Update - Industrial

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	40.50	1000sqft	0.93	40,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	328.8	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity based on 5-year average (PG&E 2015)

Land Use -

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2034	0.0270	0.1595	0.3135	6.9000e-004	8.0800e-003	2.7800e-003	0.0109	2.3600e-003	2.7800e-003	5.1400e-003	0.0000	59.8292	59.8292	2.5900e-003	0.0000	59.8939
2035	0.2921	0.0591	0.1270	2.8000e-004	2.9700e-003	9.0000e-004	3.8700e-003	8.0000e-004	9.0000e-004	1.7000e-003	0.0000	23.9040	23.9040	1.0100e-003	0.0000	23.9293
Maximum	**0.2921**	**0.1595**	**0.3135**	**6.9000e-004**	**8.0800e-003**	**2.7800e-003**	**0.0109**	**2.3600e-003**	**2.7800e-003**	**5.1400e-003**	**0.0000**	**59.8292**	**59.8292**	**2.5900e-003**	**0.0000**	**59.8939**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2034	0.0270	0.1595	0.3135	6.9000e-004	8.0800e-003	2.7800e-003	0.0109	2.3600e-003	2.7800e-003	5.1400e-003	0.0000	59.8291	59.8291	2.5900e-003	0.0000	59.8939
2035	0.2921	0.0591	0.1270	2.8000e-004	2.9700e-003	9.0000e-004	3.8700e-003	8.0000e-004	9.0000e-004	1.7000e-003	0.0000	23.9040	23.9040	1.0100e-003	0.0000	23.9293
Maximum	**0.2921**	**0.1595**	**0.3135**	**6.9000e-004**	**8.0800e-003**	**2.7800e-003**	**0.0109**	**2.3600e-003**	**2.7800e-003**	**5.1400e-003**	**0.0000**	**59.8291**	**59.8291**	**2.5900e-003**	**0.0000**	**59.8939**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-4-2034	12-3-2034	0.1412	0.1412
2	12-4-2034	3-3-2035	0.3939	0.3939
		Highest	0.3939	0.3939

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1864	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.2000e-004	7.2000e-004	0.0000	0.0000	7.7000e-004
Energy	4.5600e-003	0.0414	0.0348	2.5000e-004		3.1500e-003	3.1500e-003		3.1500e-003	3.1500e-003	0.0000	98.3797	98.3797	5.5600e-003	1.8000e-003	99.0549
Mobile	0.0391	0.6220	0.3809	3.3200e-003	0.2383	1.2700e-003	0.2396	0.0642	1.1900e-003	0.0654	0.0000	311.1709	311.1709	0.0230	0.0000	311.7454
Waste						0.0000	0.0000		0.0000	0.0000	10.1942	0.0000	10.1942	0.6025	0.0000	25.2557
Water						0.0000	0.0000		0.0000	0.0000	2.9713	7.5581	10.5294	0.3059	7.3400e-003	20.3640
Total	**0.2300**	**0.6634**	**0.4160**	**3.5700e-003**	**0.2383**	**4.4200e-003**	**0.2427**	**0.0642**	**4.3400e-003**	**0.0685**	**13.1655**	**417.1094**	**430.2749**	**0.9369**	**9.1400e-003**	**456.4207**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1864	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.2000e-004	7.2000e-004	0.0000	0.0000	7.7000e-004
Energy	4.5600e-003	0.0414	0.0348	2.5000e-004		3.1500e-003	3.1500e-003		3.1500e-003	3.1500e-003	0.0000	98.3797	98.3797	5.5600e-003	1.8000e-003	99.0549
Mobile	0.0391	0.6220	0.3809	3.3200e-003	0.2383	1.2700e-003	0.2396	0.0642	1.1900e-003	0.0654	0.0000	311.1709	311.1709	0.0230	0.0000	311.7454
Waste						0.0000	0.0000		0.0000	0.0000	10.1942	0.0000	10.1942	0.6025	0.0000	25.2557
Water						0.0000	0.0000		0.0000	0.0000	2.9713	7.5581	10.5294	0.3059	7.3400e-003	20.3640
Total	**0.2300**	**0.6634**	**0.4160**	**3.5700e-003**	**0.2383**	**4.4200e-003**	**0.2427**	**0.0642**	**4.3400e-003**	**0.0685**	**13.1655**	**417.1094**	**430.2749**	**0.9369**	**9.1400e-003**	**456.4207**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Fresno General Plan Update - Industrial - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/4/2034	9/15/2034	5	10	
2	Site Preparation	Site Preparation	9/16/2034	9/18/2034	5	1	
3	Grading	Grading	9/19/2034	9/20/2034	5	2	
4	Building Construction	Building Construction	9/21/2034	2/7/2035	5	100	
5	Paving	Paving	2/8/2035	2/14/2035	5	5	
6	Architectural Coating	Architectural Coating	2/15/2035	2/21/2035	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 60,750; Non-Residential Outdoor: 20,250; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Fresno General Plan Update - Industrial - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Graders	1	8.00	187	0.41
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	17.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8100e-003	0.0184	0.0372	7.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	5.6973	5.6973	2.2000e-004	0.0000	5.7029
Total	**2.8100e-003**	**0.0184**	**0.0372**	**7.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**5.6973**	**5.6973**	**2.2000e-004**	**0.0000**	**5.7029**

3.2 Demolition - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	4.0000e-005	5.0000e-004	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.2264	0.2264	0.0000	0.0000	0.2265
Total	**8.0000e-005**	**4.0000e-005**	**5.0000e-004**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.2264**	**0.2264**	**0.0000**	**0.0000**	**0.2265**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8100e-003	0.0184	0.0372	7.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	5.6973	5.6973	2.2000e-004	0.0000	5.7029
Total	**2.8100e-003**	**0.0184**	**0.0372**	**7.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**5.6973**	**5.6973**	**2.2000e-004**	**0.0000**	**5.7029**

3.2 Demolition - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	4.0000e-005	5.0000e-004	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.2264	0.2264	0.0000	0.0000	0.2265
Total	**8.0000e-005**	**4.0000e-005**	**5.0000e-004**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.2264**	**0.2264**	**0.0000**	**0.0000**	**0.2265**

3.3 Site Preparation - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3000e-004	9.8000e-004	1.9500e-003	1.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.5117	0.5117	2.0000e-005	0.0000	0.5122
Total	**2.3000e-004**	**9.8000e-004**	**1.9500e-003**	**1.0000e-005**	**2.7000e-004**	**3.0000e-005**	**3.0000e-004**	**3.0000e-005**	**3.0000e-005**	**6.0000e-005**	**0.0000**	**0.5117**	**0.5117**	**2.0000e-005**	**0.0000**	**0.5122**

3.3 Site Preparation - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0113	0.0113	0.0000	0.0000	0.0113
Total	**0.0000**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0113**	**0.0113**	**0.0000**	**0.0000**	**0.0113**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3000e-004	9.8000e-004	1.9500e-003	1.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.5117	0.5117	2.0000e-005	0.0000	0.5122
Total	**2.3000e-004**	**9.8000e-004**	**1.9500e-003**	**1.0000e-005**	**2.7000e-004**	**3.0000e-005**	**3.0000e-004**	**3.0000e-005**	**3.0000e-005**	**6.0000e-005**	**0.0000**	**0.5117**	**0.5117**	**2.0000e-005**	**0.0000**	**0.5122**

3.3 Site Preparation - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0113	0.0113	0.0000	0.0000	0.0113
Total	**0.0000**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0113**	**0.0113**	**0.0000**	**0.0000**	**0.0113**

3.4 Grading - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6000e-004	3.6800e-003	7.4400e-003	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1395	1.1395	4.0000e-005	0.0000	1.1406
Total	**5.6000e-004**	**3.6800e-003**	**7.4400e-003**	**1.0000e-005**	**7.5000e-004**	**8.0000e-005**	**8.3000e-004**	**4.1000e-004**	**8.0000e-005**	**4.9000e-004**	**0.0000**	**1.1395**	**1.1395**	**4.0000e-005**	**0.0000**	**1.1406**

3.4 Grading - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.0000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0453	0.0453	0.0000	0.0000	0.0453
Total	**2.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0453**	**0.0453**	**0.0000**	**0.0000**	**0.0453**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6000e-004	3.6800e-003	7.4300e-003	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1395	1.1395	4.0000e-005	0.0000	1.1406
Total	**5.6000e-004**	**3.6800e-003**	**7.4300e-003**	**1.0000e-005**	**7.5000e-004**	**8.0000e-005**	**8.3000e-004**	**4.1000e-004**	**8.0000e-005**	**4.9000e-004**	**0.0000**	**1.1395**	**1.1395**	**4.0000e-005**	**0.0000**	**1.1406**

3.4 Grading - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.0000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0453	0.0453	0.0000	0.0000	0.0453
Total	**2.0000e-005**	**1.0000e-005**	**1.0000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0453**	**0.0453**	**0.0000**	**0.0000**	**0.0453**

3.5 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0220	0.1163	0.2577	5.0000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	43.2007	43.2007	1.7600e-003	0.0000	43.2448
Total	**0.0220**	**0.1163**	**0.2577**	**5.0000e-004**		**2.2300e-003**	**2.2300e-003**		**2.2300e-003**	**2.2300e-003**	**0.0000**	**43.2007**	**43.2007**	**1.7600e-003**	**0.0000**	**43.2448**

3.5 Building Construction - 2034

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2000e-004	0.0197	2.5500e-003	7.0000e-005	1.6700e-003	2.0000e-005	1.6900e-003	4.8000e-004	2.0000e-005	5.0000e-004	0.0000	6.2254	6.2254	5.1000e-004	0.0000	6.2381
Worker	9.6000e-004	4.4000e-004	6.0700e-003	3.0000e-005	4.8900e-003	2.0000e-005	4.9100e-003	1.3000e-003	1.0000e-005	1.3200e-003	0.0000	2.7715	2.7715	3.0000e-005	0.0000	2.7723
Total	**1.3800e-003**	**0.0201**	**8.6200e-003**	**1.0000e-004**	**6.5600e-003**	**4.0000e-005**	**6.6000e-003**	**1.7800e-003**	**3.0000e-005**	**1.8200e-003**	**0.0000**	**8.9969**	**8.9969**	**5.4000e-004**	**0.0000**	**9.0104**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0220	0.1163	0.2577	5.0000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	43.2007	43.2007	1.7600e-003	0.0000	43.2447
Total	**0.0220**	**0.1163**	**0.2577**	**5.0000e-004**		**2.2300e-003**	**2.2300e-003**		**2.2300e-003**	**2.2300e-003**	**0.0000**	**43.2007**	**43.2007**	**1.7600e-003**	**0.0000**	**43.2447**

3.5 Building Construction - 2034

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2000e-004	0.0197	2.5500e-003	7.0000e-005	1.6700e-003	2.0000e-005	1.6900e-003	4.8000e-004	2.0000e-005	5.0000e-004	0.0000	6.2254	6.2254	5.1000e-004	0.0000	6.2381
Worker	9.6000e-004	4.4000e-004	6.0700e-003	3.0000e-005	4.8900e-003	2.0000e-005	4.9100e-003	1.3000e-003	1.0000e-005	1.3200e-003	0.0000	2.7715	2.7715	3.0000e-005	0.0000	2.7723
Total	**1.3800e-003**	**0.0201**	**8.6200e-003**	**1.0000e-004**	**6.5600e-003**	**4.0000e-005**	**6.6000e-003**	**1.7800e-003**	**3.0000e-005**	**1.8200e-003**	**0.0000**	**8.9969**	**8.9969**	**5.4000e-004**	**0.0000**	**9.0104**

3.5 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.0600e-003	0.0406	0.1001	2.0000e-004		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	16.8003	16.8003	6.5000e-004	0.0000	16.8165
Total	**8.0600e-003**	**0.0406**	**0.1001**	**2.0000e-004**		**5.9000e-004**	**5.9000e-004**		**5.9000e-004**	**5.9000e-004**	**0.0000**	**16.8003**	**16.8003**	**6.5000e-004**	**0.0000**	**16.8165**

3.5 Building Construction - 2035

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	7.6400e-003	9.9000e-004	3.0000e-005	6.5000e-004	1.0000e-005	6.6000e-004	1.9000e-004	1.0000e-005	1.9000e-004	0.0000	2.4203	2.4203	2.0000e-004	0.0000	2.4252
Worker	3.5000e-004	1.6000e-004	2.2500e-003	1.0000e-005	1.9000e-003	1.0000e-005	1.9100e-003	5.1000e-004	1.0000e-005	5.1000e-004	0.0000	1.0625	1.0625	1.0000e-005	0.0000	1.0628
Total	**5.1000e-004**	**7.8000e-003**	**3.2400e-003**	**4.0000e-005**	**2.5500e-003**	**2.0000e-005**	**2.5700e-003**	**7.0000e-004**	**2.0000e-005**	**7.0000e-004**	**0.0000**	**3.4828**	**3.4828**	**2.1000e-004**	**0.0000**	**3.4880**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.0600e-003	0.0406	0.1001	2.0000e-004		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	16.8003	16.8003	6.5000e-004	0.0000	16.8165
Total	**8.0600e-003**	**0.0406**	**0.1001**	**2.0000e-004**		**5.9000e-004**	**5.9000e-004**		**5.9000e-004**	**5.9000e-004**	**0.0000**	**16.8003**	**16.8003**	**6.5000e-004**	**0.0000**	**16.8165**

3.5 Building Construction - 2035

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	7.6400e-003	9.9000e-004	3.0000e-005	6.5000e-004	1.0000e-005	6.6000e-004	1.9000e-004	1.0000e-005	1.9000e-004	0.0000	2.4203	2.4203	2.0000e-004	0.0000	2.4252
Worker	3.5000e-004	1.6000e-004	2.2500e-003	1.0000e-005	1.9000e-003	1.0000e-005	1.9100e-003	5.1000e-004	1.0000e-005	5.1000e-004	0.0000	1.0625	1.0625	1.0000e-005	0.0000	1.0628
Total	**5.1000e-004**	**7.8000e-003**	**3.2400e-003**	**4.0000e-005**	**2.5500e-003**	**2.0000e-005**	**2.5700e-003**	**7.0000e-004**	**2.0000e-005**	**7.0000e-004**	**0.0000**	**3.4828**	**3.4828**	**2.1000e-004**	**0.0000**	**3.4880**

3.6 Paving - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6100e-003	8.6800e-003	0.0187	3.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	2.7483	2.7483	1.3000e-004	0.0000	2.7515
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.6100e-003**	**8.6800e-003**	**0.0187**	**3.0000e-005**		**2.7000e-004**	**2.7000e-004**		**2.7000e-004**	**2.7000e-004**	**0.0000**	**2.7483**	**2.7483**	**1.3000e-004**	**0.0000**	**2.7515**

3.6 Paving - 2035

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	4.3000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2009	0.2009	0.0000	0.0000	0.2010
Total	**7.0000e-005**	**3.0000e-005**	**4.3000e-004**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2009**	**0.2009**	**0.0000**	**0.0000**	**0.2010**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6100e-003	8.6800e-003	0.0187	3.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	2.7483	2.7483	1.3000e-004	0.0000	2.7515
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.6100e-003**	**8.6800e-003**	**0.0187**	**3.0000e-005**		**2.7000e-004**	**2.7000e-004**		**2.7000e-004**	**2.7000e-004**	**0.0000**	**2.7483**	**2.7483**	**1.3000e-004**	**0.0000**	**2.7515**

3.6 Paving - 2035

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	4.3000e-004	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2009	0.2009	0.0000	0.0000	0.2010
Total	**7.0000e-005**	**3.0000e-005**	**4.3000e-004**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.2009**	**0.2009**	**0.0000**	**0.0000**	**0.2010**

3.7 Architectural Coating - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2816					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9000e-004	1.8900e-003	4.4900e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.6383	0.6383	2.0000e-005	0.0000	0.6389
Total	**0.2819**	**1.8900e-003**	**4.4900e-003**	**1.0000e-005**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.6383**	**0.6383**	**2.0000e-005**	**0.0000**	**0.6389**

3.7 Architectural Coating - 2035

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0335	0.0335	0.0000	0.0000	0.0335
Total	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0335**	**0.0335**	**0.0000**	**0.0000**	**0.0335**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2816					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9000e-004	1.8900e-003	4.4900e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.6383	0.6383	2.0000e-005	0.0000	0.6389
Total	**0.2819**	**1.8900e-003**	**4.4900e-003**	**1.0000e-005**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.6383**	**0.6383**	**2.0000e-005**	**0.0000**	**0.6389**

3.7 Architectural Coating - 2035

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0335	0.0335	0.0000	0.0000	0.0335
Total	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0335**	**0.0335**	**0.0000**	**0.0000**	**0.0335**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0391	0.6220	0.3809	3.3200e-003	0.2383	1.2700e-003	0.2396	0.0642	1.1900e-003	0.0654	0.0000	311.1709	311.1709	0.0230	0.0000	311.7454
Unmitigated	0.0391	0.6220	0.3809	3.3200e-003	0.2383	1.2700e-003	0.2396	0.0642	1.1900e-003	0.0654	0.0000	311.1709	311.1709	0.0230	0.0000	311.7454

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	282.29	53.46	27.54	622,450	622,450
Total	282.29	53.46	27.54	622,450	622,450

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.520477	0.028091	0.176473	0.089974	0.008253	0.003211	0.033872	0.130415	0.002306	0.001106	0.004464	0.000952	0.000405

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	53.2747	53.2747	4.7000e-003	9.7000e-004	53.6819
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	53.2747	53.2747	4.7000e-003	9.7000e-004	53.6819
NaturalGas Mitigated	4.5600e-003	0.0414	0.0348	2.5000e-004		3.1500e-003	3.1500e-003		3.1500e-003	3.1500e-003	0.0000	45.1050	45.1050	8.6000e-004	8.3000e-004	45.3730
NaturalGas Unmitigated	4.5600e-003	0.0414	0.0348	2.5000e-004		3.1500e-003	3.1500e-003		3.1500e-003	3.1500e-003	0.0000	45.1050	45.1050	8.6000e-004	8.3000e-004	45.3730

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	845235	4.5600e-003	0.0414	0.0348	2.5000e-004		3.1500e-003	3.1500e-003		3.1500e-003	3.1500e-003	0.0000	45.1050	45.1050	8.6000e-004	8.3000e-004	45.3730
Total		**4.5600e-003**	**0.0414**	**0.0348**	**2.5000e-004**		**3.1500e-003**	**3.1500e-003**		**3.1500e-003**	**3.1500e-003**	**0.0000**	**45.1050**	**45.1050**	**8.6000e-004**	**8.3000e-004**	**45.3730**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	845235	4.5600e-003	0.0414	0.0348	2.5000e-004		3.1500e-003	3.1500e-003		3.1500e-003	3.1500e-003	0.0000	45.1050	45.1050	8.6000e-004	8.3000e-004	45.3730
Total		**4.5600e-003**	**0.0414**	**0.0348**	**2.5000e-004**		**3.1500e-003**	**3.1500e-003**		**3.1500e-003**	**3.1500e-003**	**0.0000**	**45.1050**	**45.1050**	**8.6000e-004**	**8.3000e-004**	**45.3730**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	357210	53.2747	4.7000e-003	9.7000e-004	53.6819
Total		**53.2747**	**4.7000e-003**	**9.7000e-004**	**53.6819**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	357210	53.2747	4.7000e-003	9.7000e-004	53.6819
Total		**53.2747**	**4.7000e-003**	**9.7000e-004**	**53.6819**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1864	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.2000e-004	7.2000e-004	0.0000	0.0000	7.7000e-004
Unmitigated	0.1864	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.2000e-004	7.2000e-004	0.0000	0.0000	7.7000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0282					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1582					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.2000e-004	7.2000e-004	0.0000	0.0000	7.7000e-004
Total	**0.1864**	**0.0000**	**3.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.2000e-004**	**7.2000e-004**	**0.0000**	**0.0000**	**7.7000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0282					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1582					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.2000e-004	7.2000e-004	0.0000	0.0000	7.7000e-004
Total	**0.1864**	**0.0000**	**3.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.2000e-004**	**7.2000e-004**	**0.0000**	**0.0000**	**7.7000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	10.5294	0.3059	7.3400e-003	20.3640
Unmitigated	10.5294	0.3059	7.3400e-003	20.3640

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	9.36562 / 0	10.5294	0.3059	7.3400e-003	20.3640
Total		**10.5294**	**0.3059**	**7.3400e-003**	**20.3640**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	9.36562 / 0	10.5294	0.3059	7.3400e-003	20.3640
Total		**10.5294**	**0.3059**	**7.3400e-003**	**20.3640**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	10.1942	0.6025	0.0000	25.2557
Unmitigated	10.1942	0.6025	0.0000	25.2557

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	50.22	10.1942	0.6025	0.0000	25.2557
Total		**10.1942**	**0.6025**	**0.0000**	**25.2557**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	50.22	10.1942	0.6025	0.0000	25.2557
Total		**10.1942**	**0.6025**	**0.0000**	**25.2557**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ODOR COMPLAINT HISTORY

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
Valentine/Belmont	1/7/2015	C-1501-054	Fumes from paint booth.
Jensen/Elm	1/26/2015	C-1501-231	Horrible smell in the air. Believes it's from a nearby rendering plant.
Floradora Avenue/Dearing Avenue	2/2/2015	C-1502-014	Paint fumes.
Hair Club	2/11/2015	C-1502-075	Fumes from Hair Club salon hair processing treatments vents out into the air.
Baker Commodities	4/6/2015	C-1504-026	Foul smell from Baker Commodities.
Cecilia Cerda/Julian's Furniture	5/8/2015	C-1505-011	Strong paint fumes and dust everywhere from a white building with broken window with glass door who is making furniture and painting. Strong fumes when furniture is set outside to dry.
Locan/Butler	5/17/2015	C-1505-029	Need to find out if surrounding neighbors need to inform their neighbors if they are spraying chemicals. There is a very strong odor of chemicals in the air. I have animals and kids.
Eden/Southwest	6/5/2015	C-1506-011	Odor complaint - smells like animal waste
Belmont/Valentine	7/6/2015	C-1507-008	Fumes from overspray of vehicles painted.
All Cars Auto Body	7/6/2015	C-1507-009	Fumes from overspray of vehicles painted.
North Avenue/Fig Avenue	7/20/2015	C-1507-031	Bad odor coming from the Cargill West plant at North and MLK. Smell was bad last week and is even worse this week. Mostly notice the odors at night, but now sometimes during the day too. Odors are the worst from about 10 or 11 PM until about 4 or 5 AM. Swamp cooler blows the odors right into my house and wakes me up at night.
Bullard/Marks	8/11/2015	C-1508-017	Smell in area like chicken feathers burning.
1990 E. Gettysburg Avenue	8/23/2015	C-1508-035	Protection of Public Health - The District shall continue to strive to protect the

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
			health of Valley residents through efforts to meet health-based state and federal ambient air-quality standards, based on science and prioritized where possible using health-risk reduction strategies. u stink blaming others and do not go to complaints in so called bad areas.
Blackstone/McKinley/Olive	8/25/2015	C-1508-046	Smoke smells like diesel even though the business is a BBQ place.
South of McKinley	9/2/2015	C-1509-007	Barbeque smells like something other than food is being cooked.
Maroa/2 blocks north of Sheilds	9/3/2015	C-1509-009	Person burning or cooking something that smells really awful. Can hear popping, snapping noise for 45 min. Had been occurring on patio but now "cooks" inside in the mornings and late at night 11 p.m. - 1:30 a.m.
Jensen/Cedar	9/28/2015	C-1509-097	Strong odor within the area of the elementary school. Unsure to what odor is or where it's coming from.
McKinley Avenue/Hayes Avenue	9/28/2019	C-1509-103	For several days, strong odor in area that smells kind of like diesel fumes or burnt fuel of some type.
Nielsen Avenue/ Whitesbridge Avenue	10/1/2015	C-1510-003	Caller states there is a strong sulfur smell coming from the west. Since it's near a school people are concerned.
Olive/Clovis	10/5/2015	C-1510-024	Per RP: The winery near his home is polluting the air. RP has problems breathing and it's worse in the evening when the plant is running. Usually occurs after 10 p.m.
Highway 180/Marks Avenue	10/8/2019	C-1510-033	Strong odor from outside is seeping into their business building. Smells like dead fish.
OCS Clovis Avenue/Olive	10/9/2015	C-1510-038	The air around this area today is actually toxic. I walked in to my office and

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
			was sent to the bathroom gagging. It's hard to breath and actually hurts the nose and throat. This has been going on for a while, but today is worse.
Cedar	10/12/2015	C-1510-044	Per RP, there is a smell similar to rotten garbage near the school grounds. RP is not sure where exactly the odor is coming from. The children are complaining about the smell. RP would like to know the outcome of their last complaint.
Fresno/Sierra	10/12/2015	C-1510-045	Fine Line Customs is painting complete vehicle jobs outside without a paint booth.
Cedar/Rowell	10/13/2015	C-1510-047	RP smells a really bad trash smell in the area of Calwa Elementary School. RP also reported that all the school kids are also complaining about the smell.
Cedar/Jensen	10/14/2015	C-1510-053	Foul smell - like manure, rotten and stinky; coming from area around big aluminum silo, south of Calwa Elementary School. Occurring for the past week. Yesterday morning the smell was especially bad and there with a plume of dusty brown particles from that operation.
East Jensen Avenue/South Cedar Avenue	10/20/2015	C-1510-068	RP states that there is bad air quality in the area of Calwa Elementary School.
Jensen/Maple	10/21/2015	C-1510-077	Caller says a horrible smell fills the air every night. Usually starts in the evening and lasts up to 3 p.m. the following, only to begin again that evening. The smell resembles burning rubber.
4477 South Chestnut Ave	10/22/2015	C-1510-079	Per the Caller: An odor was observed from a 330 gallon tote containing Chorine

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
			Dioxide. It is unknown at this time if the tote is leaking. (Message copied from original Spill Report received via email.) Misa
6756 N Woodson	11/27/2015	C-1511-090	My neighbor has this huge smoky stove going. It smells like gas or propane or something. It stinks. There have been complaints before from the neighbors regarding on this property. It looks like there is fog in our backyard.
Fresno St/Dakota Ave	12/21/2015	C-1512-102	Burning garbage or other substance other than wood in the fireplace at this residence.
Church/Brawley	1/25/2016	C-1601-081	Tenants are dumping manure/fertilizer on the property. Per RP, the smell is strong and she has young children. Per RP, she has a headache because of the smell.
4th Street And Escalon Ave	2/24/2016	C-1602-084	Odor - smells like chemicals.
Chestnut/Central	3/3/2016	C-1603-010	Pouring chemicals into the sewer drain near home and causing a really bad smell of bleach and acid.
Bullard/Barstow	3/21/2016	C-1603-048	RP states there is a bad smell, like sewage.
North / Central Ave/Temperance	3/21/2016	C-1603-049	Sprayed Paraquat (weed killer), bad smell and its really strong making RP's nose and eyes burn.
E Ashlan/E Shaw/N Del Rey	4/6/2016	C-1604-013	Strong odor in the area - smell like fertilizer.
Shaw And Mccall (& Academy)	4/7/2016	C-1604-016	RP says there is an almond orchard that had manure piled for 2 - 3 weeks. It was recently dispersed, concerned if there is pesticides being dispersed along with manure.
6615 N. Blackstone (Al's Automotive)	4/11/2016	C-1604-023	Painting without a paint booth.
Rice Road Transfer Station - 10463 N. Rice Road	4/11/2016	C-1604-024	Bad smell coming from facility.

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
Tulare St/Van Ness St	4/19/2016	C-1604-036	Construction on road causing odor and dust.
2216 N. Pleasant	4/20/2016	C-1604-038	Painting vehicles with a spray gun, which is creating odor/fumes.
Bullard Ave/Marty Ave	4/22/2016	C-1604-053	Chemical smell.
Clinton Ave/Highway 99	4/27/2016	C-1604-065	Paint fumes from spray painting of autos at this location.
Church Ave/Fruit Ave	5/13/2016	C-1605-015	Foul smell in the air near Darling Ingredients & Foster Farms.
Grantland/Mckinley	5/20/2016	C-1605-028	Truck comes and dumps fertilizer at the business, really bad smell in the area.
Clovis/Dakota	6/27/2016	C-1606-065	Ponding basin was drained last Tuesday and it smells horrible. Complainant says they can't go outside to work on yard or enjoy the pool because of the stink in the air.
E California Ave/E Butler Ave	6/29/2016	C-1606-073	RP states there is a bad odor due to crops rotting.
Kearney/West	7/6/2016	C-1607-007	Strong smell of pigs (methane gas).
West Ave/Myers Ave	7/13/2016	C-1607-022	Bad odor within the area.
Vulcan Materials	8/14/2016	C-1608-034	A smell that is so bad that we have to shut our windows and turn off our evaporated cooler. It usually occurs at nights. Smells like asphalt being cooked. Sometimes it will go on for weeks, like lately. Then others times don't smell it for a month or so. The air feel unbreathable that you take shallow breaths and try not to breathe through your nose. Some nights are worse than others. This isn't a new occurrence. Been happening well over a year
Ponderosa Paint	8/22/2016	C-1608-058	Releasing vapor in the area.
Church Ave/Willow Ave	8/29/2016	C-1608-073	Generator causing smell.
Ponderosa Paint	8/30/2016	C-1608-075	Paint company releasing chemical smell.
Willow Ave/Church Ave	9/1/2016	C-1609-001	Compressor generator causing smell.

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
4600 E. Inyo	9/1/2016	C-1609-004	Gas smell coming from residence in blue house. Person works on cars under the patio of the house. The gas smell lingers all day long, began today at 10 a.m. and smell is still in the air.
Church Ave/Willow Ave	9/6/2016	C-1609-013	Exhaust fumes from compressor generator installed by AT&T still occurring. The unit has not be removed as promised.
Alluvial Ave/Chestnut Ave	9/29/2016	C-1609-118	Smells like toxic chemical, bug spray, diesel fumes -- from excavation of dirt for development.
Valley Protein	10/27/2016	C-1610-073	Strong foul odor coming from business that deals with cadavers.
Kings Canyon/Fowler	10/31/2016	C-1610-077	Resident is painting vehicle with sprayer in driveway.
Jensen Ave/Elm Ave	11/13/2016	C-1611-043	Strong odor in the area this morning, possibly from the rendering plant. Smells like a cooking oil or dead animal odor.
Ocs Unknown	12/29/2016	C-1612-157	I smell a strong astringent odor everyday as I drive along the 99 in Southern Fresno. It smells like nail polish remover. I am worried it will have negative impact on the health of those living, working, and commuting around that area.
Dakota/Milburn	1/10/2017	C-1701-013	Odor does not smell like its coming from a fireplace, smells like they're burning foreign materials like plastic or chemicals. Thinks it could be coming from a factory due to the frequency of the odor and the large amount of ground it covers. Tends to bed more pungent when the wind is not present. noticed it 7:45 a.m. this morning and says it is still pungent at this moment

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
Marie Pickett	1/14/2017	C-1701-040	Neighbor to the back is burning in the fireplace and the smoke smells bad, like trash is being burned.
Cas	2/3/2017	C-1702-009	Strong paint smell possibly coming from a nearby used car lot.
Herndon/Blythe	2/13/2017	C-1702-030	Generator going at 2:30 - 4:30 a.m. every other Monday. Really bad diesel fumes in the air.
E Griffith Way/N Clark St	2/14/2017	C-1702-032	Smells like something is on fire/burning.
Sunset West Community	3/15/2017	C-1703-038	RP says they are revving up their vehicle every morning about 6 a.m. and the exhaust is filling the air.
Unknown	3/21/2017	C-1703-061	For the past couple days now there has been a horrible smell in the area. I first noticed it coming into my car the other day as I pulled up to shields and temperance. It smells so awful that I need to close the windows, stop the A/C, and still breathe lightly. This smell lingers in the neighborhood, going outside or even opening the windows is so unpleasant that I avoid doing it at all costs. With the temperatures rising leaving the windows even at night and early mornings makes it hard for heat to dissipate yet I do not want to have such a smell in my house.
Shaw/Maple	5/4/2017	C-1705-014	Strong smell of fumes.
1st And Herndon	5/17/2017	C-1705-043	Burnt grease smell.
Cargill	5/19/2017	C-1705-049	Cargill meat has been releasing a noxious odor into the air for the last 2 or so week, ongoing right now.
Maple Ave/E Alamos Ave	5/19/2017	C-1705-050	Caller smelling noxious odor; smell tends to come and go but when it's strong it burns her eyes nose and throat, been ongoing the last 5 months.

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
Nations Roof	6/2/2017	C-1706-008	Plastic smell coming from roofing company.
Patrick W. Geiger	6/6/2017	C-1706-014	Strong smell of paint coming from Leap Truck Painting (diesel truck painting company).
Maple/Shaw	6/13/2017	C-1706-039	Strong smell of fumes.
Vance	8/25/2017	C-1708-059	Paint shop going on in residence, no filters, possibly doing dealer work. There are sanded cars in driveway.
3115 South Fig Ave	9/18/2017	C-1709-040	Mechanical malfunction on a valve caused the release of anhydrous ammonia.
Dearing/Floradora	9/18/2017	C-1709-037	Smell of paint fumes.
Kearney/California	10/2/2017	C-1710-008	Caller stated that there may be a gas leak, odors of sewage are entering the home. Work was done last week on the pipes.
Carlos Felix	10/23/2017	C-1710-083	Dumping waste on land.
Orange/Golden State	11/13/2017	C-1711-032	Foul chemical odor in the area at least a couple times a week.
Winery/Olive	11/15/2017	C-1711-039	Odor smell and smoky air outside. Only at night for the past two nights. Smell is not wood smoke but it is burn odor. Does not believe it is coming from a fireplace.
N Clovis & E Clinton Ave	11/21/2017	C-1711-055	Cal Fire called to report Carbon monoxide entering into home and on scene.
Jensen/Elm	11/24/2017	C-1711-066	There is a foul stench in the air. I don't know if it is coming from a rendering plant.
Glacier Point Middle School	12/2/2017	C-1712-016	Central Unified School District employees are working on the lawn mowing and using diesel equipment next to where students are playing soccer and the diesel or gas fumes are going over towards the playing area. PR wants to know if something could be done to stop the gas fumes

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
			from coming over to the playing fields.
Cornelia/Lincoln 14dec2017 Odor	12/14/2017	C-1712-140	Dairy, Turkey and Chicken Farms in the area, a smell is in the air all day but stronger in the morning and in the evenings, going on for about 3 weeks.
Ocs Central/American	1/24/2018	C-1801-156	Odor for the last 2 weeks, this odor is coming in through our vents and causing headaches for staff.
Mauricio Martinez	1/25/2018	C-1801-160	Spray paint and fumes in the air.
1231 N Maple	1/31/2018	C-1801-195	Painting vehicles without a paint booth, painting is done inside and outside of building.
2286 South Ivy Ave	2/9/2018	C-1802-055	CAL OES #18-0917 Suspected toxic odor.
5736 E. Orange Ave.	2/12/2018	C-1802-076	Very bad smell in the air, plastic odor.
Clovis Ave/Olive Ave	2/15/2018	C-1802-088	Nauseating smell like raw sewage occurred the past few evenings.
Belmont/Sunnsyside	2/15/2018	C-1802-094	There is a sewage smell in the air. I was asked by an Inspector to call when the odor returned, and now it is back.
Ocs Olive/Clovis	2/22/2018	C-1802-122	The air around this factory all the way to Belmont and Willow smells like feces. It gets really bad after the sun sets. The odor gets into the houses. It's going on a couple of weeks now. This hasn't happened in the 3 years I have lived in the area until now.
E&J Gallo Winery	2/23/2018	C-1802-125	Odor is coming from EJ Gallo Winery. Smell of sulfur, egg and manure. Can smell odor from 7pm-9am; has been going on for about week.
E&J Gallo Winery	3/8/2018	C-1803-014	Air pollution - smells bad daily typically after 6 p.m.
Clovis/Olive	3/20/2018	C-1803-033	Odor- sulfur, rotten egg smell.

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
Maple/Mckinley	3/27/2018	C-1803-043	Heavy smell of auto body paint.
Clovis/Olive	3/28/2018	C-1803-046	Rotten egg smell coming from facility
Freeway 41/Clovis Ave.	4/7/2018	C-1804-017	Strong diesel odor between 41 and Clovis Avenue.
Other	4/11/2018	N-1804-041	A strong rotting odor has been all over the Pacific and Magnolia neighborhoods in Stockton for the last few days
Dakota/Hayes	5/7/2018	C-1805-019	For the last week or two there has been a very, very strong manure smell near my house. I don't know where it is coming from, but want to know if it's safe to let my kids play outside.
W Garland/N Teilman	5/30/2018	C-1805-076	Strong smell of burning plastic around the neighbor. Cannot identify where it is coming from
Fresno/Olive	7/30/2018	C-1807-046	Odor in air, chemical bleach smell.
4744 E. Carmen	7/31/2018	C-1807-047	Strong odor, no paint booth permit.
H1 Customs	8/10/2018	C-1808-019	Auto body doing painting without a paint booth. Vehicles are being (prepped) sanded outside.

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
Woodward Park And Central Fresno	9/23/2018	C-1809-049	As of late evening, Friday September 21, I have been sensitive to a strong smell that seems to be in Woodward Park and Central Fresno. And I have other friends who have noticed it as well. We also have symptoms of sneezing and runny noses. The smell is familiar to me that occurs mostly at the end of January-February from the fruitless pear trees. I'm just curious as there are hundreds of those particular trees throughout the Northern part of Fresno. Could you identify what it is for us as it would benefit our health to know and help guide us to what to avoid.
Blythe/Belmont And Olive	9/26/2018	C-1809-056	Neighbors are complaining about truckloads of rotten vegetables being dumped in the yard to feed the animals.
El Capitan/Brawley	9/26/2018	C-1809-057	Complaints of a really horrible smell coming from the yard due to rotten vegetables being dumped.
Audubon Ave/Lexingston Ave	10/5/2018	C-1810-015	Hazardous waste being dumped into trash.
G.M. Auto Paint Supplies	10/11/2018	C-1810-033	Used to be a bar; now cars are being sprayed out in the open. RP mentioned they usually spray every day around this same time.
Willow/Behymer	10/13/2018	C-1810-046	The fields at the corner of Willow/Behymer (NE corner) are sprayed or fertilized with something that smells terrible!
P-R Farms	10/14/2018	C-1810-036	Strong odor occurring now. Began Friday evening. Most strong in the late evening/early morning. Smells like a

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
			manure/fertilizer mix. Can't go outside, can't open windows. Permeated fabric in cars. I've talked with other residents, the smell is as far west as Shepherd/Perrin and as far south as Nees/Willow. What is it?
P-R Farms	10/15/2018	C-1810-038	For several days there has been a very pungent odor at my address. Smells like ammonia, manure, or a dead animal. This smell is throughout the neighborhood.
Maple/Shepherd	10/15/2018	C-1810-040	Foul smell coming from PR Farms. The location of the farm is on Shepherd and Willow.
P-R Farms	10/15/2018	C-1810-048	Noxious smell that burns the eyes nose and lungs. Occurring the past two days October 11 and October 12. Starts coming around 8 pm and continues until the morning hours.
Willow/Shepherd	10/15/2018	C-1810-044	Bad smell in area.
P-R Farms	10/15/2018	C-1810-058	Disgusting manure smell coming from orchards across from our house on Willow.
1860 E. Decatur Ave	10/16/2018	C-1810-068	Chemical smell in the air in this neighborhood.
P-R Farms	10/16/2018	C-1810-063	Noticed strong smell, like pesticide, early Saturday morning October 13, also last night, and this morning smell was still noticeable near Mountain View Elementary School.
Sheppard/Willow	10/16/2018	C-1810-061	Manure complaint; believes it is the orchard behind her
Willow And Perrin Area	10/16/2018	C-1810-066	There's been manure smell in the air for past few days.
Ne Corner Of Willow And Shepherd	10/16/2018	C-1810-066	Bad odor from agricultural fertilizing.

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
Chestnut	10/16/2018	C-1810-067	Chemical smell in the air - dissipates during the day but stronger in the mornings and evenings. Was really bad on Sunday.
P-R Farms	10/16/2018	C-1810-069	RP complaining of raw sewage or pasteurized smell. RP & neighbors think it's coming from Wawona Farms area. Smell is stronger at night and the smell lingers to the morning, thinks they are fertilizing at night. RP cannot open windows or door to house since the smell is so horrific. RP deems it unsanitary. RP's friend lives on Minnewawa & Nees and he can smell the pungent odor as well.
Cedar And Nees Area	10/17/2018	C-1810-077	Pungent sharp odor from PR Farms traveling to location given. The smell is coming from Shepherd and Minnewawa.
Shepard/Chestnut	10/17/2018	C-1810-081	RP claims unbearable sewage smell. Thinks it's from the new construction site. RP & neighbors can't open windows at night since the smell is so bad. RP doesn't know where the smell is coming from, but there is construction going on down Willow & Shepard. Joggers are wearing masks early in the morning. RP experiencing headaches for 2 days. RP doesn't feel like it's safe for kids to play outside since the smell is so bad.
P-R Farms	10/18/2019	C-1810-087	We left on a trip the morning of Thursday, October 11th. When we returned on the evening of Saturday October 13th, the entire neighborhood was smelling like raw sewage. The smell permeates our

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
			garage and we cannot open our doors or windows without it getting inside. We're still using air filters and air conditioning even though the weather outside is fantastic. Smell is worst after sunset through when we leave to work in the morning, possibly longer than that.
P-R Farms	10/19/2018	C-1810-090	Bad smell in the air - like dead body.
Shepherd/Minnewawa	10/19/2018	C-1810-091	Complaint of foul/toxic smells in the air due fertilizer being used.
Willow And Behymer	10/19/2018	C-1810-092	Chemical smell in the area, has been on-going for several days.
Sheppard/Willow	10/19/2018	C-1810-093	Manure complaint; concerned because ABC 30 told her there was human waste in it.
Shepherd And Peach Area	10/19/2018	C-1810-094	Chemical smell has been in the air for a few days now.
Shepherd & Willow	10/19/2018	C-1810-095	Complaints of human toxic waste smell from the almond orchard.
P-R	10/19/2018	C-1810-096	Toxic fertilizer smell due to human waste being used.
Willow/Beheymer	10/19/2018	C-1810-099	Reports of a horrendous smell in the air.
Shepherd/Willow	10/19/2018	C-1810-100	Reporting a foul toxic smell in the air.
P-R Farms	10/19/2018	C-1810-101	Nauseating manure smell in North Fresno.
P-R Farms	10/20/2018	C-1810-107	Strong smell from orchards lasting for days, irritating allergies.
P-R Farms	10/20/2018	C-1810-108	The smell of manure is disgusting. I've lived in the Central Valley all of my life. This is different. It is a different kind of pungent. It occurs at dusk, all through the night into the morning. We cannot even open our windows. First the mosquitoes now poop! Not. Good. Please address this!

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
Shepherd/Willow	10/21/2018	C-1810-120	Disgusting smell that occurs in the early evening around Shepherd and Willow area.
P-R Farms	10/21/2018	C-1810-114	Strong foul disgusting smell coming from the NE corner of Willow, This has become the worst smell that I have been around since living in this area the past 10 years. Someone from your office needs to pay this farmer a visit and have him plow this shit into the ground and try other options to keep his crop. If you believe this is not an issue come on out here around 9 p.m. and take a big whiff of this foul air.
P-R Farms	10/21/2018	C-1810-115	This odor started on 10/19 and continued till yesterday. The smell is so bad I felt sick. I understand it's the fertilizer on almond farm on Shepherd and Minnewawa, but it is unbearable. I lived in this area since 1999 and it has never been so bad. Closing the windows won't do the job and leave the whole house smelling like waste until the next day. Please, please do something about it. This new human waste fertilizer they are using is really affecting the area.
Chestnut And Nees	10/22/2018	C-1810-118	Chemical smell in the air been for couple of weeks, tingling and coughing.
Willow/Behymer	10/22/2018	C-1810-119	Burning of eyes and breathing problems due to the "fertilizer".
Minnewawa/Shepherd	10/22/2018	C-1810-121	Horrendous smell.
P-R Farms	10/22/2018	C-1810-122	Smelling an unbearable scent in the morning and evening hours.
P-R Farms	10/23/2018	C-1810-126	Manure smell.
345 E. Vassar	10/25/2018	C-1810-140	Chemical smell in the air, has been on-going for several days.

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
P-R Farms	10/29/2018	C-1810-145	Very bad, awful, noxious, and heavy smell in the north east Fresno area that I believe is emanating from P-R farms on Chestnut and Shepherd.
Chestnut/Copper	11/2/2018	C-1811-005	Foul fertilizer smell.
Peach/Minnewawa	11/6/2018	C-1811-016	Foul smell of fertilizer which is causing health issues.
Ocs Shepherd/Willow	11/7/2018	C-1811-019	I wrote in several weeks ago (C-1810-111) to talk about the strong odors coming from PR Farms on Shepherd. Someone called back and nicely explained that the Air Pollution Control Board didn't feel it was detrimental to our health. I usually have barely noticeable asthma, but for the last month, it has been extreme. I still have it. I think you should re-evaluate. This asthma and the horrible order should be addressed. From hearing the reports of all the people that are having breathing problems, and from the fact that the odor gets in your house as well as being outdoors, I find it hard to believe that this is somehow OK for your health. I think you should re- evaluate because this cannot possibly be ok for our lungs. You need to hear all the people and how it affects them, rather than just say it is ok. It is obviously not ok.
P-R Farms	11/7/2018	C-1811-020	Toxic smell.
7166 N. Fruit Ave. Apt 163 93711	12/19/2018	C-1812-109	Coating in apartment complex.
Clovis/Olive	12/20/2018	C-1812-112	Awful smell coming from facility, can be smelled several blocks away.
Ocs Spruce/Herndon/Ca	2/20/2018	C-1902-035	Very strong smell like rotten eggs in the morning. Smells like a sewer back up.

Odor Complaints in City of Fresno Planning Area 2015-2019

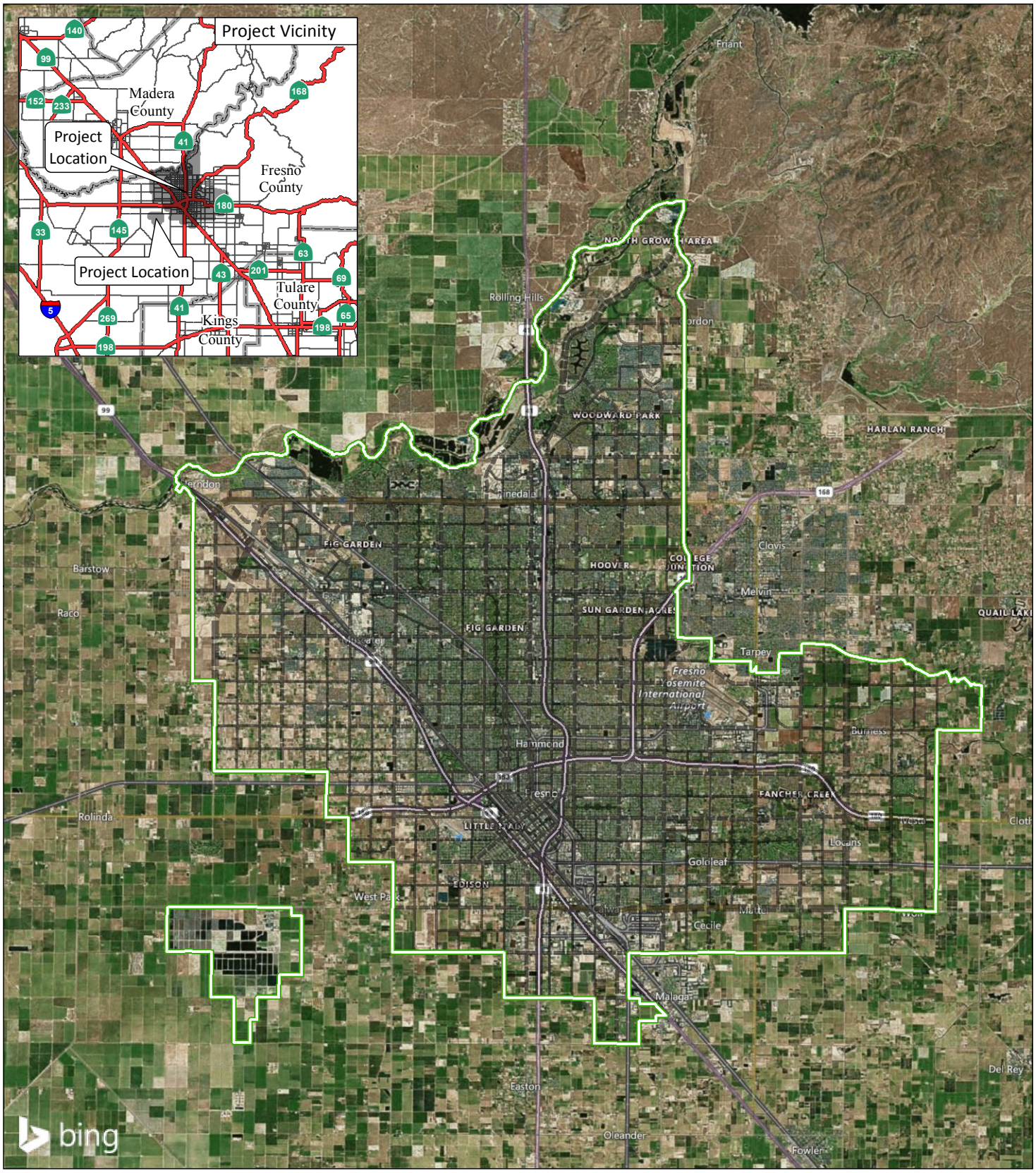
Location	Date	Complaint Number	Findings
Chestnut Ave/Copper Ave	3/16/2019	C-1903-033	RP reported strong smoke smell in her home and neighborhood. Smoke can be seen from her second story view.
Inyo/F Street	3/21/2019	C-1903-046	Mechanics shop painting cars - air smells pretty bad.
BHJ USA Inc	3/26/2019	C-1903-051	Bad odor coming from the pet food processing plant.
North/Valentine	4/1/2019	C-1904-002	Smell of chemicals from crop duster.
Yale/Grantland	4/2/2019	C-1904-011	Cabinet shop is being ran out of the back shop. The fumes from the paint they use for the cabinets, spread all over the neighborhood and is making people sick.
Belmont And North Ferger	4/23/2019	C-1904-052	Complaints of fumes coming from the auto body shops.
Not Provided	4/26/2019	C-1904-068	Noise and odor coming from landscaping equipment.
Dakota/9th	5/22/2019	C-1905-059	Halcyon Apartments, apartment 109 Apartment maintenance spraying adhesive and fumes are spreading throughout the adjoining apartments. Has a strong chemical smell that is permeating into other apartments. Workers stated that spraying will be worse tomorrow.
Haze/Mckinley	5/31/2019	C-1905-078	Foul odor.
Ashlan/Chestnut	6/5/2019	C-1906-007	Funny smelling odor (Dead Animal) possibly in the master bedroom, bathroom. It's now in the other bathroom which is on the other side of the house. They're unable to turn on the air due to the smell.
Glen Agnes	7/3/2019	C-1907-007	Chemical smell.
Olive Ave/First Ave	7/15/2019	C-1907-034	Horrible smell, like rotten meat coming from A C Mart & Deli trash bin in the alley.
Angel Agundez (Tenant)	7/24/2019	C-1907-054	Complaints of a paint shop in the back of the house. Cars are being brought in on a regular basis to paint.

Odor Complaints in City of Fresno Planning Area 2015-2019

Location	Date	Complaint Number	Findings
E. Reverend Chester Riggins Ave/S.	7/30/2019	C-1907-068	Painting a vehicle.
OCS Shields and Blackstone	8/8/2019	C-1908-015	The Nail Salon (name uncertain) located in the south-east section of the Manchester Mall. There is a VERY strong chemical odor (acetone or other solvent) emanating from this establishment on a daily basis. Often the odor is so strong, it can be detected the moment one enters the mall, and has caused dizziness and headaches to some in our walking group. I have been walking the mall twice daily at 10:00 a.m. and 15:00 p.m. for roughly two months and the odor has been there at least since May 2019.
OCS Fruit/Clinton	8/12/2019	C-1908-023	Excessive animal feces smell.
206 E. Cortland Avenue 93704	8/13/2019	C-1908-025	Complaints of the smell of lighter fluid and fumes due to continuous BBQing.
Shaw/Palm	8/14/2019	C-1908-029	The Habit Restaurant in Fig Garden. Heavy odor of grease and residue in the air, causing surrounding vehicles and buildings to be covered in residue.

Source: SJVAPCD (September 2019), compiled by LSA (September 2019).

HEALTH RISK CONTOURS



LSA

LEGEND

Planning Area

FIGURE 1

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Miles

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

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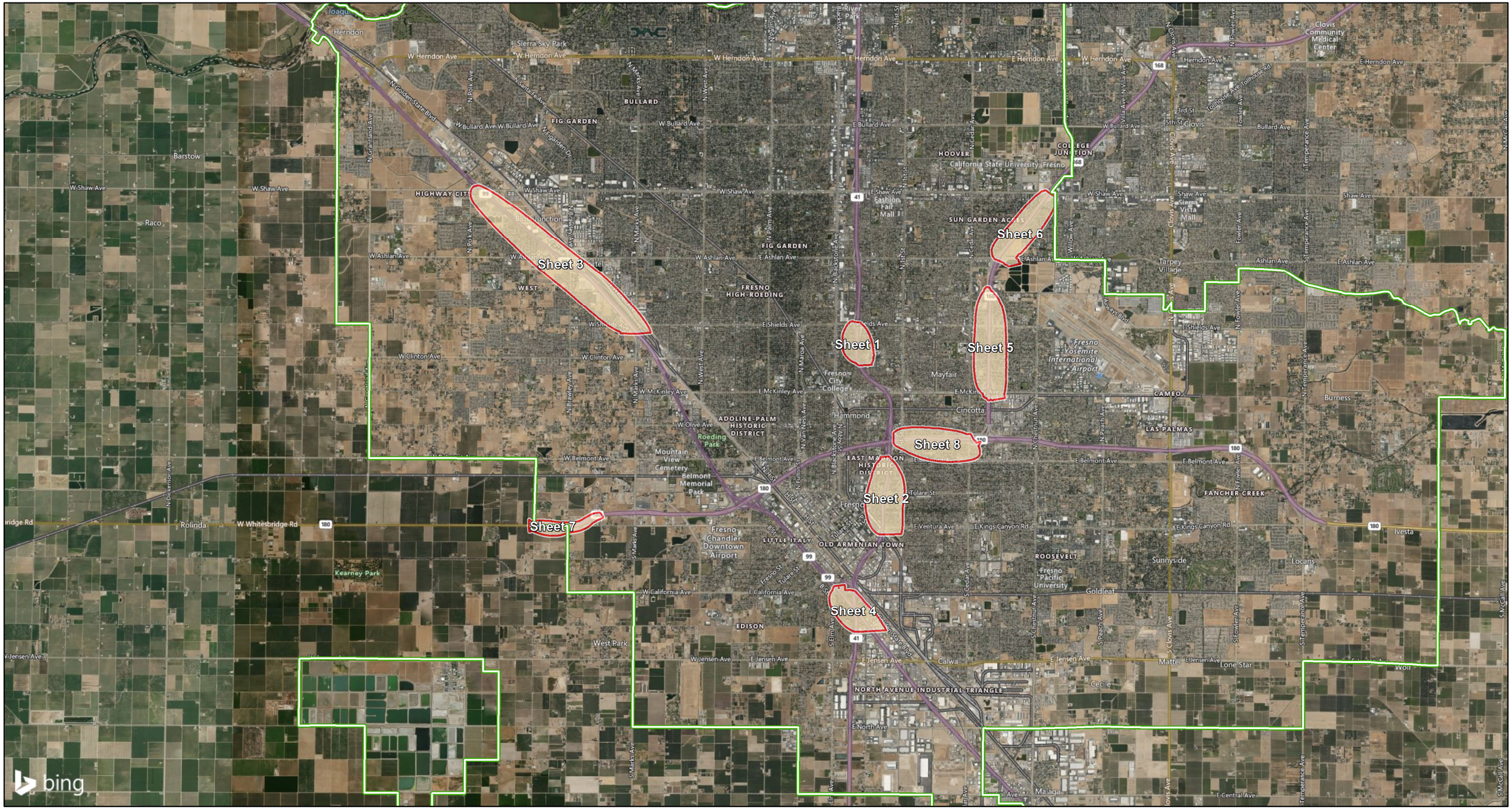
City of Fresno General Plan
Program Environmental Impact Report

Regional Location and Local Vicinity Map



LSA

LEGEND

- Fresno Planning Boundary
- Cancer Risk Analysis Areas

0 3100 6200 FEET

FIGURE 2

Project Name

Cancer Risk Analysis Areas

SOURCE: Bing Maps (2018); Lakes Environmental (10/2019); City of Fresno (2014)

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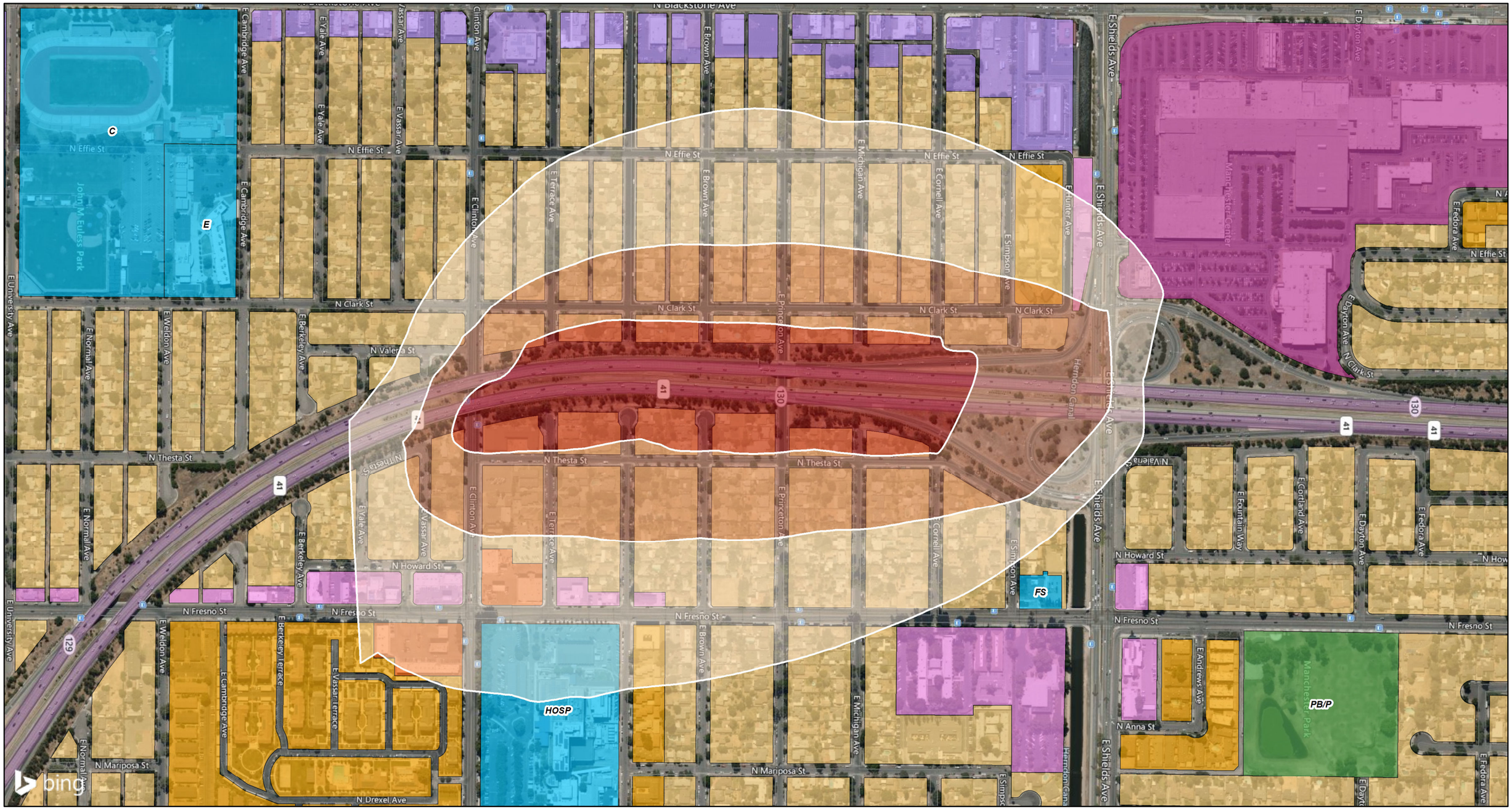

LSA

LEGEND

Cancer Risk Analysis
- Cancer Risk: 5 per million
- Cancer Risk: 10 per million
- Cancer Risk: 20 per million

Planned Land Use

Residential
- Medium Density (5.0-12 D.U./acre)
- Medium High Density (12-16 D.U./acre)

Commercial
- Community
- General
- Regional

Employment
- Office

Mixed Use
- Neighborhood Mixed Use

Open Space
- Ponding Basin (Park use)

Public Facilities
- Public/Quasi-public Facility
- Elementary School
- College
- Fire Station
- Hospital

0 170 340 FEET

SOURCE: Bing Maps (2018); Lakes Environmental (10/2019); City of Fresno (2014)

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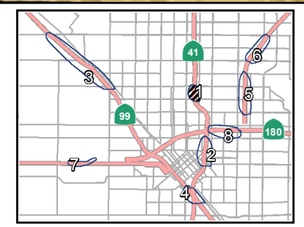

FIGURE 3

Sheet 1 of 8

Project Name

Cancer Risk Analysis

LSA

LEGEND

Cancer Risk Analysis
- Cancer Risk: 5 per million
- Cancer Risk: 10 per million
- Cancer Risk: 20 per million

Planned Land Use

Residential
- Low Density (1-3.5 D.U./acre)
- Medium Density (5.0-12 D.U./acre)

Employment
- Light Industrial
- Heavy Industrial

Mixed Use
- Neighborhood Mixed Use

Downtown
- Downtown General
- Downtown Neighborhood

Open Space
- Park

Public Facilities
- Elementary School
- Hospital

0 170 340 FEET

SOURCE: Bing Maps (2018); Lakes Environmental (10/2019); City of Fresno (2014)

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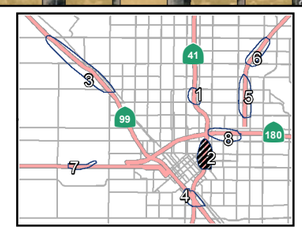

FIGURE 3
Sheet 2 of 8

Project Name

Cancer Risk Analysis

LSA

LEGEND

Cancer Risk Analysis
- Cancer Risk: 5 per million
- Cancer Risk: 10 per million
- Cancer Risk: 20 per million

Planned Land Use

Residential
- Low Density (1-3.5 D.U./acre)
- Medium Low Density (3.5-6 D.U./acre)
- Medium Density (5.0-12 D.U./acre)
- Medium High Density (12-16 D.U./acre)
- Urban Neighborhood (16-30 D.U./acre)

Commercial
- Community
- Recreation
- General

Employment
- Office
- Light Industrial

Mixed Use
- Regional Mixed Use

Open Space
- Community Park
- Neighborhood Park
- Open Space
- Park

Ponding Basin
- Ponding Basin (Park use)

Public Facilities
- Public/Quasi-public Facility
- Special School
- Elementary School
- Middle School

High School
- Church
- Community Activity Center
- Fire Station

0 500 1000 FEET

SOURCE: Bing Maps (2018); Lakes Environmental (10/2019); City of Fresno (2014)

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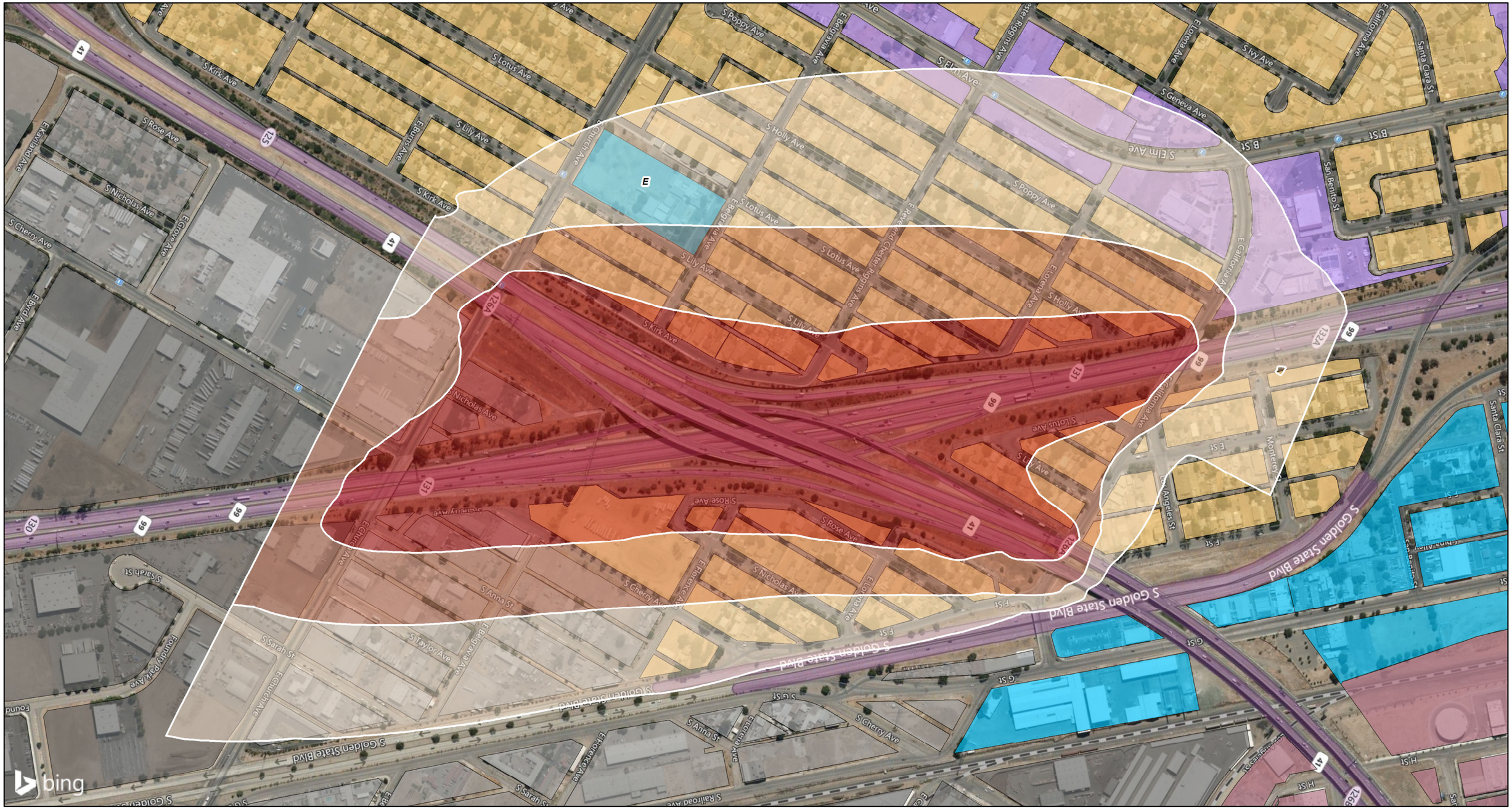
FIGURE 3
Sheet 3 of 8

Project Name

Cancer Risk Analysis



LSA

LEGEND

Cancer Risk Analysis
- Cancer Risk: 5 per million
- Cancer Risk: 10 per million
- Cancer Risk: 20 per million

Planned Land Use

Residential
- Medium Density (5.0-12 D.U./acre)

Employment
- Light Industrial
- Heavy Industrial

Mixed Use
- Neighborhood Mixed Use

Downtown
- Downtown Neighborhood

Public Facilities
- Public/Quasi-public Facility
- Elementary School

0 170 340 FEET

SOURCE: Bing Maps (2018); Lakes Environmental (10/2019); City of Fresno (2014)

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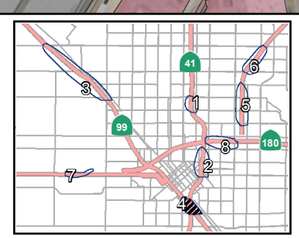
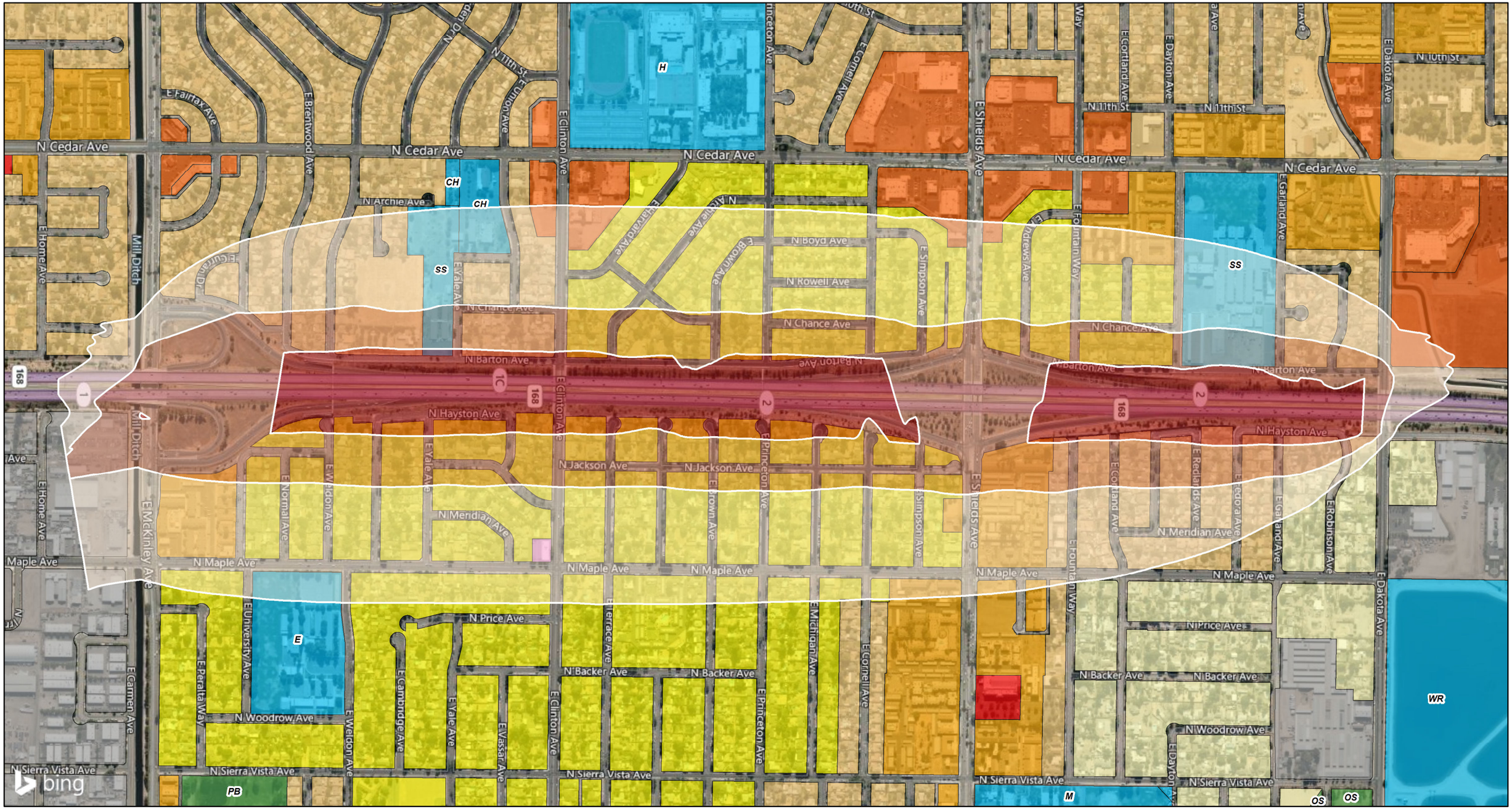


FIGURE 3
Sheet 4 of 8

Project Name

Cancer Risk Analysis



LSA

LEGEND

Cancer Risk Analysis
- Cancer Risk: 5 per million
- Cancer Risk: 10 per million
- Cancer Risk: 20 per million

Planned Land Use

Residential
- Low Density (1-3.5 D.U./acre)
- Medium Low Density (3.5-6 D.U./acre)
- Medium Density (5.0-12 D.U./acre)
- Medium High Density (12-16 D.U./acre)

Commercial
- Community
- Recreation
- General

Employment
- Office

Light Industrial

Open Space
- Open Space
- Ponding Basin

Public Facilities
- Public/Quasi-public Facility

Special School
- Elementary School
- Middle School
- High School
- Church
- Water Recharge Basin

0 250 500 FEET

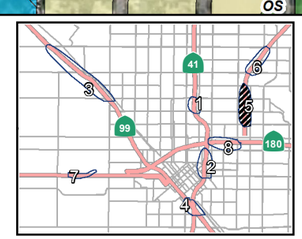


FIGURE 3
Sheet 5 of 8

Project Name
Cancer Risk Analysis

SOURCE: Bing Maps (2018); Lakes Environmental (10/2019); City of Fresno (2014)

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LSA

LEGEND

Cancer Risk Analysis
- Cancer Risk: 5 per million
- Cancer Risk: 10 per million
- Cancer Risk: 20 per million

Planned Land Use

Residential
- Low Density (1-3.5 D.U./acre)
- Medium Low Density (3.5-6 D.U./acre)
- Medium Density (5.0-12 D.U./acre)
- Medium High Density (12-16 D.U./acre)
- Urban Neighborhood (16-30 D.U./acre)

Commercial
- Community

Employment
- Light Industrial

Mixed Use
- Corridor/Center Mixed Use

Open Space
- Neighborhood Park
- Ponding Basin

Public Facilities
- Elementary School
- College
- Water Recharge Basin

0 210 420 FEET

SOURCE: Bing Maps (2018); Lakes Environmental (10/2019); City of Fresno (2014)

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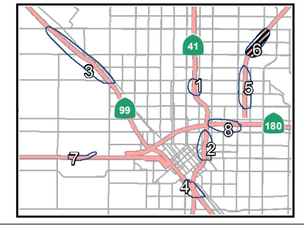
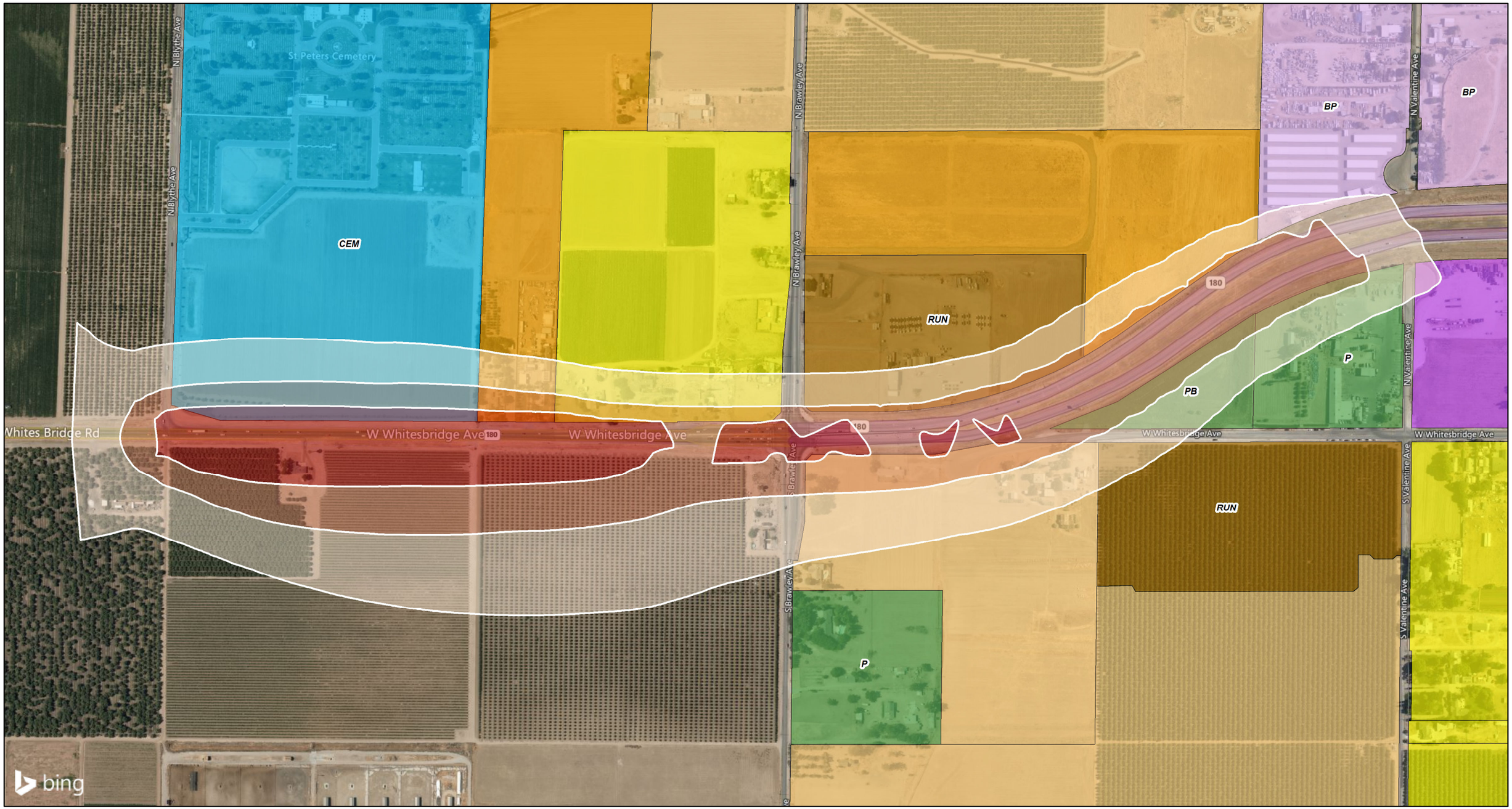


FIGURE 3
Sheet 6 of 8

Project Name

Cancer Risk Analysis



LSA

LEGEND

Cancer Risk Analysis
- Cancer Risk: 5 per million
- Cancer Risk: 10 per million
- Cancer Risk: 20 per million

Planned Land Use

Residential
- Medium Low Density (3.5-6 D.U./acre)
- Medium Density (5.0-12 D.U./acre)
- Medium High Density (12-16 D.U./acre)
- Urban Neighborhood (16-30 D.U./acre)

Employment
- Business Park

Mixed Use
- Corridor/Center Mixed Use

Open Space
- Park
- Ponding Basin

Public Facilities
- Cemetery

0 170 340 FEET

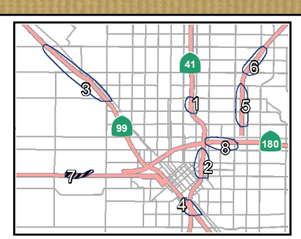


FIGURE 3
Sheet 7 of 8

Project Name
Cancer Risk Analysis

SOURCE: Bing Maps (2018); Lakes Environmental (10/2019); City of Fresno (2014)

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LSA

LEGEND

Cancer Risk Analysis
- Cancer Risk: 5 per million
- Cancer Risk: 10 per million
- Cancer Risk: 20 per million

Planned Land Use

Residential
- Medium Density (5.0-12 D.U./acre)
- Medium High Density (12-16 D.U./acre)

Commercial
- Community
- General

Employment
- Office

Mixed Use
- Neighborhood Mixed Use

Open Space
- Park

Public Facilities
- Public/Quasi-public Facility
- Elementary School
- Middle School

0 210 420 FEET

SOURCE: Bing Maps (2018); Lakes Environmental (10/2019); City of Fresno (2014)

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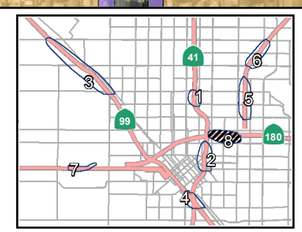

FIGURE 3
Sheet 8 of 8

Project Name

Cancer Risk Analysis

APPENDIX G

GREENHOUSE GAS REDUCTION PLAN UPDATE

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GREENHOUSE GAS REDUCTION PLAN UPDATE

CITY OF FRESNO, CALIFORNIA

March 2021

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GREENHOUSE GAS REDUCTION PLAN UPDATE

CITY OF FRESNO, CALIFORNIA

Submitted to:

City of Fresno
2600 Fresno Street #3043
Fresno, California 93721

Prepared by:

LSA
2565 Alluvial Avenue, Suite 172
Clovis, California 93611
559.490.1210

March 2021

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EXECUTIVE SUMMARY

The City of Fresno (City) is committed to providing a livable, equitable, and economically vibrant community through the reduction of greenhouse gas (GHG) emissions. By using energy more efficiently, harnessing renewable energy to power buildings, recycling waste, and enhancing access to sustainable transportation modes, the City will keep dollars in the local economy, create jobs, and improve the community's quality of life. To that end, the City has implemented a number of sustainability and conservation efforts and seeks to continue those efforts through local planning and partnerships. This GHG Reduction Plan Update (GHG Plan Update) integrates the City's past and current efforts with its future efforts to grow and thrive sustainably.

The City adopted its first GHG Reduction Plan (GHG Plan) in December 2014.[1] The GHG Plan established a target of reducing per capita GHG emissions in the city by 21.7 percent below 2020 business-as-usual (BAU) levels by 2020 and includes GHG reduction measures designed to achieve the reduction target. The GHG Plan is considered a "Qualified Plan," according to California Environmental Quality Act (CEQA) Guidelines §15183.5.[2] Since adoption of the GHG Plan, two significant regulations/decisions have been established. First, on September 28, 2016, Governor Brown signed Senate Bill (SB) 32 into law that sets a Statewide goal of reducing GHG emissions to 40 percent below 1990 levels by 2030. Additionally, on November 30, 2015, the California Supreme Court published its decision on the Newhall Ranch Specific Plan invalidating the Environmental Impact Report (EIR) for a variety of reasons, including the use of 29 percent below business-as-usual (BAU) as a threshold to determine significance of GHG emissions under CEQA without any supporting evidence. The GHG Plan Update ensures conformity with the mandates of California Supreme Court in the Newhall Ranch case and the State of California's latest GHG regulations. The GHG Plan Update re-evaluates the City's GHG reduction targets and existing reduction strategies from the 2014 GHG Plan. New goals and supporting measures are proposed to reflect and ensure compliance with changes in the local and State policies and regulations such as SB 32 and California's 2017 Climate Change Scoping Plan. The City's GHG inventory, based on the most recent data available for the year 2016 is evaluated and the future growth in emissions for the BAU and adjusted BAU (ABAU) scenarios (the ABAU scenario takes into account the State policies) for the years 2020, 2030, and 2035 are projected. The 2020 and 2030 forecast years are consistent with the goals identified in Assembly Bill (AB) 32 and SB 32, which identify Statewide GHG reduction targets by 2020 and 2030. The 2035 forecast year correspond to the City's General Plan horizon year and will allow the City to develop long-term strategies to continue GHG reductions.

1 FirstCarbon Solutions. 2014. Fresno General Plan Update, Greenhouse Gas Reduction Plan, prepared for the City of Fresno. July. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/F-2-Greenhouse-Gas-Reduction-Plan.pdf (accessed December 2019).

2 CEQA Guidelines 15183.5 describes requirements of a GHG Reduction Plan that would mitigate cumulative levels of GHG emissions within a jurisdiction to a less-than-significant level and allows development project tiering from the GHG Reduction Plan.

The City's total GHG emissions in 2016 were 2,923,633 metric tons of carbon dioxide equivalent (MT CO_2e) (Table ES-A). Under the BAU scenario, 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.

Table ES-A: City of Fresno 2016 Inventory Update and Business-as-Usual (BAU) 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 Energy	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: City of Fresno 2016 Inventory Update (ICLEI Local Governments for Sustainability (2018). Compiled by LSA Associates, Inc. (2019).
Notes:
- Residential Energy Includes emissions from both electricity and natural gas.
- Commercial Energy includes emissions from both electricity and natural gas.
- Industrial Energy includes emissions associated with electricity.
- Agriculture Energy includes emissions associated with electricity.MT CO_2e = metric tons of carbon dioxide equivalent

Under the ABAU forecast (which represents State efforts in reducing GHG emissions within the city), emissions will be 2,132,326 MT CO_2e in 2020; 1,939,325 MT CO_2e in 2030; and 1,801,137 MT CO_2e in 2035 (Table ES-B).

Table ES-B: City of Fresno Adjusted Business-as-Usual (ABAU) Emissions

Sector	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	**2,923,633**	**2,132,326**	**1,939,325**	**1,801,137**

Source: Compiled by LSA Associates, Inc. (2019)

This GHG Plan Update assesses the previous GHG reduction targets identified in the 2014 GHG Plan and proposes new targets that are consistent with State policies. In order to bring the City of Fresno GHG Plan in-line with the State's GHG reduction goals, emission reduction targets have been

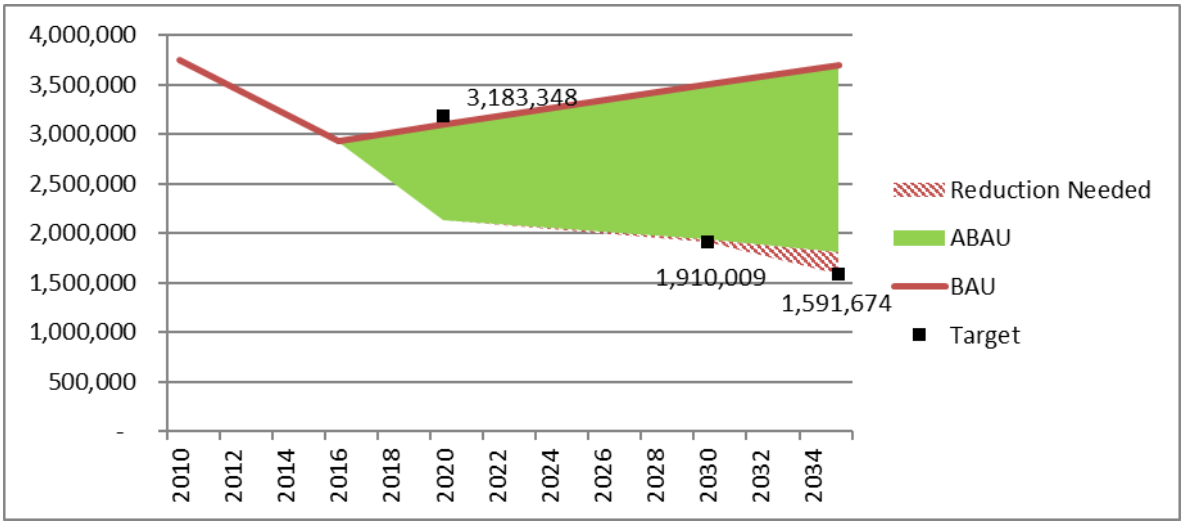
identified as shown in Table ES-C and Figure ES-1. Based on the City's ABAU Inventory, the City would meet the reduction target in 2020. In 2030 and 2035, the City would need to reduce emissions by 29,316 MT CO_2e and 209,463 MT CO_2e below the ABAU scenario, respectively, to meet the State-aligned target.

Table ES-C: State-Aligned GHG Emission Reduction Targets By Year

Sector	2010 [1]	2016	2020	2030	2035
BAU Emissions (MT CO_2e)	3,745,115	2,923,633	3,092,486	3,500,204	3,697,738
Adjusted BAU Emissions (MT CO_2e)	3,745,115	2,923,633	2,132,326	1,939,325	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 Associates, Inc. (2019)
[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

Figure ES-1: City of Fresno GHG Emissions Inventory, Forecast, and Targets



This GHG Plan Update provides a description of General Plan policies that support a reduction in GHGs from all sources within the City's ability to control or influence. These strategies enhance the effectiveness of State strategies by ensuring that the city is developed in ways that minimize emissions. In order to reach the long-term reduction targets, the City would also need to implement local reduction measures. These measures encourage Vehicle Miles Travel (VMT) reductions through mixed use and infill development, transportation demand management, development and penetration of electric vehicles (EVs), energy efficiency enhancement, water conservation, and

increased waste diversion. Public education and outreach would play a crucial role in educating stakeholders about the importance of implementing these measures.

Analysis of GHG emissions and potential climate change impacts for new development is required under CEQA. The GHG Plan Update provides strategies and guidelines for the reduction of GHG emissions in accordance with CEQA Guidelines Section 15183.5. A GHG Reduction Plan Consistency Checklist (Checklist) is presented to provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA.

Finally, the GHG Plan Update in itself is not enough to meet the reduction goals without a commitment to implementation and recurring monitoring. The GHG Plan Update identifies the process for implementing and monitoring the GHG reduction strategies. Through successful implementation of this GHG Plan Update, the City will demonstrate the potential economic, social, and environmental benefits of reducing GHG emissions and providing environmental stewardship within the community.

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LIST OF ABBREVIATIONS AND ACRONYMS

AB	Assembly Bill
ABAU	adjusted business-as-usual
APS	Alternative Planning Strategy
BAU	business-as-usual
BMP	best management practices
BRT	Bus Rapid Transit
CALGreen	California's Green Building Standard Code
CAPCOA	California Air Pollution Control Officers Association
CAFE	Corporate Average Fuel Economy
CARB	California Air Resources Board
CBSC	California Building Standards Commission
CCAP	Climate Change Action Plan
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERP	Community Emission Reduction Plan
CH_4	methane
Checklist	GHG Reduction Plan Consistency Checklist
City	City of Fresno
CNG	compressed natural gas
CNRA	California Natural Resources Agency
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COG	Council of Governments
CPUC	California Public Utilities Commission
DWR	Department of Water Resources
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
EVs	electric vehicles
FAX	Fresno Area Express

FCMA	Fresno Clovis Metropolitan Areas
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
GHG Plan	Greenhouse Gas Reduction Plan
GHG Plan Update	Greenhouse Gas Reduction Plan Update
GHGRx	Greenhouse Gas Reduction Exchange
GSP	Groundwater Sustainability Plan
GVWR	gross vehicle weight rating
HFCs	hydrofluorocarbons
ICT	Innovative Clean Transit
IPCC	Intergovernmental Panel on Climate Change
LCFS	Low Carbon Fuel Standard
LEV	Low Emission Vehicle (Standards)
LOS	level of service
MEIR	Master Environmental Impact Report
MMT CO_2e	million metric tons of carbon dioxide equivalents
$MMTCO_2e$	Million metric tons of carbon dioxide equivalents
MPO	Metropolitan Planning Organization
MT CO_2e	metric tons of carbon dioxide equivalent
$MTCO_2e$	Metric tons of carbon dioxide equivalents: a measure of greenhouse gas emissions
N_2O	nitric oxide
ODS	ozone depleting substances
OPR	Office of Planning and Research
PEIR	Program EIR
PG&E	Pacific Gas and Electric
PV	photovoltaic
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
RWRF	Regional Wastewater Reclamation Facility
SAFE	Safer Affordable Fuel-Efficient
SB	Senate Bill

SBX7-7	Water Conservation Act of 2009
SCS	Sustainable Community Strategy
SGMA	Sustainable Groundwater Management Act
SJVAPCD	San Joaquin Valley Air Pollution Control District
SR-168	State Route 168
SR-180	State Route 180
SR-41	State Route 41
SR-99	State Route 99
TDM	Transportation Demand Management
UWMP	2010 Urban Water Management Plan
VMT	vehicle miles traveled
VOC	volatile organic compound
ZEB	zero-emission bus
ZEV	Zero-Emission Vehicles
ZNE	zero net energy

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1.0 INTRODUCTION

1.1 PURPOSE

The City of Fresno (City) prepared its first Greenhouse Gas Reduction Plan (GHG Plan) in 2014 as a part of its General Plan and Master Environmental Impact Report (MEIR), which provided a clear mandate for actions on reducing GHG emissions with GHG specific policies and an implementation measure for the City to prepare a GHG Plan. The GHG Plan set a target to reduce GHG emissions by 21.7 percent below 2020 business-as-usual (BAU) levels of emissions by 2020 and included a suite of reduction measures designed to achieve the reduction target. In addition, the GHG Plan also suggested a monitoring program designed to monitor progress by annually documenting the 19 key indicators and citywide vehicle miles traveled (VMT) every 3 years. The GHG Plan discussed "interim" targets for years 2035 and 2050, pursuant to Executive Order S-03-05[3] and the Fresno Green Sustainability Strategy[4]. The GHG Plan included projections to show the amount of emission reductions needed to achieve State-aligned targets, but the GHG Plan did not include comprehensive strategies to meet the targets beyond 2020, because of the pending adoption of Statewide regulations for later years. The GHG Plan was considered a "Qualified Plan," using the criteria found in California Environmental Quality Act (CEQA) Guidelines §15183.5.

Since the adoption of the GHG Plan in December 2014, several events within the California legislature and a decision of the California Supreme Court that affects the GHG Plan have occurred. These events include the California Supreme Court's published decision on the Newhall Ranch Specific Plan, Governor Brown signing into law Senate Bill (SB) 32, and the California adoption of the 2017 Climate Change Scoping Plan.

On November 30, 2015, the California Supreme Court published its decision on the Newhall Ranch Specific Plan invalidating the Environmental Impact Report (EIR) for a variety of reasons, including the use of 29 percent below BAU as a threshold level of significance for GHG emissions. In this case, the Court found that the EIR did not contain any evidence supporting the threshold. On September 28, 2016, Governor Brown signed SB 32 into law. SB 32 sets a Statewide goal of reducing GHG emissions 40 percent below 1990 levels by 2030. The California Air Resources Board (CARB) was directed to develop a climate change scoping plan update that would provide the regulations and policies to achieve the 2030 reduction target. On December 14, 2017, the CARB finalized "California's 2017 Climate Change Scoping Plan," providing quantitative summaries of the regulations needed to achieve the 2030 reduction target.

This GHG Reduction Plan Update (GHG Plan Update) re-evaluates the City's existing GHG reduction targets and strategies, provides new goals and supporting measures to reflect and ensure compliance with changes in local and State policies, and strives to encourage economic growth to

[3] Executive Order S-3-05 laid out GHG reduction targets for State of California: by 2010 reduce GHG emissions to 2000 levels, by 2020 reduce GHG emissions to 1990 levels and by 2050 reduce emissions to 80 percent below 1990 levels.

[4] The Fresno Green Sustainability Strategy included a commitment to meet the 2020 AB 32 goal and to meet a reduction target of 80 percent below 1990 levels by 2050.

keep the city economically competitive while achieving GHG reductions and maintaining the "CEQA Qualified Plan" status.

1.2 RELATIONSHIP TO THE GENERAL PLAN

The City of Fresno General Plan and the MEIR were adopted in 2014. The General Plan provides a clear mandate for action on GHG emissions with GHG policies and an implementation measure for the City to prepare a Climate Action Plan as part of the General Plan and MEIR. The City developed the GHG Plan, which was concurrently approved with the General Plan and included as an appendix to the MEIR. The intent of the GHG Plan was to achieve compliance with State mandates by focusing on feasible actions the City can take to minimize the adverse impacts of growth and development on climate change and air quality. Since the General Plan was adopted and the MEIR was certified in 2014, some new local, State, and/or federal regulations have been enacted. In order to bring the General Plan into technical conformance with current local and State law, the City is also updating and converting the existing General Plan MEIR to a Program EIR (PEIR) with the goal of extending the life of the Fresno General Plan and the accompanying environmental document by up to 10 years. 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. As part of the General Plan MEIR Update, the City's existing GHG Plan is also being updated to comply with current State regulations including SB 32, which has a Statewide goal of reducing emissions 40 percent below 1990 levels by 2030. This GHG Plan Update also reflects the changes in local policies such as adoption of VMT threshold of significance for SB 743 implementation (described further in section 2.4.2 and 2.4.3) to ensure these changes are accounted for and included in the City's GHG reduction measures and strategy.

1.3 ORGANIZATION AND PLAN CONTENT

The GHG Plan Update includes the following sections:

- A **Background** section that describes the environmental and regulatory setting for GHGs;
- An **Emission Inventory and Forecasts** section that accounts for the sources of emissions and forecasts to year 2020, 2030, and 2035;
- A **Statewide Reduction Strategy** section that summarizes the reductions from State regulations as outlined in the 2017 Climate Change Scoping Plan, and the reduced 2020, 2030, and 2035 emission forecasts that take into account State and local GHG reduction strategies;
- A **Local Reduction Strategy** section that includes the updates and refinements to the GHG reduction strategies from the 2014 GHG Plan, and new measures to meet the 2020, 2030, and 2035 reduction targets;
- A **Development Project Requirements** section that outlines the development review process used to ensure that future proposed development projects are consistent with the GHG Plan Update. A GHG Reduction Plan Update Consistency checklist to determine future project consistency with GHG Reduction Plan Update; and

- An **Implementation and Monitoring** section that outlines the steps and recommendations for effective implementation and monitoring of the GHG Reduction Plan Update.

1.4 BUILDING ON PRIOR ACTIONS

1.4.1 Fresno Green 2007 Sustainability Strategy

The City of Fresno has taken several important steps to improve the City's sustainability and reduce impacts that include GHG emissions. The Sustainability Strategy includes five Green Visions:

- **New City Beautiful:** Fresno will be nationally recognized for the innovative integration of buildings within their neighborhood context; good urban design; and giving priority to public health, open spaces, public art, historic preservation, urban forests, and the protection of natural habitats.

- **Sierra View 2025:** The Sierra Nevada mountain range will be clearly visible to all Valley residents by 2025. Public health will be improved by having cleaner air, enhanced public transportation, and additional opportunities for walking and cycling.

- **Solar Valley:** Fresno will become a leader in renewable energy use by maximizing new renewable sources as well as increasing the efficiency of its existing uses. Fresno will lead the State in the creation of related innovative technology and new business enterprises. With its abundant sunshine and population growth, the opportunity exists to improve air quality, reduce dependence on foreign energy, and provide attractive new jobs by harnessing solar and other types of renewable energy.

- **Green Enterprises and Economic Development:** The City of Fresno will become a center for innovative business enterprises that focus on the "triple bottom line" of providing environmental, economic, and social benefits.

- **City as Good Steward:** The City of Fresno will lead by example by greening up its facilities and practices, embracing a zero waste initiative, providing appropriate staff resources, and collaborating with other municipalities and agencies to develop regionally based Green programs.

1.4.2 Zero Waste Strategic Action Plan

The City of Fresno Zero Waste Strategic Action Plan, approved February 11, 2008, aims to achieve 75 percent diversion by 2012 and zero waste status by 2025.[5] Zero Waste is a philosophy and a design principle for the 21st Century that includes recycling but goes beyond recycling by taking a "whole system" approach to the vast flow of resources throughout society. It is a goal and guide for people to emulate sustainable natural cycles, where all discarded materials are resources for others to use.

[5] Fresno, City of. 2008. *City of Fresno – Zero Waste Strategic Action Plan*. Available online at: swalco.org/DocumentCenter/View/955/Zero-Waste-and-Sustainability---Fresno-CA---Zero-Waste-PDF?bidId= (accessed October 23, 2019).

1.4.3 City of Fresno Urban Water Management Plan

The Water Conservation Act of 2009 (SBX7-7) was enacted in November 2009. SBX7-7 requires urban retail water suppliers, such as the City of Fresno, to develop per capita water use targets to be met by 2015 and 2020. The overall statewide objective of SBX7-7 is to reduce per capita water use by 20 percent by the year 2020. The 2010 Urban Water Management Plan (UWMP) was adopted by the Fresno City Council on November 29, 2012 to meet this requirement. The UWMP contains water conservation best management practices (BMP) to achieve the required reductions in water use. The 2010 UWMP was updated in 2015[6] and describes the City's water demands and supplies, reliability and water conservation strategies. The 2015 UWMP includes data covering the years from 2011 to 2015 and was adopted by the City Council on June 23, 2016.

1.4.4 Water Efficient Landscape Standards

The City has adopted water conserving landscape requirements that are specified in the City Municipal Code (Section 6-522. Water Efficient Landscape Standards). These requirements define standards and procedures for the design, installation, and management of landscapes in order to utilize available plant, water, land, and human resources to the greatest benefit of the people of the city.

1.4.5 Sustainable Groundwater Management Act

In September 2014, Governor Brown signed legislation requiring that California's critical groundwater resources be sustainably managed by local agencies. The Sustainable Groundwater Management Act (SGMA) provides a framework for the sustainable management of groundwater supplies by local agencies, with a role for State intervention when necessary to protect the resource. The SGMA requires that Groundwater Sustainability Plans (GSPs) be developed for medium- and high-priority groundwater basins identified within the Department of Water Resources (DWR) Bulletin 118 report. Fresno county overlies five groundwater subbasins; Kings, Madera, Delta-Mendota, Westside, and Pleasant Valley. With the exception of Pleasant Valley, the four other basins are currently designated by DWR as high priority and subject to a condition of critical overdraft. The SGMA does not apply outside of mapped groundwater basins. The SGMA defines a process and timeline for local agencies to achieve the goal of sustainable management of groundwater basins. It also provides tools and authorities to take the necessary steps to achieve that goal. For local agencies involved in implementation, the requirements are significant and can be expected to take years to accomplish. As a first step, in March 2015, the Fresno County Board of Supervisors formed a workgroup to advise the Board of Supervisors regarding items relating to the SGMA.

1.4.6 Recharge Fresno

Recharge Fresno is the City's program to improve the pipelines and water system facilities that will capture, treat, and deliver water to Fresno homes and businesses, including surface water from the Sierra Nevada Mountains. This program has the following objectives: ensure a reliable and sustainable water supply for Fresno's present and future prosperity by increasing the available

[6] Fresno, City of. 2016. *2015 Urban Water Management Plan*. Available online at: www.fresno.gov/publicutilities/wp-content/uploads/sites/16/2016/11/CityofFresno2015UWMP_adopted.pdf (accessed October 23, 2019).

water supply; bring new, treated surface water from the Sierra Nevada Mountains to our community; improve natural and intentional groundwater recharge; maintain focus on conservation and its role in ensuring a sustainable water supply for Fresno; and ensure a safe and reliable water supply.

1.4.7 General Plan Air Quality Update 2009

The Air Quality Update satisfied the requirements of AB 170 that mandated cities and counties of the San Joaquin Valley to address air quality in their General Plans. Many of the goals, policies, and implementation measures that reduce air pollutant emissions also reduce GHGs. In addition, the Air Quality Update included GHG specific policies that are carried forward into the General Plan and formed the basis of the strategy defined in the existing GHG Plan. The GHG Plan Update is built upon the strategies identified in the existing GHG Plan.

1.4.8 Fresno General Plan

The Fresno General Plan was adopted in 2014 and includes the Resource Conservation Element that has objective RC-5, which requires the City to take the necessary and cost-effective actions to achieve and maintain reductions in GHG emissions. The General Plan specifies implementing policies (RC-5-a to RC-5-g) to achieve this objective. The policy RC-5-a requires the City to "Support State Goal to Reduce Statewide GHG Emissions" and RC-5-b requires developing a "GHG Plan" that should be periodically updated to reflect the State GHG regulations. Policy RC-5-b provides the following outlines to achieve objective RC-5:

- A baseline inventory of all known or reasonably discoverable sources of greenhouse gases (GHGs) that currently exist in the city and sources that existed in 1990 (Updated to 2010).
- A projected inventory of the GHGs that can reasonably be expected to be emitted in the city in the year 2035 in accordance with discretionary land use decisions pursuant to 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 whose purpose shall be to meet the established local 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.

1.4.9 CEQA Guidelines for Vehicle Miles Traveled Thresholds.

In June 2020, the City adopted VMT thresholds and guidelines to address the shift from delay-based LOS CEQA traffic analyses to VMT CEQA traffic analyses, as required by SB 743. The City's document serves as a detailed guideline for preparing VMT analyses consistent with SB 743 requirements for development projects, transportation projects, and plans. Project applicants will be required to

follow the guidance provided in this document for preparation of CEQA VMT analysis. The document includes the following:

- Definition of region for VMT analysis;
- Standardized screening methods for VMT threshold compliance data;
- Recommendations for appropriate VMT significance thresholds for development projects, transportation projects, and plans; and
- Feasible mitigation strategies applicable for development projects, transportation projects, and plans.

1.5 CEQA TIERING AND STREAMLINING ANALYSIS OF GREENHOUSE GAS EMISSIONS

New development that would occur with the buildout of the General Plan must address GHG impacts to comply with CEQA. The California legislature has adopted tiering and streamlining provisions in SB 97 that encourage cities to adopt GHG reduction plans as a mechanism to assist with project CEQA compliance. According to the CEQA Guidelines Section 15183.5,[7] GHG reduction plans and CAPs must meet the following criteria in order to use CEQA tiering and streamlining provisions:

A. Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area. This GHG Reduction Plan quantifies existing GHG emissions in the 2016 GHG inventory and forecasts GHG emissions for the specified times of 2020, 2030 and 2035 for all activities within the City's geographic limits for activities within the City's jurisdictional control. Therefore, the GHG Reduction Plan satisfies this requirement in CEQA Guidelines Section 15183.5.

B. Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable. This GHG Reduction Plan includes 2020 and 2030 reduction targets based upon Assembly Bill 32 and Senate Bill 32, which legislatively set reduction targets for California to achieve climate stabilization. The legislative targets and the Scoping Plans that implement these reduction targets provide substantial evidence that when a GHG Reduction Plan achieves the reduction targets, cumulative impacts related to GHG emissions would be less than significant. Therefore, the GHG Reduction Plan satisfies this requirement in CEQA Guidelines Section 15183.5.

C. Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area. This GHG Reduction Plan identifies categories of actions including the consumption of electricity, natural gas, and water; the

[7] CEQA Guidelines 15183.5 describes requirements of a GHG Reduction Plan that would mitigate cumulative levels of GHG emissions within a jurisdiction to a less-than-significant level and allows development project tiering from the GHG Reduction Plan.

generation of waste and wastewater; and the emission associated with vehicles and off-road equipment within the geographic boundaries of the City of Fresno. Therefore, the GHG Reduction Plan satisfies this requirement in CEQA Guidelines Section 15183.5.

D. Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level. Section 4 of this GHG Reduction Plan provides the set of measures needed to achieve the reduction targets. Section 5 of the GHG Reduction Plan provides the quantitative evidence that if the reduction measures are implemented the reduction targets will be achieved. Therefore, this GHG Reduction Plan satisfies this requirement in CEQA Guidelines Section 15183.5.

E. Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels. Section 7.2 of this GHG Reduction Plan provides the mechanisms to monitor the plan's progress including GHG inventory updates, reduction measure implementation, and triggers when the GHG Plan will require updates (i.e. amendments) to ensure achievement of the reduction targets. Section 7.3 of the GHG Reduction Plan specifies the tracking tools that will be used to monitor the plan's progress. Therefore, the GHG Reduction Plan satisfies this requirement in CEQA Guidelines Section 15183.5.

F. Be adopted in a public process following environmental review. The PEIR for the General Plan and GHG Reduction Plan and City Council Hearings provide the environmental review and adoption in a public process. Therefore, the GHG Reduction Plan satisfies this requirement in CEQA Guidelines Section 15183.5.

This GHG Plan Update is structured to meet the streamlining criteria listed above. Project compliance with the applicable General Plan policies and strategies identified in the Checklist would result in less-than-significant impacts related to GHG emissions.

1.6 HOW DOES THE PLAN REDUCE GREENHOUSE GAS EMISSIONS?

The largest source of GHGs is the combustion of carbon containing fuels resulting in carbon dioxide (CO_2). Although there are many other GHGs, the GHG Plan Update emphasizes actions under the City's control or influence that can reduce CO_2 emissions. Other GHGs such as methane (CH_4), nitric oxide (N_2O) and refrigerants such as hydrofluorocarbons (HFCs) are addressed in the plan, but have fewer sources and fewer control opportunities at the City level.

Strategies to reduce Citywide GHG emissions include:

- Improve the efficiency of the combustion process in the City-owned facilities to obtain more energy from the fuel being burned (e.g., high-efficiency burners, better fuels).
- Conservation programs to reduce water use (reduced energy for water pumping and transport).
- Sequestration in urban forests (storing greenhouse gases).

- Reduce municipal waste to reduce emissions from transport and decomposition (e.g. recycling, reuse, diversion).

The GHG Plan Update provides a comprehensive approach utilizing different GHG reduction strategies to achieve emission reductions sufficient to demonstrate consistency with State of California targets. The GHG Plan Update builds on the General Plan policies and implementation measures. Where needed, the GHG Plan Update provides more details to clarify and focus action and to streamline implementation.

1.7 RELATIONSHIP TO STATE AND FEDERAL ACTIONS TO REDUCE GREENHOUSE GAS EMISSIONS

Efforts by cities to reduce GHGs are an important part of larger effort implemented by the State of California and to a lesser degree the federal government. Limited action has taken place on the federal level to reduce GHG emissions, making State of California actions the most important to the City. California has implemented ambitious control strategies to reduce GHG emissions. The State recognizes the magnitude of the challenge of reducing GHGs to the extent needed to prevent catastrophic effects of climate change is such that reductions throughout the state, including those at the local level, are required. Climate change is a global problem that will take unprecedented cooperation and action at international, national, state, and local levels. California has chosen to be a leader in this effort and a model for others to follow.

1.8 COMMUNITY REDUCTION TARGETS

Future development anticipated by the City of Fresno creates challenges and opportunities for reducing GHG emissions sufficiently to ensure that growth will not hinder or obstruct the implementation of State GHG regulations including AB 32 and SB 32. Cities with relatively high rates of growth, such as Fresno will produce a larger share of GHG emissions in the future compared with slow-growing and built-out parts of the State. However, new development presents opportunities, with its ability to incorporate the latest technologies into buildings to reduce energy use and its ability to build complete neighborhoods and commercial areas in ways that reduce vehicle travel. The policy mechanisms such as SB 743 further support environmentally beneficial development by allowing CEQA to facilitate the implementation of transit-oriented infill development.

1.8.1 2020 Reduction Target

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 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 level, 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.

1.8.2 Targets After 2020

The CARB released the First Update to the Climate Change Scoping Plan on February 10, 2014 (CARB 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 (CARB 2017).

At the growth rates projected for General Plan buildout, the city could continue to grow through 2050 without designating additional land for development. The 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).

1.9 CHALLENGES AND OPPORTUNITIES

The effects of GHG emissions are cumulative. Global warming is the result of emissions from every source on the globe that combine to increase GHG concentrations in the atmosphere. Scientific evidence supports the need for drastic worldwide reductions to prevent catastrophic climate change. According to the Intergovernmental Panel on Climate Change (IPCC) to limit the global warming to 1.5 degree Celsius above pre-historic levels the world would have to curb its carbon emissions by at least 49 percent of 2017 levels by 2030 and then achieve carbon neutrality by 2050 (Nature 2018). This leads to the following questions:

- What is California's responsibility for reducing emissions?
- What is local government's responsibility for reducing emissions?
- What is an individual development project's responsibility for reducing emissions?
- What is each person's responsibility for reducing emissions?

The government structure in the United States with its checks and balances limits the power of the states to take action to reduce GHGs. For example, states are not allowed to interfere with interstate and international commerce; however, powers that are not vested in the federal government are reserved for the states. Individual rights for people to live how and where they want are also highly prized. This structure creates challenges for reducing GHG emissions that touch every sector of the economy and that are greatly influenced by individual choices and actions. With uneven action among the states and nations, the potential exists for regulations to cause businesses simply to relocate their emissions to nations, states, or cities with weak or no regulations. Fortunately, many actions that reduce GHG emissions produce multiple benefits that offset the cost of implementation. However, it must be recognized that individuals or organizations implementing the action may not directly benefit from cost savings or may have difficulty with initial capital costs.

A thorough discussion of regulatory authority for GHG emissions is provided in Section 2. In short, the State has broad authority to regulate GHG emission sources. It has authority to regulate GHGs from motor and transit vehicles, power generation, and industrial processes, and sets efficiency standards for buildings, lighting, appliances, water use, and waste management/recycling. On the other hand, local government's role is mostly a supportive one. Local government is called upon to support state programs and to use its land use authority and police power to reduce GHG impacts. For example, local government is authorized by the State to adopt ordinances that exceed energy standards for buildings and exceed water conservation and recycling mandates. Through the development review process and CEQA, local government can require or encourage project designs that produce fewer vehicle trips and miles traveled and include mitigation measures with which projects must comply as conditions of approval.

Individual choice plays an important role in reducing GHG emissions. The State can mandate increasing numbers of EVs to be sold in California to meet emission standards, but it cannot force people to buy them. It can mandate energy efficient appliances and buildings but cannot make people turn out the lights and turn down the thermostat to save energy. It cannot prevent people from buying more and bigger televisions. However, the State and the City can provide incentives and disincentives that affect choice to align with the goal of reducing GHG emissions.

2.0 BACKGROUND INFORMATION

GHG emissions and climate change are complex issues that are the topics of hundreds of books, research papers, and policy documents. This section of the GHG Plan Update provides a brief overview of climate change and the local factors that affect the GHG emission inventory. The following information provides a discussion in a city of Fresno context.

2.1 CITY OF FRESNO BACKGROUND

The GHG Plan Update uses population, employment, and housing statistics as the basis for estimating current and future year emissions and reduction targets.

2.1.1 Location and Constraints to Growth

The city of Fresno is located in Fresno county, which is generally located in the center of the San Joaquin Valley, the most productive agricultural region in the nation and the world. Fresno's central location in California between San Francisco (184 miles) to the north and Los Angeles (222 miles) to the southwest has made it an important regional center.

There are no significant physical barriers to Fresno's future growth; however, political boundaries and policy considerations are very important in shaping future growth. The San Joaquin River and the Fresno/Madera County line run along the northern edge of the city. The city of Clovis abuts Fresno to the northeast and east, preventing growth in that direction. The land southeast, south and west are mostly prime farmland. The southeast area is a long-term growth area in the General Plan. No expansion of the sphere of influence is planned in the General Plan.

2.1.2 Transportation Facilities

The city of Fresno is crossed by two important State highways used for regional travel and commerce. State Route 99 (SR-99) runs northwest/southeast through the city, connecting Fresno to northern and southern California. State Route 41 (SR-41) connects Fresno to the Central Coast and is a main route to Yosemite National Park. SR-41 also acts as a primary commuter facility between northern and southern parts of Fresno. State Route 168 (SR-168) runs north/east to Clovis acting as a commute facility and beyond to the Sierra Nevada. SR-168 intersects with State Route 180 (SR-180), which runs east/west through the city, connecting Fresno with the communities of western Fresno county and with Kings Canyon and Sequoia National Parks.

Fresno is on the California High Speed Rail route and a station is planned for downtown Fresno. High Speed Rail is anticipated to be a major catalyst for development and redevelopment in Fresno, although the General Plan is not reliant on it to achieve its stated infill, development, and redevelopment goals. Fresno currently receives rail service from Amtrak. The City of Fresno's Transportation Department, via Fresno Area Express (FAX), provides bus transit service. FAX offers

17 fixed-route bus lines and Handy Ride Paratransit Service[8] FAX operates a modern clean and green fleet of over 100 buses.

2.1.3 General Plan Footprint and Buildout Statistics

The city of Fresno has a substantial development footprint. The General Plan Planning Area is 166 square miles (106,027 acres), which includes the 162 square miles (103,570 acres) sphere of influence, and the 4 square miles (2,486 acres) North Area, located at the northern tip of the city. The sphere of influence consists of both the incorporated 113 square mile city (72,224 acres) and the 49 square mile unincorporated county (33,803 acres) land. Some of the unincorporated land is completely surrounded by the city of Fresno and is referred to as a "county island," whereas other unincorporated land lies adjacent to the outer fringe of the city.

The sphere of influence 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.

In accordance with the requirements of the State of California, the Local Agency Formation Commission (LAFCO) authorizes a "sphere of influence" around municipalities as the probable physical boundary and ultimate service area of that government.

Table 2-A shows the acreage within the General Plan Planning Area when the General Plan was approved.

Table 2-A: General Plan Statistics

Land Use Designations	General Plan Acreage
Residential	46,043
Commercial	6,913
Industrial	9,578
Mixed use	4,223
Public facilities	17,671
Open space	3,001
Other	18,598
TOTAL	**106,027**
Projected Population at Build-out	970,000

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

Table 2-B provides additional detail in terms of land use type for existing development and development anticipated with the continued implementation of the General Plan. The General Plan envisions an increase in the amount of multi-family residential compared with single-family residential development. The City assumes buildout of the General Plan Planning Area would occur after 2056.

[8] Fresno, City of, 2019. Department of Transportation, Fresno Area Express Routes. Website: www.fresno.gov/transportation/fax/routes (accessed October 23, 2019).

Table 2-B: General Plan Buildout Statistics

Land Use	Existing Development		General Plan Implementation		Incremental Increase	
	MSF	Acres	MSF	Acres	MSF	Acres
Single-Family Residential	109,000	26,147	169,626	38,961	60,626	12,814
Multiple-Family Residential	62,288	3,496	146,826	6,605	84,538	3,109
Commercial/Office/Public Facility	66.4	14,804	129.7	26,517	63.3	11,712
Mixed Use	0.1	10	20.9	4,213	20.8	4,223
Industrial	72.8	6,765	113.3	9,578	40.5	2,813
Open Space	—	12,288	—	1,546	—	-10,742
Agriculture	—	11,714	—	736	—	-10,978
Vacant	—	12,522	—	0	—	-12,522
Other	—	18,281	—	17,861	—	-420
Total	—	**106,027**	—	**106,027**	—	**0**
Population (persons)	545,000		970,000		425,000	

Source: City of Fresno Development and Resource Management Department (2012).
msf = million square feet

The growth statistics reveal two important points. First, substantial growth is projected for Fresno over the coming decades and that growth will increase GHG emissions. Second, the proposed mix of land uses that would accommodate the growth in population will increase development density.

Increased density when combined with a strong pedestrian and transit orientation can reduce motor vehicle travel and related GHG emissions.

2.2 CLIMATE CHANGE BACKGROUND

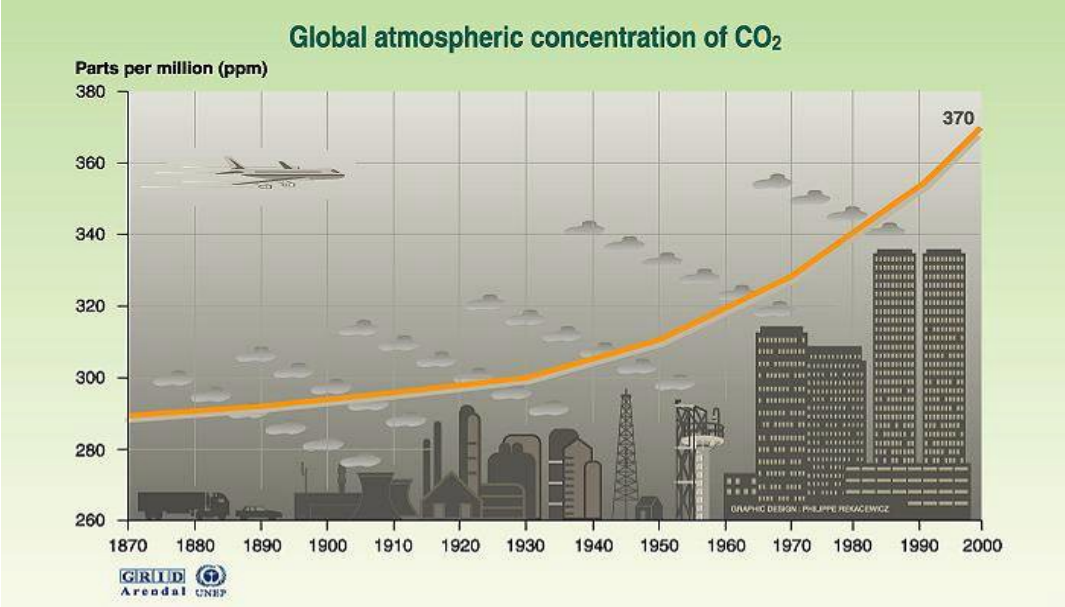
Climate scientists refer to gases that trap heat in the atmosphere as greenhouse gases. The effect is analogous to the way a greenhouse retains heat. The energy influx is maintained by three main factors: the amount of energy coming in, which depends on the earth's distance from the sun and solar activity; the albedo (the ability of the earth's surface to reflect light); and the chemical composition of the atmosphere. The presence of GHGs in the atmosphere regulates the earth's temperature.

The chemical composition of the atmosphere changes over time. Natural processes and human activities emit GHGs. As shown in Figure 2-1, carbon dioxide concentrations in the atmosphere have increased over time. The global atmospheric concentration of carbon dioxide (CO_2) data in Figure 2-1 prior to 1958 is from ice core measurements and post-1958 data are from the Mauna Loa, Hawaii site (NOAA 2019).

2.2.1 Global Warming Potential

GHGs have varying global warming potential 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

Figure 2-1: Global Atmospheric Concentration of CO_2



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 2-C.

Table 2-C: Global Warming Potentials

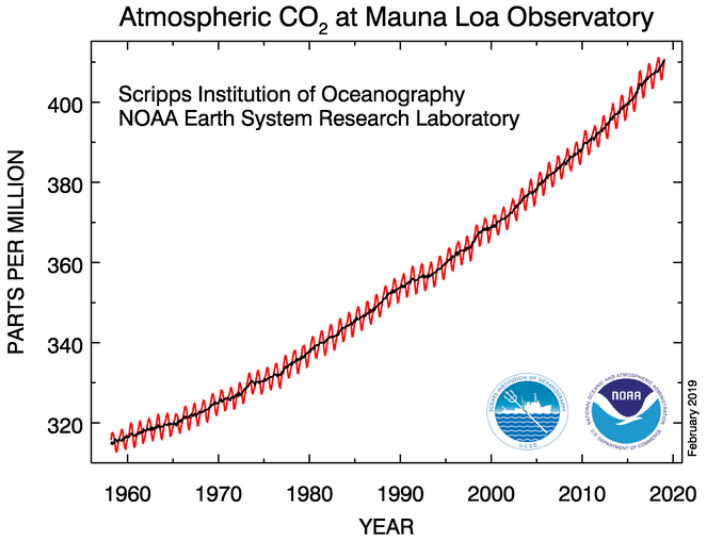
Greenhouse Gas	Global Warming Potential
Carbon dioxide (CO_2)	1
Methane (CH_4)	21
Nitrous oxide (N_2O)	310

Source: Intergovernmental Panel on Climate Change (2007).

2.2.2 Global Climate Change Trends

Figure 2-2 provides a more detailed look of concentrations since 1960 showing continuing steady increases even with international actions that have been taken to date. The National Oceanic and Atmospheric Administration reported that the global average CO_2 concentration was 410 parts per million (ppm) in 2019 (NOAA 2019).

Figure 2-2: Carbon Dioxide Concentrations 1960 to 2019



Source: NOAA 2019: Trends in Atmospheric Carbon Dioxide. Full Mauna Loa CO_2 Record.

2.2.3 Greenhouse Gas Emission Inventories

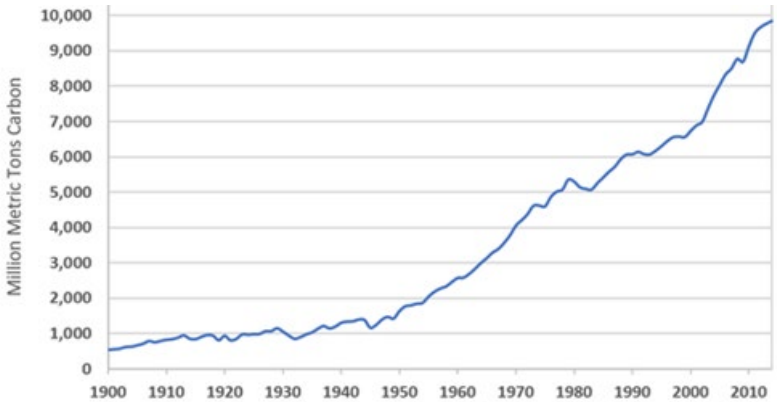
Emission inventories are databases that list by source and pollutant the amount of air pollutants discharged into the atmosphere during a given period of time. Inventories can range from individual businesses, cities, counties, states, nations, to global in scope. Emission inventories are used to help determine significant sources of air pollutants, establish emission trends over time, and target regulatory actions.

Emissions of GHGs are a true cumulative impact. Emissions anywhere and everywhere in the world contribute to increased concentrations of GHGs in the atmosphere and the potential for climate change. Viewing the emissions output at global, national, state, and local levels is important to understanding the scale of the problem and the relative contribution of each level of government organization.

Global carbon emissions from fossil fuels have increased rapidly since 1900 and continue to increase at an even faster pace since the year 2000 (EPA 2018). Figure 2-3 shows this trend with particularly dramatic increases after World War II and more recently with rapid increases in China and other rapidly industrializing nations in the last decade. Emissions have increased over 600 percent since 1950. The increases in emissions are consistent with the atmospheric concentrations shown in Figure 2-2 and Figure 2-3.

GHG 2017 inventory for all sources in the United States and California is shown in Table 2-D. 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,

Figure 2-3: Increases in Global Carbon Dioxide Emissions from Fossil Fuels 1900 to 2014



Source: EPA (2018).

Table 2-D: United States, California, and World GHG Emission Inventory (CO_2e)

Inventory	MMT CO_2e	Percent of Total
California (2017)	424.1	0.8
United States (2017)	6,457	13.09
World (2016)	49,300	100

Sources: CARB 2019, EPA 2018, and PBL 2017.
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas
MMT = million metric tons

the United States has many reasons to change to lower carbon economy. For example, reducing energy imports and increased energy security, cost savings from efficiency, employment in renewable energy.

2.3 EFFECTS OF CLIMATE CHANGE ON FRESNO

Scientific research indicates that an increase in global average temperature of 2 degrees Centigrade (°C) (3.6 degrees 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. 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. As shown in Figure 2-2 above, 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 (CARB 2014).

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 (CNRA 2009). 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 General Plan sections 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.

2.3.1 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.

2.3.2 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 (Department of Water Resources 2008). The California Department of Water Resources projects that the Sierra snowpack will experience at least a 25 percent reduction from its historic average by 2050 (DWR 2014). 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 (2008) recommends that local governments implement land use policies that decrease flood risk. These following recommendations are included as GHG Plan implementation policies where applicable and feasible.

San Joaquin River Bluffs

San Joaquin River

- 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 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.

2.4 FEDERAL, STATE, AND REGIONAL ACTIONS TO ADDRESS CLIMATE CHANGE

2.4.1 United States Environmental Protection Agency

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.

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 reiterated 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.

2.4.2 State of California

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.

2.4.2.1 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.
- 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 (CARB 2014). The State also appears to be on track for achieving the 2020 target.

2.4.2.2 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.

2.4.2.3 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.

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.

2.4.2.4 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.

2.4.2.5 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 (CARB 2011).

2.4.2.6 Title 24 Energy Efficiency Standards

The State has adopted several other major regulations that will provide substantial reductions in GHGs. Title 24, Part 6 California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 to reduce California's energy consumption. The California Energy Commission revises Title 24 about every three years to incorporate cost-effective energy efficiency technological advancements into the construction of new buildings. The latest version is the 2019 Title 24 update, which will go into effect January 1, 2020. 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.

2.4.2.7 Green Building Code

The California Green Building Standard Code (CALGreen) was adopted in 2010 and went into effect January 2011 (CGBSC 2010). CALGreen is a mandatory green building code that sets minimum environmental standards for new buildings including standards for volatile organic compound (VOC) emitting materials, water conservation, and construction waste recycling.

2.4.2.8 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.

2.4.2.9 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.

2.4.2.10 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).

2.4.2.11 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.

2.4.2.12 **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 743, 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. In December of 2018, OPR released guidelines on evaluating traffic impacts in CEQA. The new guidelines replace the previous LOS metric with a VMT metric for determining a significant environmental impact under CEQA as they relate to traffic.

2.4.3 Fresno County Council of Governments

2.4.3.1 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 (CARB 2010). Under the General Plan, growth would be distributed along major corridors and activity centers supported by the 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 a second SCS based on the previous SCS adopted in 2014. Fresno COG's 2018 RTP/SCS was approved by all reviewing Federal and State authorities, including the CARB. In the spring of 2018, CARB adopted new GHG targets for all the 18 MPOs in the State based on the 2017 Scoping Plan and other new data. CARB established a 13 percent GHG reduction target for 2035 for the Fresno region's 2018 RTP/SCS. The State of California recognizes Fresno County's contribution to the aggregate 15 percent Statewide GHG emission reduction is 13 percent. The Fresno COG would be able to meet the CARB GHG targets through 2018 RTP/SCS (Fresno COG 2018).

2.4.3.2 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.

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.

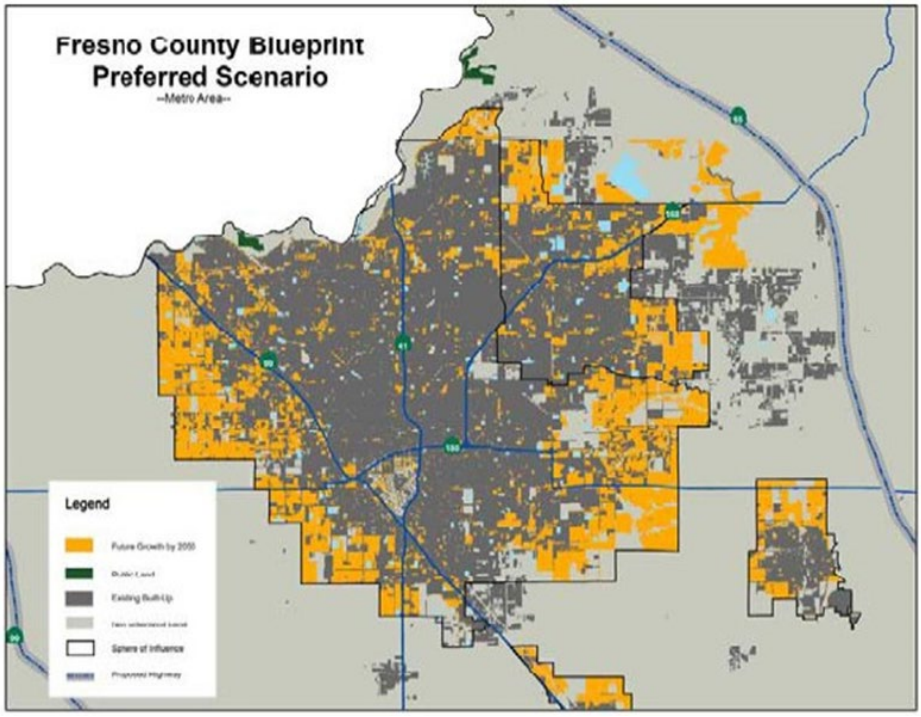
7. Preserve open space, farmland, natural beauty, and critical environmental areas.
8. Provide a variety of transportation choices.
9. Strengthen and direct development towards existing communities.
10. Take advantage of compact building design.
11. Enhance the economic vitality of the region.
12. Support 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
    - 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 (Fresno COG 2009). Figure 2-4 shows the Fresno County Blueprint preferred scenario.

Figure 2-4: Fresno County Blueprint Preferred Scenario



Source: Fresno Council of Governments (2009).

The Blueprint preferred scenario would result in a countywide average of 8.0 dwelling units/acre residential density 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 (Fresno COG 2009).

2.4.4 San Joaquin Valley Air Pollution Control District

The city of Fresno is within the San Joaquin Valley Air Basin, which is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). 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.

2.4.4.1 Climate Change Action Plan

The District Governing Board approved the SJVAPCD 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.

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.

2.4.4.2 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 that the effects of project-specific emissions to be cumulative, and without mitigation, their incremental contribution to global climatic change could be considered cumulatively considerable. The 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.

2.4.4.3 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.

2.4.4.4 Community Emissions Reductions Program: Assembly Bill 617 (AB 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.

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3.0 EMISSION INVENTORY

Emission inventories are compilations of emissions generated by sources in a geographic area at a given time. GHG emission inventories are reported in units of MT CO_2e emissions per year. Emission inventories identify the contribution of each type or category of emissions to the total inventory of pollutants of interest. Emission inventories help rank sources by size to determine those that are most important to control.

Inventories are required to determine existing conditions and to forecast emissions in future years to account for the effects of growth.

3.1 INVENTORY METHODS AND ASSUMPTIONS

3.1.1 Inventory Protocols

Emission inventory protocols have been developed for many emission sources by governmental and independent agencies, and professional associations. The U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, developed by ICLEI Local Governments for Sustainability, provides guidance for developing community inventories prepared in the United States. The U.S. Community Protocol is not entirely applicable to inventories in California communities. For some inventory categories, a more detailed inventory may be required to ensure its adequacy for use in a CEQA context. California specific emission factors and data are available for many sources that when used produce a more accurate inventory. The inventory prepared for the City of Fresno GHG Plan Update follows the U.S. Community Protocol as modified for use in California.

3.1.2 Baseline Inventory Source Categories

The City previously developed its year 2010 baseline GHG inventory, which had included the following source sectors:

- Motor Vehicles
- Electricity Use (Residential and Commercial)
- Natural Gas Use (Residential and Commercial)
- Waste
- Off-Road Equipment
- Refrigerants

The inventory did not include sources that comprise less than 3 percent of the inventory and sources that are not within the control or influence of the City of Fresno. One exception is off-road equipment, which is less than 1 percent but is commonly included in project level GHG analyses. Large industrial sources of emissions that are subject to CARB's reporting regulation and Cap-and-Trade regulation were not included in the inventory. The inventory did not include impacts of upstream emissions (e.g., emissions associated with an extraction process for purchased fuels—extraction, production, and transportation of fuels) because those sources are not within the control or influence of the City.

3.2 BASELINE INVENTORY SELECTION CRITERIA

The baseline inventory year is important because it forms the starting point for setting emission reduction targets in future years. Several criteria were considered in selecting the best year for the baseline inventory, including:

- Data availability;
- Relationship with State inventories and targets; and
- Recommended practices from other agencies and organizations.

Since the AB 32 target is based on returning emissions to 1990 levels by 2020, some jurisdictions include a 1990 inventory. The 1990 baseline represents Statewide emissions and not the emissions of individual cities and counties. Growth rates vary widely from city to city since 1990. A 1990 inventory and target that do not account for variations in growth from community to community do not provide a valid comparison of the effectiveness or stringency of a GHG reduction program. In addition, the City cannot go back in time and change the amount and type of development that has occurred since 1990; it can only work from existing conditions. Therefore, the City had determined that a 2010 baseline provides the most recent year with complete data available suitable for describing existing conditions.

3.3 BASELINE INVENTORY

The City of Fresno baseline inventory year for the GHG Plan is 2010. The CARB has prepared an updated inventory for 2010 that accounts for regulations adopted to that point in time. Therefore, 2010 provides the best available baseline for the GHG Plan and can be compared directly with State progress to date and targets. Table 3-A shows the baseline inventory.

Table 3-A: GHG Emissions by Sector for 2010

Sector	2010 (MT CO_2e)	Percent of Total
Motor Vehicles	1,899,799	51
Electricity - Residential	327,813	9
Electricity - Commercial	361,836	10
Natural Gas - Residential	362,832	10
Natural Gas - Commercial	394,417	11
Waste	123,945	3
Off-road Equipment	1,051	<1
Ozone Depleting Substance (ODS) Substitutes	273,422	7
Total	**3,745,115**	**100**

Source: City of Fresno Greenhouse Gas Reduction Plan (2014).
MT CO_2e = metric tons of carbon dioxide equivalent

3.4 BASELINE INVENTORY UPDATE

In September 2018, ICLEI Local Governments for Sustainability developed an inventory update for the year of 2016 for the City through the Statewide Energy Efficiency Collaborative. This inventory update is more recent and captures the GHG reductions from Statewide and local measures since 2010, therefore better reflects the current GHG emission levels in the city. The inventory update has

different source categories than the 2010 baseline inventory. The 2016 inventory update includes Agriculture and Industrial Energy sectors, which are additional to the 2010 baseline inventory. Therefore, the 2016 inventory update is more complete. Table 3-B shows the source categories comparison between 2010 baseline inventory and 2016 inventory update.

Table 3-B: Source Categories Comparison Between 2010 and 2016 Inventories

2010 Baseline Inventory Sector	2016 Inventory Update Sector
Motor Vehicles	Transportation
Electricity - Residential	Residential Energy
Electricity - Commercial	Commercial Energy
Natural Gas - Residential	Residential Energy
Natural Gas - Commercial	Commercial Energy
Waste	Solid Waste
Off-road Equipment	Transportation
Ozone Depleting Substance (ODS) Substitutes	Fugitive Emissions
Not Included	Agriculture
Not Included	Industrial Energy

Source: Compiled by LSA Associates, Inc. (2019).

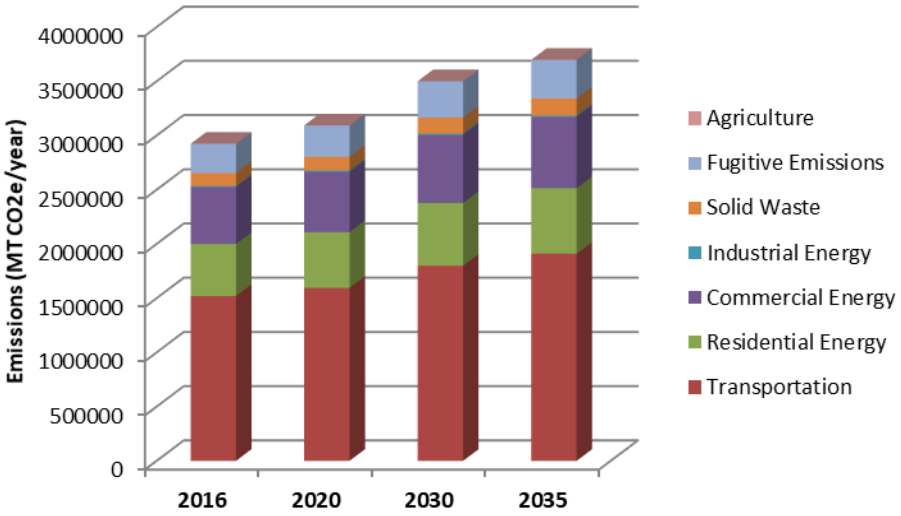
The City's total emissions in 2016 were 2,923,633 MT CO_2e. As shown in Table 3-C and Figure 3-1, the Transportation sector was the largest contributor to emissions in the 2016 inventory, with 52 percent of the City's total GHG emissions. Commercial and residential energy use were the second and third largest contributor of GHG emissions with 18 percent and 16 percent of total emissions, respectively. Fugitive emissions accounted for 9 percent of total emissions, solid waste accounted for 4 percent of total emissions, and industrial energy and agriculture sectors emitted less than 1 percent.

Table 3-C: 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 Energy	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 Associates, Inc.
MT CO_2e = metric tons of carbon dioxide equivalent

Figure 3-1: City of Fresno 2016 Inventory Update and Business-as-Usual Projections



Source: Compiled by LSA Associates, Inc. (2019).

3.5 INVENTORY PROJECTIONS

The GHG Plan 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 General Plan horizon and will allow the City to develop long-term strategies to continue GHG reductions.

3.5.1 BAU Inventory

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 County Council of Governments.[9] The BAU inventory for each forecast year is provided in Table 3-C and Figure 3-1.

[9] Applied Development Economics. 2017. Fresno County 2050 Growth Projections. Prepared for Fresno County Council of Governments. Website: www.fresnocog.org/wp-content/uploads/publications/Demographics/Fresno_COG_2050_Projections_Final_Report_050417.pdf (accessed March 4, 2019).

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.

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4.0 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.

4.1 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 (CARB 2008, 2014 and 2017). Only the measures that have been adopted or put into practice are included in this assessment. The following regulations are included:

- **Pavley and Low Carbon Fuel Standard:** 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 (CARB 2010). 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.

4.2 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. California's Green Building Code mandates increased water conservation that results in less electricity consumed to pump and transport water.

4.2.1 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 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 (California Public Utilities Commission 2013). 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 (CEC 2018).

4.2.2 Title 24, Part 6 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. 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 (CEC 2019).

The reductions from Title 24 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 Title 24 standards. New development would provide additional reductions as buildings are constructed to comply with the latest standards.

4.2.3 California's Green Building Standard Code

CCR Title 24, Part 11 (California Green Building Standard Code [CALGreen]), was adopted on January 12, 2010. The State Building Standards Commission unanimously adopted updates to the 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. Further updates to CALGreen went into effect on January 1, 2017. 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 reduce the use of VOC-emitting materials, will strengthen water conservation, and will require construction waste recycling.

4.3 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.

4.4 REDUCTIONS FROM STATE REGULATIONS

The predicted reduction in emissions from State measures on city of Fresno emissions is shown in Table 4-A.

Table 4-A: 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

4.4.1 Adjusted Business-as-Usual

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-B shows the emission inventories for each year after the application of State regulatory measures.

Table 4-B: City of Fresno Adjusted Business-as-Usual Emissions

Sector	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 Energy	20	20	20	20
Total	**2,923,633**	**2,132,326**	**1,939,325**	**1,801,137**

Source: Compiled by LSA Associates, Inc. (2019).

4.4.2 Target Analysis

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.

In order to keep the City of Fresno GHG Reduction Plan in line with the State's reduction goals, the targets, as shown in Table 4-C, 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-C and Figure 4-1).

Table 4-C: State-Aligned GHG Emission Reduction Targets By Year

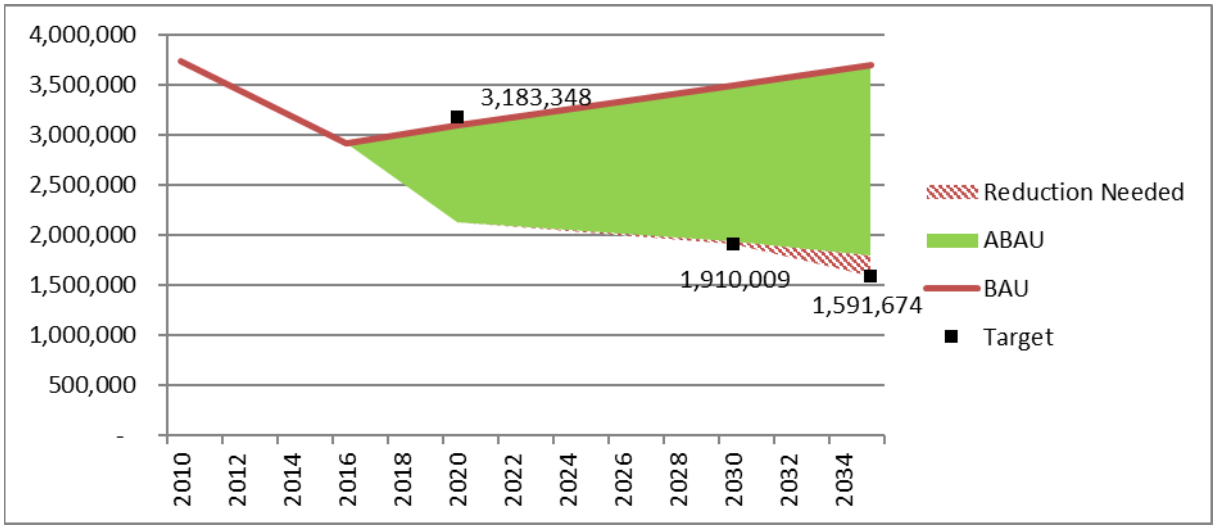
Sector	2010[1]	2016	2020	2030	2035
BAU Emissions (MT CO_2e)	3,745,115	2,923,633	3,092,486	3,500,204	3,697,738
Adjusted BAU Emissions (MT CO_2e)	3,745,115	2,923,633	2,132,326	1,939,325	1,801,137
State-Aligned Target (Percent change from 1990)			0	-40	-50
State-Aligned Target (Percent change from 2010)			-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 Associates, Inc. (2019).

[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 of carbon dioxide equivalent

Figure 4-1: City of Fresno GHG Emissions Inventory, Forecast, and Targets



Source: Compiled by LSA Associates, Inc. (2019).

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5.0 GREENHOUSE GAS REDUCTION STRATEGY

The GHG Reduction Plan is a comprehensive vision of the City's plan to reduce GHG emissions. The City is already on a path toward lower emissions through its prior actions. The City has adopted a several goals, policies, and programs from the General Plan that contributed towards reducing GHG emissions. The General Plan provides a comprehensive strategy to reduce GHG emissions from all sources within the City's ability to control or influence. The strategies enhance the effectiveness of State strategies by ensuring that the city is developed in ways that minimize emissions and by application to City-owned facilities. The relevant General Plan objectives and policies are listed throughout the following section. For convenience, a compilation of the General Plan objectives and policies is provided as Appendix A to this GHG Plan Update. Table 5-A provides a listing of General Plan Elements/Chapters and the associated letter designations to enable the reader to identify the General Plan Element/Chapter associated with the objectives and policies listed in this section.

Table 5-A: General Plan Chapter Cross Reference

General Plan Element and Chapter	Policy Prefix
Urban Form (Chapter 3)	UF
Land Use (Chapter 3)	LU
Design (Chapter 3)	D
Mobility and Transportation (Chapter 4)	MT
Park and Open Space (Chapter 5)	POSS
Public Utilities and Services (Chapter 6)	PU
Resource Conservation and Resilience (Chapter 7)	RC
Healthy Communities (Chapter 10)	HC
Economic Development and Fiscal Sustainability (Chapter 2)	ED

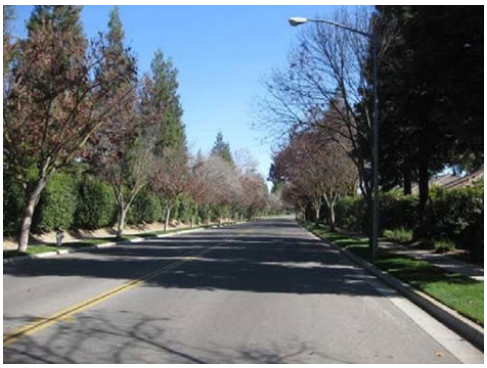
Source: FirstCarbon Solutions. 2014. Fresno General Plan Update, Greenhouse Gas Reduction Plan, prepared for the City of Fresno. July. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/F-2-Greenhouse-Gas-Reduction-Plan.pdf (accessed December 2019).

5.1 GHG PLAN REDUCTION STRATEGY

The City can control or influence GHG emissions in several ways. The City has direct control over its own fleet vehicles and buildings where it can use its budgeting authority and purchasing decisions for high efficiency/low emission options. The City has influence over emissions from development and redevelopment projects through its land use authority and its responsibilities as a Lead Agency under CEQA. The City can also provide leadership and education to the community to encourage voluntary actions to reduce GHG emissions. The General Plan provides the comprehensive objectives and policies that direct development in the city. The GHG Plan Update relies upon the General Plan as the basis of the development related strategies to reduce GHG emissions.

Greenhouse gas emissions are generated by a multitude of sources and activities. There is no single technology or individual program that provides a silver bullet for addressing this problem. Comprehensive solutions on multiple fronts are required to make the progress needed to achieve reduction targets for 2020, 2030 and beyond.

The GHG Plan Update strategies are categorized as follows:



- Land Use and Transportation
- Transportation Facilities Strategies
- Transportation Demand Strategies
- Energy Conservation Strategies for New and Existing Buildings
- Water Conservation Strategies
- Waste Diversion and Recycling and Energy Recovery
- Strategies for Existing Development
- Municipal Strategies

As described in the previous section, motor vehicle emissions dominate the City's emission inventory. The City has control over the emissions from its government fleet vehicles through its purchasing decisions, but no control over the emissions from other vehicles that operate in and pass through the city. However, the City's authority over land use provides opportunities to influence the amount people drive and their choice of travel mode. In planning circles, this is called the land use, transportation, air quality connection.

Land use and transportation strategies are supported by the General Plan land use and circulation plans and policies that provide the City's vision of future development in the planning area to the extent that they reduce vehicle trips and miles traveled compared with alternative development plans and patterns. The City's General Plan includes many land use and transportation policies that when implemented result in lower greenhouse gas emissions through the promotion of smart growth; jobs/housing balance; transit-oriented development; and infill development through that application of land use designations, and zoning, and the use of public-private partnerships to encourage action.

The following are land use strategies utilizing goals and policies in the General Plan that with application to individual projects will achieve GHG emission reductions. Key GHG Plan Update indicators associated with the applicable General Plan policies are also identified to help the individual projects account for GHG emission reductions.

The City recently established a VMT threshold of significance that will be generally applied to new land use development projects to assess potential traffic impacts to the environment under CEQA.[10] This threshold establishes a 13 percent or more decrease below existing regional VMT per capita as a significant environmental impact. The threshold applies to land use development projects including residential and commercial projects. The City established the VMT threshold in compliance with Senate Bill (SB) 743 with the intent of quantitatively ensuring that land use and transportation strategies result in a reduction of VMT. The application of this VMT threshold will also provide GHG

[10] City of Fresno, CEQA Guidelines for Vehicle Miles Traveled Thresholds. https://www.fresno.gov/darm/wp-content/uploads/sites/10/2020/06/CEQA-Guidelines-for-Vehicle-Miles-Traveled-Thresholds-June-2020-DRAFT.pdf

reduction benefits to the City and complement the objectives and policies of the approved General Plan, described below and included in detail in Appendix A.

5.1.1 Land Use Strategies

Development that is more dense and compact places people closer to destinations that can be accessed by walking or bicycling, and transit. Higher densities near transit routes and facilities also increases the potential for more frequent high-quality transit service such as BRT. The General Plan includes the following related policy.

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.

5.1.1.1 Compact and Infill Development

The General Plan provides for a substantial increase in development density in new growth areas compared to existing development. In addition, development trends show that more project developers can be expected to propose higher-density, single- and multi-family development than was constructed in the past. The General Plan land use designations provide density ranges that allow for higher average densities than experienced in the past for land already designated by the General Plan. The General Plan provide an increase in density in new growth areas.

Higher-density development tends to produce fewer vehicle trips per dwelling unit and more intense commercial development increases opportunities for walking, bicycling, and transit use for some trips. Although higher density is a prerequisite for achieving compact development, the design of the new projects is critical for maximizing reductions from being more compact related to walking, bicycling, and transit use. Approved but undeveloped subdivisions would comply with existing General Plan designations; however, market forces could result in requests for revisions to these subdivisions that would increase development density. Another way to increase density is to allow second units on residential lots. This practice increases overall development density and promotes more compact development that brings more people closer to commercial development.

Relevant General Plan Policies.

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.

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 LU-2-a **Infill Development and Redevelopment.** Promote development of vacant, underdeveloped, and redevelopable 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 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 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.

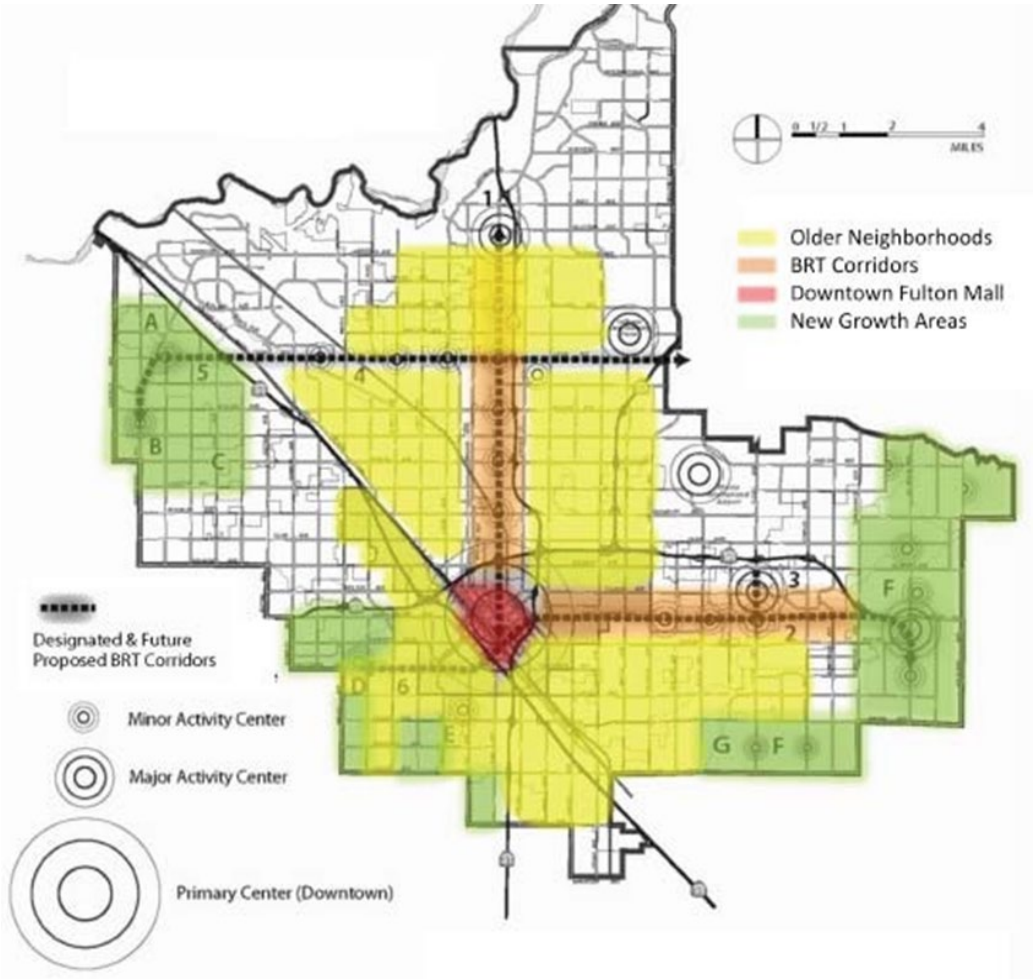
Policy RC-2-a **Link Land Use to Transportation.** Promote mixed-use, higher density infill development in multi-modal corridors. Support land use patterns that make more efficient use of the transportation system and plan future transportation investments in areas of higher-intensity development. Discourage investment in infrastructure that would not meet these criteria.

Figure 5-1 illustrates the conceptual location for the city of Fresno growth areas and the proposed BRT corridor. Compact development and infill provide the supporting base that maximizes the potential reductions in GHG emissions from the Plan strategy. Increased density, strategically located near quality transit and activity centers, is critical to successful implementation.

Key GHG Plan Indicators.

- Change in development density with time.
- Number of infill and redevelopment projects proposed.
- Changes in transit service and ridership.

Figure 5-1: City of Fresno Growth Areas and Proposed BRT Corridors



Source: City of Fresno (2019).

5.1.1.2 Mixed-Use Development

Mixed-use projects provide opportunities for walking between uses for some trips. Trips are reduced when visitors can park once at the development and obtain services, shopping, or go to a restaurant during a single trip. There are a variety of mixed-use development types with different mixes of uses and designs. Infill projects that provide residential development close to existing commercial development or vice versa can produce many of the same mixed-use benefits if done in a walkable environment.

Relevant General Plan Policies.

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 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.

Policy UF-12-f **Mixed-Use in Activity Centers.** Update the Development Code which includes use regulations and standards to allow for mixed uses and shared parking facilities.

Key GHG Plan Indicators.

- The number of mixed use projects proposed.
- The number of mixed use project constructed.

5.1.1.3 Pedestrian-Oriented Development

Providing pedestrian-friendly infrastructure such as sidewalks, paths, and direct connections to neighboring uses such as shopping, schools, libraries, and parks increase the potential for people to make trips on foot instead of making a car trip.

This strategy is consistent with the Complete Streets concept that aims to make streets safe for walking and bicycling.

Relevant General Plan Policies.

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.** Update the Development Code which includes use regulations and standards to allow for mixed uses and shared parking facilities.

Objective UF-14 Create an urban form to facilitate multi-modal connectivity.

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.

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.

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.

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.

Key GHG Plan Indicators.

- Project compliance with General Plan Policies

5.1.1.4 Transit-Oriented Development

Long-term development trends for increasing density and mixes of uses can lead to improved transit service in key areas of Fresno 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 existing 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.

Relevant General Plan Policies.

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.

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.

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.

Key GHG Plan Indicators.

- Comparison of development approved in infill areas versus non-infill areas such as comparison of development approved within 0.5 mile of BRT stations and 0.25 mile of transit stations versus non-BRT/non-transit station areas.
- Project designs consistent with General Plan policies.

5.1.2 Transportation Facilities Strategies

The following are strategies related to transportation infrastructure and facilities that encourage the use of alternative modes of transportation such as walking, bicycling, and transit use. This strategy would be implemented through support for and funding of transit, bicycle, and pedestrian connections, through transit and trail planning, and with regional cooperation among relevant agencies.

5.1.2.1 Transit Facilities

Transit facilities include bus stops, bus turnouts, multimodal transfer centers, and information kiosks. These facilities increase the comfort and convenience of using transit and minimize impacts on traffic flow from buses stopping for riders and re-entering traffic. Overall increases in transit service through the addition of new buses, new routes, and more frequent stops can also provide increased transit mode share. Transit

facility improvements are often provided by development projects in new growth areas as conditions of approval and mitigation measures. The improvements can also be provided as retrofits on existing streets and upgrades to existing transit stops using transportation funding.

Relevant General Plan Policies.

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

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

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

Policy MT-8-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.

Key GHG Plan Indicators.

- Transit route expansions
- Transit ridership trends
- Transition toward zero emission vehicles

5.1.2.2 Bicycle and Pedestrian Infrastructure

Adequate pedestrian infrastructure connecting frequently accessed destinations is critical to an increase in walking trips. Pedestrian infrastructure should be incorporated into project designs for new development, but also can be retrofitted in existing neighborhoods with barriers to walking such as lack of sidewalks or dangerous crossings.

Bicycle infrastructure including separate bicycle paths and bicycle lanes on roadways can increase the safety of cyclists and

encourage the use of this travel mode. Bicycle paths designed to provide more direct connections shorten travel distances and maximize safety. Bicycle lanes are less costly and can more easily connect multiple destinations for cyclists. The City of Fresno has an aggressive program in place to construct bike lanes and paths throughout the city. All new development is required to comply with the Bicycle, Pedestrian, and Trails Master Plan. Most arterials are now equipped with striped bike lanes. The City has also been installing sensors in the bike lanes that will trigger traffic lights to change when no motor vehicles are present.

Relevant General Plan Policies.

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.

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.

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.

Key GHG Plan Indicators.

- Active Transportation Plan implementation progress (projects funded and constructed).
- Developer funded and constructed bicycle and pedestrian projects.
- Compliance with General Plan policies and Development Code.

5.1.2.3 Traffic Calming Features

Design features and strategies to reduce vehicle speeds and reduce conflicts with pedestrians encourage more walking. Slower speeds encouraged by traffic calming can also improve safety and increase bicycling. Providing on-street parking, or street trees and landscaping to separate vehicles from pedestrians improve walkability.

Relevant General Plan Policies.

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-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.

Key GHG Plan Indicators.

- Project compliance with General Plan Policies

5.1.3 Transportation Demand Strategies

These strategies provide programs and facilities that encourage employees to use alternative modes for commute trips.

5.1.3.1 Transportation Demand Management

Transportation Demand Management (TDM) refers to measures designed to reduce the demand for transportation facilities that are usually implemented at employment sites and event centers. These include programs targeting employee commute trips at the worksite such as vanpools, and incentives for alternative transportation and government-operated programs such as rideshare matching and outreach and incentives. Event center TDM measures involve the use of shuttles, encouraging carpooling, and staggering arrival and departure times to reduce congestion.

Large existing and new employers are required by existing regulations to implement TDM programs. The SJVAPCD has adopted Rule 9410 Employer Based Trip Reduction, which requires employers with over 100 employees to implement trip reduction programs. (SJVAPCD 2009) The rule targets employee commute trips and requires large employers to implement measures that reduce VMT by increasing transit use, carpooling, vanpooling, bicycling, or other measures to reduce trips. The SJVAPCD estimates that the rule will reduce light-duty mobile source criteria pollutants by approximately 6.8 percent by 2023 (SJVAPCD 2009). Similar reductions in greenhouse gas emissions would also be achieved with the reduction in trips and vehicle miles traveled from the rule.

End-of-trip facilities include items such as showers and lockers for people who bicycle to work, secure bike parking, onsite services such as dry cleaning pick-up and cafeterias, and break rooms to reduce trips for errands and lunch. These are measures intended to increase the convenience and reduce potential negatives associated with bicycling to work and to eliminate the need for some trips during the workday. End-of-trip facilities are often included as design features in large projects to attract employees and may be selected by businesses as compliance options for Rule 9410.

Relevant General Plan Policies.

Policy MT-10-c **Transportation Demand Management Guidelines.** Establish transportation demand management guidelines to allow for reduced off-street parking requirements.

5.1.3.2 Parking Measures

Providing limited parking is one of the most effective transportation measures. Use of parking structures and paid parking provide a strong incentive to use alternative modes and to take advantage of carpools and vanpools. This measure would only apply in higher-density development areas, downtown, and mixed-use projects specifically designed for this strategy.

Relevant General Plan Policies.

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-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.

Key GHG Plan Indicators.

- Completion of parking standards update incorporating the policies
- Projects with shared parking approved
- Employers and educational facilities participating in subsidized transit programs

5.1.3.3 Electric Vehicle Charging Stations

Infrastructure to charge electric vehicles while at work or other destinations would allow longer distance commuters and other drivers to use electric vehicles without concern for running out of charge on the return trip. Quick-charge technologies are in development that can partially charge a car battery in 15 minutes. Once quick-charging stations are widely available, the range impediment of electric vehicles will be much less important.

The interim solution to battery range is hybrid vehicles that can run on electricity or conventional fuels. Plug-in hybrids have larger battery packs that allow vehicles to travel greater distances under battery power prior to use of the gasoline engine.

Relevant General Plan Policies.

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.

Key GHG Plan Indicators.

- Completion of EV charging stations and alternative fuel stations

5.1.4 Energy Conservation Strategies for New and Existing Buildings

Improving energy efficiency in new and existing buildings and facilities provides one of the most cost-effective strategies for reducing greenhouse gases. The energy savings from improved energy efficiency can often pay for the cost of the upgrades and retrofits over time. These strategies are implemented through the promotion of energy- and water-efficient buildings (e.g., LEED buildings and/or exceeding Title 24 standards) through green building ordinances, project timing, prioritization, and other implementing tools.

5.1.4.1 Energy Efficiency in New Buildings

New projects can exceed Title 24 Energy Efficiency Standards for new residential and non-residential buildings. The amount of reductions in energy use can be related to voluntary tier levels contained in Title 24 or through use of outside certifying programs such as LEED, EnergyStar or Greenpoint Rating systems. It should be noted that meeting LEED standards does not necessarily mean that a project would comply with Title 24, so additional measures may still be required for some projects to meet regulatory requirements. The state's ultimate goal is for new buildings to achieve "net zero" energy consumption. Net zero requires a combination of high efficiency buildings and energy self-generation through solar power or other means. Once net zero buildings become the norm, opportunities for reductions from new building energy efficiency become limited. Locations and building designs that are not suitable for onsite generation will not be able to achieve net zero energy consumption with currently available technologies. For those sites, offsite generation in common areas or through purchase of energy generated by zero emission facilities may be used.

Relevant General Plan Policies.

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 nonresidential 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.

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.

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.

Key GHG Plan Indicators.

- Title 24 compliance reports demonstrating projects meet or exceed regulatory requirements.
- Project CEQA documents include discussion of energy conservation design features.
- Periodic compilation of building energy efficiency reports for comparison with Plan goals.

5.1.4.2 Energy Efficiency in Existing Buildings

Older buildings that were constructed prior to the adoption of Title 24 or that were constructed when early versions of Title 24 were in place provide significant opportunities for cost-effective energy retrofits. Most current energy retrofit programs are voluntary incentive based programs. The State of California and the federal government have from time to time offered tax credits and deductions for energy retrofits. Public utilities also offer energy efficiency rebates for projects such as whole-house fans, insulation, weatherization, and other actions that reduce energy consumption in residential and commercial buildings. Some jurisdictions have proposed mandatory energy efficiency retrofits at time of sale; however, those programs are currently considered by many to be infeasible because of the loss of equity experienced by many homeowners at the time of sale, especially when housing values are low.

In January 2011, the City Council unanimously approved the adoption of the California Property Assessed Clean Energy (PACE) program administered by figtreecompany.com for the City of Fresno.

PACE utilizes bond financing to provide property owners fixed-rate, property-based, no-money-down financing for energy and water efficiency retrofits to their properties, significantly reducing energy bills and expenses with instant cost savings. The City no longer has an active PACE program; however, in partnership with PG&E, the City has implemented programs to achieve reductions in electricity usage, particularly in the municipal sector.

Relevant General Plan Policies.

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.

Key GHG Plan Indicators.

- Progress in implementing the PACE program.
- Report on types and numbers of projects funded.

5.1.4.3 Self-Generation Using Solar Panels and Solar Hot Water Systems

The city of Fresno's location and climate is excellent for solar electric generation and hot water systems with an average of 262 sunny days per year. Residential and commercial projects can include solar-ready roofs to allow future installation of solar panels or provide solar panels at the time of construction. Solar panel technology is becoming increasingly efficient in terms of power production and costs have declined substantially in recent years. Not all locations and project settings are conducive to solar power production, and cost-effectiveness is currently dependent on the receipt of incentives in most cases. Sites with the potential for other structures or trees shading the panel location greatly reduce feasibility. The projects also often require net metering where surplus power generated by the panels is sold to the utility and power is purchased from the grid during periods of low production or high usage. The utilities are only required to accept a limited amount of solar photovoltaic (PV) distributed generation into their systems each year. If limits are exceeded and net metering is not allowed, the systems become less feasible.

Solar hot water systems have been used for residential water heating for many years and are especially popular for residences with swimming pools to extend the days per year when the pool can be used. Another option for hot water is to use tankless, electric water heaters. These are increasingly used in new development. Tankless heating saves water and energy because it is not necessary to run the water for long periods for the water to arrive from the hot water tank to the faucet as is the case with the conventional water heaters.

Relevant General Plan Policies.

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.

Key GHG Plan Indicators.

- Projects permitted

5.1.5 Water Conservation Strategies

Northeast Fresno Surface Water Treatment Plant

Water pumping and transport consumes approximately 20 percent of all energy used in California. Measures to reduce water consumption through improved efficiency in plumbing fixtures and landscaping can result in substantial savings compared to past practices. In some cases, it may be feasible to go beyond the water efficiency standards in the California Green Building Standards Code and the State Model Water Efficient Landscape Ordinance with new construction. Water reuse and recycling through non-potable "purple pipe" systems may reduce energy consumption for water transport. The City has started installing purple pipes through implementation of the Recycled Water Ordinance. The Ordinance requires that new developments within planned major recycled water distribution mains to install purple pipe. As the City's capital projects construct distribution infrastructure, these segments will be in place to facilitate connections to new customers. The City's initial implementation of the recycled water distribution system from the Recycled Water Reclamation Facility is currently under construction. The City plans to use 25,000 acre-feet per year of recycled water to irrigate open spaces, parks, street medians, and golf courses, and at groundwater recharge facilities. The City is constructing an advanced treatment facility at the Fresno-Clovis Regional Water Reclamation Facility (RWRF) to process and clean the water to meet State and federal standards and regulations for non-potable use. The initial capacity of the facility will be 5 million gallons per day with a future capacity of 30 million gallons per day. The new treatment facility will pump water into the new network of recycled water pipelines that will convey recycled water across the city. The route begins in a rural and agricultural area in Fresno county and moves to high traffic city streets. High traffic volumes, businesses, agriculture, cemeteries and residences are immediately adjacent to project route (Recharge Fresno 2018).

The use of recycled water focuses on new and existing large green spaces, industrial uses, and new development. However, the development of a gray water policy for the residential reuse of wastewater for household gardening and landscape irrigation on site may be feasible. Water users that implement these measures or purchase buildings and homes that include these features will benefit from savings in their water bills.

5.1.5.1 Relevant General Plan Policies

Policy RC-6-d **Recycled Water.** Prepare, adopt, and implement a City of Fresno Recycled Water Master Plan.

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 that reduces 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 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-d **Update Standards for New Development.** Continue to refine water saving and conservation standards for new development.

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-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.

Key GHG Plan Indicators.

- Track per capita water use with collected meter data and normal reporting.
- Progress in updating the Water Conservation Program.

5.1.6 Waste Diversion and Recycling and Energy Recovery

Programs and actions that promote recycling and diversion of waste from landfills can reduce energy consumed in the transport and handling of the waste material and can reduce the greenhouse gases that are emitted during the decomposition of organic waste.

The State of California has adopted increasingly stringent mandates for the percentage of solid waste that can be disposed in landfills. Programs that require or encourage further reductions in waste beyond mandates will result in greenhouse gas reductions from this source. Certain landfills are mandated to install methane capture systems. Methane is a powerful greenhouse gas that is 21 times more effective than carbon dioxide in retaining heat in the atmosphere. The methane can be flared, producing mainly carbon dioxide or used in combustion devices to generate heat or power that can be used for productive purposes displacing the use of fossil fuels.

Relevant General Plan Policies.

Policy PU-9-a **New Techniques.** Continue to collaborate 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 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.

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.

Key GHG Plan Indicators.

- Progress reports on achieving State mandated waste reduction and diversion goals.
- Adoption of commercial and industrial recycling area and storage standards.
- Adoption of the Zero Waste Strategy.

5.1.6.2 Wastewater

Fresno/Clovis RWRF

Wastewater treatment can produce methane emissions that are a powerful greenhouse gas, but it also provides a valuable renewable energy source when scrubbed of harmful components. Fresno currently operates a major regional secondary treatment plant and reuses water primarily for agricultural purposes. The City has one tertiary treatment facility at the Copper River development in north Fresno that provides water for a golf course and shared landscaped areas. Tertiary treatment of wastewater can allow its use for safely watering landscaped areas such as highway medians, parks, and golf courses using so-called "purple pipe" systems. Tertiary treatment systems can use substantial amounts of energy, so energy savings from less water pumping must be balanced with the energy costs of treating the water and pumping to where it is used. Wastewater treatment plants such as the Fresno/Clovis Regional Wastewater Reclamation Facility (RWRF) with anaerobic digesters capture the methane produced during the treatment process for productive use such as generation of electricity or process heat to offset some of the plant's power consumption.

Relevant General Plan Policies.

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.

Key GHG Plan Indicators.

- Progress in adopting wastewater reduction programs.
- Feasibility studies regarding future tertiary treatment/recycling options.

5.1.6.3 Community Involvement and Outreach

Many of the strategies listed above will be more effective if there is community involvement and outreach to engage the citizens. This strategy requires public awareness of the measures available for them to take effective action at reducing their energy use and carbon footprint.

Measures and programs that reduce greenhouse gas emissions are often operated at the regional level. Many modes of transportation operate at the regional level, because people travel throughout the region. Regional cooperation provides a venue for sharing knowledge and resources to help address a variety of issues, including climate change and greenhouse gas emissions.

Relevant General Plan Policies.

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-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-k **Energy Efficiency Education.** Provide long-term and ongoing 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.

Key GHG Plan Indicators.

- Progress reports on education and outreach programs.
- Number of solar panel installation permits issued.

5.1.7 Municipal Strategies

The City of Fresno has a comprehensive set of strategies specifically targeted at greenhouse gas emissions generated at City-owned facilities and from City operations. The strategies identified by the City include the following measures intended to improve energy efficiency in buildings and equipment owned by the City, alternative fuels for City vehicles and equipment, and water conservation:

- Improve energy efficiency in City operations.
- New City buildings exceed Title 24 energy efficiency standards.
- Install renewable energy systems on City facilities.
- City operated transportation demand management for City employees.
- Purchase green vehicles for City fleets.
- Enhance reduction, recycling, and reuse efforts at City facilities.
- Implement water efficient landscaping in city parks and facilities.

Relevant General Plan Policies.

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 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-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.

Key GHG Plan Indicators.

- Progress reports from responsible departments on conservation efforts.
- Progress on creating a City Energy Fund.
- Identification and recognition of major individual conservation projects.

5.1.7.2 Regional Urban Forestry Program

Trees provide shade that can reduce the urban heat island effect caused when pavement and other open surfaces absorb solar radiation and re-radiate heat to the surrounding environment. The shade can reduce energy required for cooling. Trees also store carbon as they grow, in a process referred to as sequestration. Emission reductions from urban forestry projects must consider the life cycle emissions such as tree maintenance and the ultimate disposition of trees at the end of their lives to ensure that they produce a net decrease in greenhouse gas emissions.

The City maintains trees in parks and other publicly owned landscaped areas. These areas may provide an opportunity for new tree planting or replacement of tree species that possess a low potential to store carbon, with tree species that possess higher carbon storage potential. Guidance for managing urban forests is available from a number of sources. The Climate Action Reserve, Urban Forest Project Reporting Protocol (CAR 2019) provides criteria for generating greenhouse gas emission offsets with tree planting along with procedures for project monitoring. ICLEI's Urban Forestry Toolkit for Local Governments provides a series of fact sheets and case studies that communities can use to design an effective urban forestry program (ICLEI 2006).

Relevant General Plan Policies.

Policy POSS-1-g **Regional Urban Forest.** Maintain and implement incrementally, through new development projects, additions to Fresno's regional urban forest to delineate

corridors and the boundaries of urban areas, and to provide tree canopy for bike lanes, sidewalks, parking lots, and trails.

Key GHG Plan Indicators.

- Track change in urban tree cover over time.

5.1.7.3 Other Municipal Strategies

Energy Savings from Traffic and Street Lighting. The City plans to replace lighting fixtures with more efficient LED or other technology whenever possible. According to a report prepared by PG&E, Phase II LED luminaires provided power savings of 36 percent compared with high-pressure sodium luminaires, and the newer Phase III LED luminaires provided 52 percent savings (PG&E 2008).

Low-Emission City Fleet Vehicles. The City operates vehicles used by the FAX bus fleet, the Solid Waste Division, the Police Department and for maintenance and other purposes. The City has already converted all buses to compressed natural gas (CNG). FAX currently operates 110 alternatively fueled CNG buses. In 2014, the CARB approved a regulation setting a Statewide goal for public transit agencies to transition to 100 percent zero-emission bus fleets by 2040, and requiring that all new bus procurements be carbon-free by 2029. FAX's most recent bus order included two Proterra all-electric battery 40-foot buses, anticipated to arrive in mid-2020 with an additional order of seven scheduled for revenue service in 2020. Through these investments, FAX continues to showcase its commitment to cleaner vehicles and a cleaner environment.

Green Purchasing. The City makes purchases typical for city government operations such as vehicles, computers, paper, and materials required to maintain the City's infrastructure. The City's compressed natural gas (CNG) fleet vehicles provide good examples of its past green purchasing practices.

Municipal Water Conservation. The City has implemented water saving measures at most public parks, and other landscaped areas maintained by the City. The General Plan Policies listed in the Water Conservation Strategies section apply to municipally operated facilities.

5.1.8 Strategies for Existing Development

The GHG Plan Update strategies described above are implemented in two ways. New development projects would be constructed consistent with the General Plan and GHG Plan Update. 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 5-B.

Table 5-B: 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 Connections to Transit Stations	Transit stations service a wider community area that includes connections to new and existing development through sidewalks and bike lanes.
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.

5.2 REDUCTION POTENTIAL FROM LOCAL MEASURES

Reductions beyond State regulations will be achieved through the development of the land use pattern and transportation system envisioned by the 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 multi-family 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.

5.2.1 Mobile Source Reductions

5.2.1.1 Land Use Strategy

SB 375 required the CARB to set regional targets for reductions from light duty passenger vehicle emission. 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 6 percent by 2020 and 13 percent by 2035 (CARB 2018). The City's VMT threshold of a 13 percent reduction in VMT per capita is indicative of a less than significant environmental impact established per SB 743 and corresponds to CARB's 13 percent by 2035 CO_2e reduction target. The key strategies envisioned to achieve these CO_2e reduction targets 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 General Plan land use scenario. The City of Fresno is participating in the SB 375 SCS process to more closely define the growth areas that would be part of the SCS and qualify for CEQA streamlining provisions.

Emission reductions at the individual project level would be substantially larger than the amounts estimated for as the overall reduction for SB 375 and SB 743 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.

5.2.1.2 Transportation Demand Management

The 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, a 66,191 MT CO_2e/year reduction by 2030, and a 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.

To comply with the VMT threshold that the City adopted for SB 743 implementation, the City would implement other TDM strategies outlined in the City's General Plan policies that will contribute to VMT reduction and will be applicable to both new commercial and residential development projects. The approved General Plan includes several policies to reduce VMT and the revisions to the approved General Plan will facilitate the adoption of VMT policies to reduce VMT citywide. The City General Plan objectives and policies that contribute to VMT reduction through implementation of TDM strategies are outlined in Appendix A, Table 2-1.

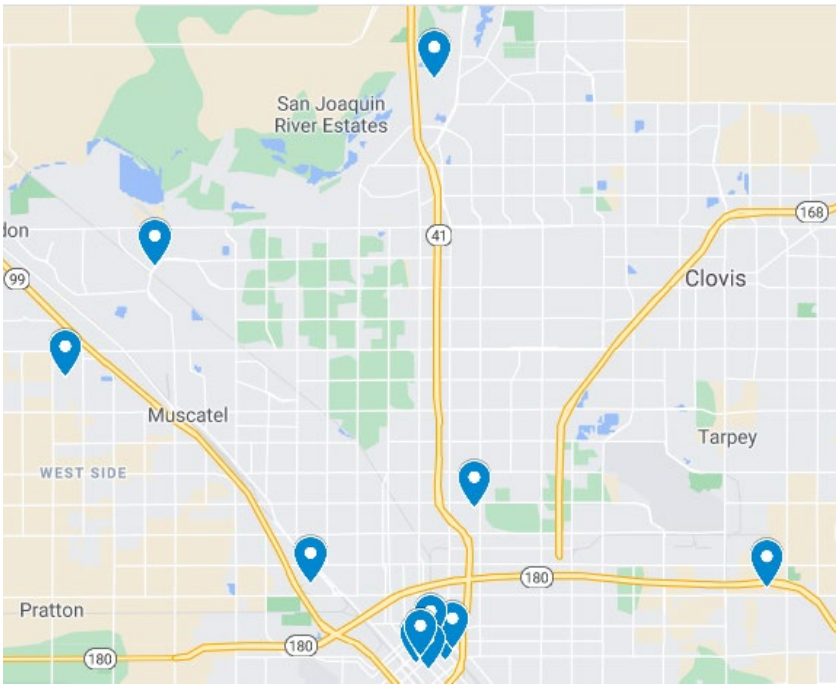
5.2.1.3 Implementation of Support for Electric Vehicles

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, 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. CALGreen contains minimum requirements that apply statewide as well as reach codes that can be adopted by local governments. 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. The City is launching an EV charging pilot program, designed to assist the State with their goals to increase the

number of EVs in California and improve the air quality in our communities. The 87 Level 2 EV Chargers locations are currently being installed and almost ready for use throughout the city (Figure 5-2). The majority of the costs to purchase and install the chargers are covered by grants and incentives from the San Joaquin Valley Air Pollution Control District (SJVACD), and the California Electric Vehicle Implementation Program (CAL-EVIP). The grants and incentives obtained by the City were also targeted for disadvantaged communities. A significant number of the EV Chargers will be installed in areas that are currently underserved with EV infrastructure. The EV Chargers will be available for both public use and for City vehicles to allow for optimal usage.

Figure 5-2: Map of Upcoming Electric Vehicle (EV) Charger Locations in Fresno



5.2.1.4 Implementation Support for Zero Emission Buses

To implement the State of California's Innovative Clean Transit regulation[11] of 100 percent zero-emission buses by 2040 (CARB 2019), 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.

[11] 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.

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.

5.2.2 Energy Efficiency Reductions

5.2.2.1 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.

5.2.3 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[12].

- **Water-Efficient Dishwashers.** Install Energy Star-certified units. Water savings: 5000 gallons per residential unit per year[13].

- **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[14]. 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[15]. 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[16]. 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.

- **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.

Estimates of water savings and costs are from the City of Chula Vista Water Conservation Plan Guidelines adopted in 2003.

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12 Water Pressure Reducing Valves: Frequently Asked Questions. Website: www.watts.com/resources/references-tools/waterpressurereducingvalvesfaq (accessed August 10, 2019).

13 Energy Star Appliances: Dishwashers Vs. Handwashing Dishes. Website: www.energystar.gov/products/appliances/dishwashers/dishwasher_hand_washing (accessed August 10, 2019).

14 Energy Efficient Toilets Comparison: Constellation Energy. Website: www.blog.constellation.com/2017/09/25/energy-efficient-toilets-comparison/ (accessed August 10, 2019).

15 Energy Star High Efficiency Clothes Washers. Website: www.energystar.gov/products/appliances/clothes_washers (accessed August 10, 2019).

16 Energy Star Point of Contact Heaters. Website: www.energystar.gov/products/water_heaters/point_use_pou_water_heaters (accessed August 10, 2019).

5.2.3.2 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 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.

5.2.4 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 be consistent through 2020. The 75 percent diversion target would require a per capita rate of 1.65 pounds per person per day. 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.

5.2.5 Summary of Reductions from Local Measures

Table 5-C summarizes the local reductions from the measures described above.

Table 5-D 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 2,081,167MT 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 1,626,272 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 1,404,946 MT CO_2e, which would exceed the 58 percent below baseline levels reduction target of 1,591,674 MT CO_2e for 2035.

Table 5-C: Emissions Reductions from Local Measures

Sector	Local Measures	Emissions Reductions (MT CO_2e/year)		
		2020	2030	2035

Transportation	Land Use Strategies and Transportation Demand Management	45,184	66,191	80,114
Transportation	Electric Vehicle Charging Stations	--	84,115	116,816
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**	**313,053**	**396,191**

Source: Compiled by LSA Associates, Inc. (2021).

Table 5-D: 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	1,939,325	1,801,137
Local Measures Reductions	-	-	*51,159*	*313,053*	*396,191*
Total Adjusted Emissions	-	-	2,081,167	1,626,272	1,404,946
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).

[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

6.0 DEVELOPMENT PROJECT REQUIREMENTS

This section describes the actions that individual development projects would be required to implement in order to qualify for California Environmental Quality Act (CEQA streamlining) and to demonstrate that the project would not result in significant GHG impacts. Projects that have completed all environmental review prior to adoption of the GHG Plan Update must comply with regulations in effect at the time of construction and with conditions of approval that were required during review of the tract map, development permit, or conditional use permit approved by the City. This means that all development will help meet the City's GHG reduction targets.

6.1 PROJECTS EXEMPT FROM CEQA

Projects that have already completed the CEQA process and only require building permits have no requirements beyond applicable regulations such as the California Building Code, Title 24 Energy Efficiency Standards, the City Development Code, and other City Ordinances.

6.1.1 City Development Code

Consult the Development Code for requirements for each type of project. Examples include:

- Street Design (complete streets and bus stops) (applies if project involves street improvements)
- Pedestrian Improvements (sidewalks, paths, connections, etc.)
- Bicycle Lanes and Paths (consistent with the Active Transportation Plan)
- Bicycle Parking (Commercial)
- Enforce Building Code Requirements (Green Building Code)

6.1.2 State Regulations

Project buildings must meet the California Energy Code and the California Green Building Standard Code.

6.2 PROJECTS REQUIRING A DISCRETIONARY APPROVAL

Projects requiring a discretionary approval from the City must comply with CEQA provisions related to GHG emissions. Projects that are consistent with the GHG Plan Update by demonstrating consistency with the GHG Plan Update Consistency Checklist (checklist) are considered CEQA-compliant for GHG impacts. The following review process is proposed:

6.2.1 New Discretionary Development Approval Process to Determine Consistency with GHG Reduction Plan Update

1. Review the GHG Reduction Plan Project Update CEQA Consistency Checklist (Appendix B) that lists the local GHG reduction strategies identified in the GHG Plan Update to determine applicability to the project.

2. Incorporate design features or mitigation measures into the project as needed to demonstrate consistency.

3. Implement project design features suitable for the development type and location.

Proposed development projects that are consistent with the GHG Plan Update as determined through the use GHG Plan Update CEQA Consistency Checklist may rely on the GHG Plan Update for the cumulative impacts analysis of GHG emissions. Projects that are not consistent with the GHG Plan Update must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and apply appropriate GHG reduction mitigation measures based on the GHG reduction strategies identified in the GHG Plan Update and listed in the checklist.

6.2.2 New Discretionary Development requiring a General Plan Amendment

1. Comply with all of the applicable measures listed above for ministerial and discretionary projects.

2. Ensure that change in land use designation would not result in a significant increase in GHG emissions compared to the existing designation (would require a GHG technical study to quantify GHG emissions and benefits of project design features).

3. Projects currently designated for residential or commercial development that increase development densities and intensities and comply with the relevant GHG reduction strategies in the General Plan, or provide quantified GHG emission reduction calculations which demonstrates that the project would mitigate the cumulative GHG emissions, are considered to have a less than significant GHG impact.

4. Emissions from stationary sources for new industrial projects are not considered in the significance determination; however, emissions from motor vehicles trips generated by the project and energy efficiency of the building are considered.

5. Projects that propose decreases in development densities or intensities requiring a General Plan amendment will require analysis of GHG emissions to determine the impacts on the General Plan land use strategy and must identify mitigation measures to reduce greenhouse gas emissions beyond those required by regulation if needed.

7.0 GHG PLAN UPDATE IMPLEMENTATION MONITORING

This chapter describes the steps for implementing the GHG Plan Update to support achievement of GHG reduction goals for the community at large. Success in meeting the City's GHG emission reduction goals will depend on cooperation, innovation, and participation by the City, residents, businesses, and local government entities. This section outlines key steps that the City could follow for the implementation of this GHG Plan Update. The GHG Plan Update is designed so that it can be monitored, updated, and its effectiveness measured on an annual basis towards meeting a target for reduction of greenhouse gas emissions in 2020 and 2030 to measure further progress through horizon of the General Plan in 2035. The reporting required for the General Plan provides a good venue for monitoring the GHG Plan. California Government Code Section 65400 requires the City to prepare and submit an annual report on the status of the General Plan and progress in its implementation to the City Council, the Governor's Office of Planning and Research, and the Department of Housing and Community Development. This section provides a guide the City could use to implement the GHG Plan.

7.1 GHG PLAN UPDATE IMPLEMENTATION

Successful implementation of the GHG Plan Update will require implementation and monitoring which could incorporate the following components, which are described in more detail in the sections below:

- Administration and staffing;
- Financing and budgeting;
- Timelines for GHG reduction strategies implementation;
- Community outreach and education; and
- Monitoring, reporting, and adaptive management.

These are basic steps that any City might take or that other California communities have taken to implement a GHG reduction plan. These are suggested—not required—and are intended to guide a City in its implementation planning.

7.1.1 Administration and Staffing

Implementation of the GHG Plan Update will involve coordination with other regional agencies. The City may designate staff to oversee the successful implementation and the tracking of all selected GHG reduction strategies. The City could coordinate with contacts across departments to gather data, to report on progress, to track completed projects, and to ensure that scheduling and funding of upcoming projects is discussed at key City meetings. The City may identify one or more staff to act as the Plan Implementation Administrator(s) to guide monitoring, reporting, and dissemination of information to the public. Where possible, the City may use assistants from programs such as CivicSpark, an AmeriCorps program designed to build capacity for local governments to address climate change.

The Administrator could have the following responsibilities:

- Serve as the external communication hub to local and regional agencies in coordinating the implementation of the GHG Reduction Plan
- Investigate methods to use existing resources and harness community support to better streamline implementation of the Plan
- Monitor implementation of reduction strategies and success of the GHG Plan Update
- Establish guidelines for reporting and documenting emission-reduction progress.
- Track State and federal legislation and its applicability to the City

In general, the goal in implementing the GHG Plan Update is not to create new administrative tasks or new staff positions necessarily, but rather to leverage existing programs and staff to the maximum extent feasible. Cities may seek to fold GHG planning and long-term reduction into their existing procedures, institutional organization, reporting, and long-term planning.

7.1.2 Financing and Budgeting

Implementation of the local GHG reduction strategies may require investment for the capital improvements and other investments, and increased operations and maintenance costs. However, in some cases operating costs are anticipated to decrease, resulting in offset savings. Table C-1 in Appendix C, Potential Funding Sources to Support GHG Reduction Strategies, presents a summary of potential funding and financing options available at the time of writing this document. Some funding sources are not necessarily directed towards a city, but to a larger regional agency such as the SJVAPCD. The City could monitor private and public funding sources for new grant and rebate opportunities and to better understand how larger agencies are accessing funds that can be used for GHG reductions in their areas. Leveraging financing sources is one of the most important roles a local government can play in helping the community to implement many of the GHG reduction strategies. A study commissioned by the City,[17] Energize Fresno Funding Market Study, March 2017, provides a detailed analysis of potential funding mechanisms that could also support the implementation of the GHG reduction strategies identified in the GHG Plan Update.

7.1.3 Timelines for GHG reduction strategies Implementation

After taking into account the reductions in energy and water usage and the GHG emissions resulting from statewide measures, presently it would appear that without future State action the City would need to implement the local reduction strategies to reach its reduction targets for 2035. The City could prioritize the implementation of GHG reduction strategies based on following criteria:

- Cost effectiveness
- GHG reduction efficiency
- Availability of funding
- Level of City Control

[17] Energize Fresno Funding Market Study. 2017. Website: www.lgc.org/wordpress/wp-content/uploads/2018/02/Energize-Fresno-Funding-Market-Study.pdf (accessed August 14, 2019).

- Ease of implementation
- Time to implement

To encourage implementation of all reduction strategies, City staff could develop a GHG Plan Update Implementation Timeline. GHG reduction Strategy prioritization could be based on the factors shown in Appendix C.

7.2 MONITORING THE GHG PLAN UPDATE

Regular monitoring is important to ensure programs function as they were originally intended. Early identification of effective strategies and potential issues would enable the City to make informed decisions on future priorities, funding, and scheduling. Moreover, monitoring provides concrete data to document the City's progress in reducing GHG emissions. The City would be responsible for developing a protocol for monitoring the effectiveness of emission reduction programs as well as for undertaking emission inventory updates. Below are some of the key components of a GHG Plan monitoring program.

- **Update GHG Inventory:** The City could update the inventory emissions prior to 2030 to ensure they meet their GHG reduction goals. This includes regular data collection in each of the primary inventory sectors (utility, regional VMT, waste, wastewater, and water), and comparing the inventory to the City's baseline GHG emissions in 2010 and 2016. The City would consolidate information in a database or spreadsheet that could be used to evaluate the effectiveness of individual reduction strategies.

- **Track State Progress:** The GHG Plan Update relies heavily on Statewide measures. The City should track the State's progress on implementing Statewide programs. Close monitoring of the reductions achieved by State programs would allow the City to adjust its GHG Plan Update, if needed.

- **Track Completion of GHG Reduction Strategies:** The City could keep track of strategies implemented as scheduled in the GHG Plan Update, including progress reports on each strategy, funding, and savings. This would allow at least a rough attribution of gains when combined with regular GHG inventory updates.

- **Regular Progress Reports:** The City may report on the GHG Plan Update implementation progress annually to the City Council as a part of the annual report on progress in implementing General Plan. If annual reports, periodic inventories, or other information indicates that the GHG reduction strategies are not as effective as originally anticipated, the GHG Plan Update may need to be adjusted, amended, or supplemented.

7.3 GHG PLAN UPDATE TRACKING TOOL

The City GHG Plan Update Project Consistency Checklist (checklist) (Appendix B), provides a platform and framework to track the GHG reduction strategy implementation. The City could compile the data obtained from the checklist annually to monitor and track the progress on GHG reductions

achieved through the implementation of the GHG reduction strategies identified in the GHG Plan Update.

The City is currently using an online Accela-based system to track permit applications for development projects. This permit tracking system could be transformed into a GHG reduction monitoring tool, where the City would be able to track GHG reductions achieved through implementation of the GHG reduction strategies within the GHG Plan Update. This would help the City to monitor the GHG Plan Update's implementation progress without added administrative burden, and to share findings with stakeholders, partners, and the community.

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APPENDIX A

GENERAL PLAN POLICY LIST

The General Plan is the foundation of the City of Fresno's strategy to reduce development related greenhouse gas emissions. The City's land use authority provides its most effective means of limiting the impact of growth predicted for the City. The Greenhouse Gas Reduction Plan (GHG Plan) relates the benefits of the General Plan and the City's strategy for achieving greenhouse gas (GHG) reduction targets. Table A-1 is a list of General Plan Policies that provide GHG reductions or support GHG Reduction Plan Update (GHG Plan Update) strategies.

Table A-1: General Plan Objectives and Policies

Urban Form 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.
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.
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.
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 to facilitate multi-modal connectivity.
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.
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.

Table A-1: General Plan Objectives and Policies

Urban Form Element (Continued)	
Policy UF-14-c	**Block Length.** Create development standards that provide desired and maximum block lengths in residential, retail, and mixed-use districts order to enhanced walkability.
Land Use Element	
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 redevelopable 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 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 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.
Design Element	
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.
Transportation Element	
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.

Table A-1: General Plan Objectives and Policies

Transportation Element (Continued)	
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-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).
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 recreational 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.

Table A-1: General Plan Objectives and Policies

Transportation Element (Continued)	
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.
Objective MT-8	Provide public transit options that serve existing and future concentrations of residences, employment, recreation and civic uses and are feasible, efficient, safe, and minimize environmental impacts.
Policy MT-8-a	**Street Design Coordinated with Transit.** Coordinate the planning, design, and construction of the major roadway network with transit operators to facilitate efficient direct transit routing throughout the Planning Area.
Policy MT-8-b	**Transit Serving Residential and Employment Nodes.** Identify the location of current and future residential and employment concentrations and Activity Centers throughout the transit service area in order to facilitate planning and implementation of optimal transit 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.
Park and Open Space	
Policy POSS-1-g	**Regional Urban Forest.** Maintain and implement incrementally, through new development projects, additions to Fresno's regional 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	
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 and 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.
Policy PU-9-a	**New Techniques.** Continue to collaborate 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.

Table A-1: General Plan Objectives and Policies

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.
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-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.

Table A-1: General Plan Objectives and Policies

Resource Conservation and Resilience (Continued)	
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.
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 that reduces 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 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.

Table A-1: General Plan Objectives and Policies

Resource Conservation and Resilience (Continued)	
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.
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 nonresidential 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.
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.
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.

Table A-1: General Plan Objectives and Policies

Resource Conservation and Resilience (Continued)	
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 ongoing 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.

APPENDIX B

GHG REDUCTION PLAN UPDATE: PROJECT CONSISTENCY CHECKLIST

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FRESNO GREENHOUSE GAS (GHG) REDUCTION PLAN UPDATE

CEQA PROJECT CONSISTENCY CHECKLIST

March 2021

City of FRESNO

Fresno Greenhouse Gas (GHG) Reduction Plan Update – CEQA Project Consistency Checklist

INTRODUCTION

The City of Fresno updated its 2014 Greenhouse Gas (GHG) Reduction Plan (the Plan) in the year 2021 to conform with existing applicable State climate change policies and regulations. The GHG Plan Update outlines strategies that the City will undertake to achieve its proportional share of GHG emission reductions. The purpose of this GHG Reduction Plan Update Consistency Checklist (Checklist) is to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15183.5.

This Checklist has been developed as part of the GHG Plan Update implementation and monitoring process and will support the achievement of individual GHG reduction strategies as well as the City's overall GHG reduction goals. In addition, this Checklist will further the City's sustainability goals and policies that encourage sustainable development and aim to conserve and reduce the consumption of resources, such as energy and water. Projects that meet the requirements of this Checklist will be deemed to be consistent with the Fresno GHG Reduction Plan Update and will be found to have a less than significant contribution to cumulative GHG (i.e., the project's incremental contribution to cumulative GHG effects is not cumulatively considerable), pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b). Projects that do not meet the requirements in this Checklist will be deemed to be inconsistent with the Fresno GHG Reduction Plan Update and must prepare a project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in this Checklist to the extent feasible. This GHG Checklist can be updated to reflect adoption of new GHG reduction strategies or to comply with any changes and updates in the Plan or local, State or federal regulations. Note that not all the measures in the checklist are applicable to all projects. The projects should comply with applicable measures from the checklist.

1. Project Information	
Contact Information	
Project No./Name:	
Address:	
Applicant Name/Co:	
Contact Information:	
Project Information	
1. What is the Site acreage of the Project?	
2. Identify all Applicable Proposed Land uses:	
a. Residential (Indicate number of single-family units)	
b. Residential (Indicate number of multi-family units)	
c. Commercial (total square footage)	
d. Industrial (total square footage)	
e. Other (describe)	
3. Is the project or a portion of the project located in a transit priority area? (Y/N)	
4. Provide a brief description of the project proposed:	

2. Determining Land Use Consistency		
Checklist Item		
As the first step in determining the consistency with the GHG Reduction Plan for discretionary development projects, this section allows the City to determine the project's consistency with the land use assumptions used in the GHG Reduction Plan.		
	Yes	**No**
1. Is the proposed project consistent with the approved General Plan, Specific Plan, and Community Plan planned land use and zoning designations? If the answer is **Yes**, then proceed to the GHG Plan Update Consistency Checklist. If the answer is **No**, then proceed to question 2.		
2. If the proposed project is not consistent with the approved planned land use and zoning designation(s), then provide estimated GHG project emissions under both existing and proposed designation(s) for comparison. Compare the maximum buildout of the existing designation with the maximum buildout of the proposed designation. If the estimated project emissions at maximum buildout of the proposed designation(s) **is equivalent to or less than** the estimated project emissions at maximum buildout of the existing designation(s), then in accordance with the City's Significance Determination Thresholds, the project's GHG impact is less than significant. If there is a proposed development project associated with this plan amendment and or rezone then complete the GHG Plan Update Consistency Checklist and incorporate applicable measures, otherwise there is no further step required. If the estimated project emission at maximum buildout of the proposed designation(s) is **greater than** the estimated project emissions at maximum buildout of the existing designation(s), then in accordance with the City's Significance Determination Thresholds, the project's GHG impact is significant. The project must either show consistency with applicable GP objectives and policies (provide applicable GP objectives and policies here) or provide analysis and measures to incorporate into the project to bring the GHG emissions to a level that is less than or equal to the estimated project emission at maximum buildout of the existing designation(s) unless the decision-maker finds that a measure is infeasible in accordance with CEQA Guidelines Section 15091. If there is a proposed development project associated with this plan amendment and or rezone then complete the GHG Plan Update Consistency Checklist and incorporate applicable measures, otherwise there is no further step required.		

3. Greenhouse Gas (GHG) Reduction Plan Update - CEQA Project Consistency Checklist

GHG Reduction Plan Update consistency review involves the evaluation of project consistency with the applicable strategies of the GHG Reduction Plan Update. The GHG reduction strategies identified in the GHG Reduction Plan Update relies upon the General Plan and additional local measures as the basis of the development related strategies to reduce GHG emissions. This checklist is developed based on the key local GHG reduction strategies and actions identified in the GHG Reduction Plan Update that are applicable to proposed development projects. Note that not all strategies listed below will apply to all projects. For example, not all projects will meet mixed-use related policies of the General Plan, because not all projects are required to be mixed use.

Checklist Item (Check the appropriate box and provide an explanation for your answer)	Relevant General Plan Policy	Yes	No	Not Applicable (NA)	Explanation
1: Land Use and Transportation Demand Strategies					
a. Does the project include mixed-use, development? For GHG Reduction Plan consistency, mixed-use development is defined as pedestrian-friendly development that blends two or more residential, commercial, cultural, or institutional, uses, one of which must be residential	Policy UF-1-c, LU-3-b, Objective-UF 12, UF-12-a, UF-12-b, UF-12-d, Policy RC-2-a				
b. Is the project high density? For GHG Reduction Plan consistency, is the project developed at 12 units per acre or higher?	LU-5-f				
c. Is the project infill development, pursuant to the General Plan definition of location within the City limits as of December 31, 2012?	LU-2-a, Objective-12, UF-12-a, UF-12-b, UF-12-d				
d. Does the project implement pedestrian bicycle, and transit linkages with surrounding land uses and neighborhoods? For GHG Reduction Plan consistency, the project must include all sidewalks, paths, trails, and facilities required by the General Plan and Active Transportation Plan, as implemented through the Fresno Municipal Code and project conditions of approval.	Policy UF-1-c, UF-12-e, Policy RC-2-a, Objective MT-4,5,6, Policy MT-4-c, Policy MT-6-a, Policy POSS-7-h Objective MT 8, Policies MT-8-a, MT-8-b				
e. If the project includes mixed-use or high density development, is it located within ½ mile of a High Quality Transit Area as defined in the City's CEQA Guidelines for Vehicle Miles Traveled? Or, is the project located within 500 feet of an existing or planned transit stop?	Policy UF-12-a, UF-12-b, LU-3-b, Objective MT 8, Policies MT-8-a, MT-8-b				
f. Will the project accommodate a large employer (over 100 employees) and will it implement trip reduction programs such as increasing transit use, carpooling, vanpooling, bicycling, or other measures to reduce vehicle miles traveled pursuant to San Joaquin Valley Air Pollution Control District Rule 9410? See the SJVAPCD website for details: https://www.valleyair.org/rules/currntrules/r9410.pdf	Policy MT-8-b, Objective MT-9, Policy MT-10-c, San Joaquin Valley Air Pollution Control District Rule 9410				

Checklist Item (Check the appropriate box and provide an explanation for your answer)	Relevant General Plan Policy	Yes	No	Not Applicable (NA)	Explanation
g. If the project includes modifications to the transportation network, do those improvements meet the requirements of the City of Fresno's Complete Streets Policy, adopted in October 2019? According to the policy, a complete street is a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users - including bicyclists, pedestrians, transit vehicles, trucks, and motorists - appropriate to the function and context of the facility while connecting to a larger transportation network. See City of Fresno website for details: https://www.fresno.gov/publicworks/wp-content/uploads/sites/17/2019/10/Complete-Streets-091119.pdf	MT-1-g, MT-1-h				
h. Does the project have a less than significant VMT impact, either through satisfying screening criteria or mitigating VMT impacts, pursuant to the City's adopted VMT thresholds? See City of Fresno website for details: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2021/01/CEQA-Guidelines-for-Vehicle-Miles-Traveled-Final-Adopted-Version.pdf	MT-2-b, MT-2-c				
2: Electric Vehicle Strategies					
a. For new multi-family dwelling units with parking, does the project provide EV charging spaces capable of supporting future EV supply equipment (EV capable) at 10% of the parking spaces per 2019 California Green Building Standards Code (CALGREEN, Title 24, Part 11), Section 4.106.4	Policy RC-8-j				
b. For new commercial buildings, does project provide EV charging spaces capable of supporting EV capable spaces at 4% to 10% of the parking spaces per 2019 California Green Building Standards Code (CALGREEN, Title 24, Part 11), Section 5.106.5.3	Policy RC-8-j				
3: Energy Conservation Strategies					
a. Does the project meet or exceed mandatory state building energy codes? If yes, does the project follow any other GreenPoint ratings such as LEED, Energy Star or others? If yes, indicate level of certification-Silver, gold, platinum if applicable?	Policy RC-5-c, Objective RC-8, Policy RC 8-a				
b. For commercial projects, does the project achieve net zero emissions electricity? Mark NA if project will be permitted before 2030. Mark Yes if voluntary. Add source and capacity in explanation.	Additional Recommended GHG Plan Measure, supports Objective RC-8				

Checklist Item (Check the appropriate box and provide an explanation for your answer)	Relevant General Plan Policy	Yes	No	Not Applicable (NA)	Explanation
4: Water Conservation Strategies					
a. Does the project meet or exceed the mandatory outdoor water use measures of the 2019 California Green Building Standards Code (CALGREEN, Title 24, Part 11), Section 4.304? If the project exceeds CalGreen Code mandatory measures provide methods in excess of requirements in the explanation. Examples include outdoor water conservation measures such as; drought tolerant landscaping plants, compliant irrigation systems, xeriscape, replacing turf etc. Provide the conservation measure that the project will include in the explanation.	Objective RC-7, Policy RC-7-a, RC-7-h				
b. Does the project meet or exceed the mandatory indoor water use measures of the 2019 California Green Building Standards Code (CALGREEN, Title 24, Part 11), Section 4.303? If the project exceeds CalGreen Code, mandatory measures provide methods in excess of requirements in the explanation. Examples may include water conserving devices and systems such as water leak detection system, hot water pipe insulation, pressure reducing valves, energy efficient appliances such as Energy Star Certified dishwashers, washing machines, dual flush toilets, point of use and/or tankless water heaters.	Objective RC-7, Policy RC-7-a, RC-7-e				
5: Waste Diversion and Recycling Strategies					
a. Does the project implement techniques of solid waste segregation, disposal and reduction, such as recycling, composting, waste to energy technology, and/or waste separation, to reduce the volume of solid wastes that must be sent to landfill facilities?	Policy PU-9-a, RC-11-a				
b. During construction will the project recycle construction and demolition waste?	Policy RC-11-a				
c. Does the project provide recycling canisters in public areas where trashcans are also provided?	Policy RC-11-a				

Note: The GHG reduction strategies included in this checklist are based on the GHG reduction strategies identified in the Chapter 5 of the GHG Reduction Plan Update.

APPENDIX C

GHG REDUCTION MEASURES FUNDING SOURCES

Implementation of the local GHG reduction strategies may require investment for the capital improvements and other investments, and increased operations and maintenance costs. However, in some cases, operating costs are anticipated to decrease, resulting in offset savings. Table C-1 presents a summary of potential funding and financing options available at the time of writing this document.

Table C-1: Potential Funding Sources to Support GHG Reduction Strategies

Funding Source	Description
State and Federal Funds	
Federal Tax Credits for Energy Efficiency	● Tax credits for energy efficiency can be promoted to residents.
Energy Efficient Mortgages (EEM)	● An EEM is a mortgage that credits a home's energy efficiency in the mortgage itself. ● Residents can finance energy-saving strategies as part of a single mortgage. ● To verify a home's energy efficiency, an EEM typically requires a home energy rating of the house by a home energy rater before financing is approved. ● EEMs are typically used to purchase a new home that is already energy efficient, such as an ENERGY STAR®-qualified home.
California Department of Resources Recycling and Recovery (CalRecycle)	● CalRecycle grant programs allow jurisdictions to assist public and private entities in management of waste streams. ● Incorporated cities and counties in California are eligible for funds. ● Program funds are intended to: ● Reduce, reuse, and recycle all waste ● Encourage development of recycled-content products and markets ● Protect public health and safety and foster environmental sustainability
California Energy Commission (CEC)	● CEC has energy efficiency financing options for projects with proven energy savings. These options include 0% interest rate loans for K–12 school districts, county offices of education, State special schools, community colleges, and 1% interest rate loans for cities, counties, special districts, public colleges or universities, public care institutions/public hospitals, University of California campuses, and California State University campuses. ● Projects eligible for the CEC energy efficiency financing low interest loans include: ● Lighting system upgrades ● Pumps and motors ● Streetlights and light-emitting diode (LED) traffic signals ● Building insulation ● Heating, ventilation and air conditioning equipment ● Water and waste water treatment equipment
California Air Resources Board (CARB)	● CARB offers several grants, incentives, and credits programs to reduce on-road and off-road transportation emissions. Residents, businesses, and fleet operators can receive funds or incentives depending on the program. ● The following programs can be utilized to fund local strategies: ● Air Quality Improvement Program (Assembly Bill 118) ● Carl Moyer Program – Voucher Incentive Program ● Goods Movement Emission Reduction Program (Proposition 1B Incentives) ● Loan Incentives Program ● Lower-Emission School Bus Program/School Bus Retrofit and Replacement Account (Proposition 1B and United States Environmental Protection Agency Incentives)

Table C-1: Potential Funding Sources to Support GHG Reduction Strategies

Funding Source	Description
Existing Capital Improvement Program	● State and federal funds would most likely continue to local governments, builders, and homeowners in the following forms: ● Grants ● Transportation and transit funding ● Tax credit and rebate programs ● The Capital Improvement Program can be used for strategies relating to traffic or transit.
State Funding for Infrastructure	● The State's Infill Infrastructure Grant Program may potentially be used to help fund strategies that promote infill housing development. ● Grants can be used for gap funding for infrastructure improvements necessary for specific residential or mixed-use infill development projects.
Transportation-Related Federal and State Funding	● For funding strategies related to transit, bicycle, or pedestrian improvements, the following funding sources from SCAG may be used: ○ Sustainability Planning Grant ○ California Active Transportation Program ○ Caltrans Transportation Planning Grant Program provides funding that would lead to programming and implementation of transportation improvement projects. ○ Sustainable Communities Grants ○ Strategic Partnerships Grants ○ Adaptation Planning Grants
Utility Rebates	● Department of Water and Power offers a variety of residential and commercial rebate programs: ○ Residential and Commercial Turf Replacement Program ○ Pool/Spa Cover Rebates ○ Rebates for Water-Efficient Devices ○ Recirculating Pump Rebate ○ Free Urinal Flush Valve Upgrades and Installation ○ Pacific Gas and Electric Company (PG&E) is one of the utilities participating in the California Solar Initiative. ○ A variety of rebates are available for existing and new homes. ○ Photovoltaics, thermal technologies, and solar hot water projects are eligible. ○ Single-family homes, commercial development, and affordable housing are eligible.
Energy Upgrade California	● The program is intended for home energy upgrades. ● Funding comes from the American Recovery and Reinvestment Act, California utility ratepayers, and private contributions. ● Utilities administer the program, offering homeowners the choice of one of two upgrade packages—basic or advanced. ● Homeowners are connected to home energy professionals. ● Rebates, incentives, and financing are available. ● Homeowners can receive up to $4,000 back on an upgrade through the local utility.
Private Funding	
Private Funding	● Private equity can be used to finance energy improvements, with returns realized as future cost savings. ● Rent increases can fund retrofits in commercial buildings. ● Net energy cost savings can fund retrofits in households. ● Power Purchase Agreements involve a private company that purchases, installs, and maintains a renewable energy technology through a contract that typically lasts 15 years. After 15 years, the company would uninstall the technology or sign a new contract. ● On-Bill Financing (OBF) can be promoted to businesses for energy-efficiency retrofits. OBF funding is a no-interest loan that is paid back through monthly utility bills. Lighting, refrigeration, HVAC, and LED streetlights are all eligible projects.

Table C-1: Potential Funding Sources to Support GHG Reduction Strategies

Funding Source	Description
Other Funding Mechanisms for Implementation	
Other Funding	● Increased operating costs can be supported by grants from the Strategic Growth Council or the State Department of Conservation to fund sustainable community planning, natural resource conservation and development, and adoption.
Future Funding Options: Funding Mechanisms for Capital and/or Implementation Costs	
New Development Impact Fees	● These types of fees may have some potential to provide funding, but such fees are best implemented when the real estate market and overall regional economic conditions are strong.
General Obligation Bond	● A general obligation bond is a form of long-term borrowing and could be used to fund municipal improvements.

Source: Compiled by LSA Associates, Inc. (2019).
HVAC = heating, ventilation, and air conditioning

In addition to pursuing the funding options above and monitoring the availability of others, the City should take the following steps to best inform decisions related to the cost of GHG reduction strategies:

- **Perform and Refine Cost Estimates:** Cost estimates for local reduction strategies should be performed to identify the cost-effectiveness of each strategy to inform and to guide the implementation process. This analysis will likely be based on a variety of participation, per-unit, and other assumptions. As programs are developed, cost estimates should be refined and updated over time with more precise implementation-level data.
- **Integrate GHG Reduction into Existing City Budget and Capital Improvements Program:** Certain capital improvements may need to be added to the City's Capital Improvements Program (CIP) and facility master plan programs, as well as those of the City utility enterprises and other public agencies that have control for project implementation. For CIPs completely under the City's control, new projects would need to be assessed for consistency with the GHG Plan Update.
- **Adopt or Update Ordinances and/or Codes:** Some local reduction strategies may require new or revised ordinances. Staff would need to coordinate these efforts in conjunction with planning departments, planning commissions, and City councils.
- **Pursue Outside Funding Sources:** A range of funding from State and federal agencies has been identified. The City would need to pursue these (and other emerging) funding sources as a part of implementation efforts.
- **Implement and Direct Preferred City Funding Sources:** While City funding sources are limited, the City, when financially able, as a part of its budget process, could appropriate funding from general sources or make changes in its fee schedules, utility rates, and other sources as needed to support funding the implementation of the GHG reduction strategies.
- **Create Monitoring/Tracking Processes:** Local reduction strategies would require program development, tracking, and/or monitoring.

Identify Economic Indicators to Consider Future Funding Options: Economic recovery may occur rapidly or slowly. Whatever the timeframe, the City would need to determine the point at which

certain additional funding sources may become feasible and/or favorable. Identification and monitoring of economic indicators and trends, such as home prices, energy prices, cost per kWh on solar installations, unemployment rates, or real wage increases, can help the City decide when to further explore the potential for funding local reduction strategies through different financing mechanisms.

To encourage implementation of all reduction strategies, City staff could develop a GHG Plan Update Implementation Timeline. GHG reduction Strategy prioritization could be based on the following factors:

- **Cost/Funding:** How much does the strategy cost? Is funding already in place for the strategy?
- **Greenhouse Gas Reductions:** How effective is the strategy at reducing greenhouse gases?
- **Other Benefits:** For example, does the strategy improve water quality or conserve resources? Would it create jobs or enhance community well-being?
- **Consistency with Existing Programs:** Does the strategy complement or extend existing programs?
- **Impact on the Community:** What are the advantages and disadvantages of the strategy to the community as a whole?
- **Speed of Implementation:** How quickly can the strategy be implemented and when would the City begin to see benefits?
- **Implementation Effort:** How difficult will it be to develop and implement the program?

A qualitative appraisal of implementation effort for the City is also provided. Strategies can be categorized based on the convention of low, medium, or high, with low-level strategies requiring the least level of effort by the City and being the most likely to be pursued immediately (i.e., the low-hanging fruit). Sample criteria are shown in Table C-2.

Table C-2: Implementation Matrix

Implementation Effort Level	Sample Criteria
Low	● Requires limited staff resources to develop. ● Existing programs in place to support implementation. ● Required internal and external coordination is limited. ● Required revisions to policy or code are limited.
Medium	● Requires staff resources beyond the typical daily level. ● Policy or code revisions become necessary. ● Internal and external coordination (e.g., with stakeholders, other cities or agencies, or general public) is necessary.
High	● Requires extensive staff time and resources. ● Requires the development of completely new policies or programs and potential changes to the general plan. ● Requires a robust outreach program to alert residents and businesses of program requirements and eligibility. ● Requires regional cooperation and securing long-term funding.

APPENDIX J

TRAFFIC IMPACT ANALYSIS

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LSA

City of FRESNO

GENERAL PLAN PROGRAM EIR

TRAFFIC IMPACT ANALYSIS

February 2020

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CHAPTER 1 – Introduction

This General Plan Traffic Impact Analysis (TIA) describes potential impacts to the transportation system associated with adoption of the City of Fresno (City) General Plan Program Environmental Impact Report (PEIR). The impact analysis examines the roadway, transit, bicycle, pedestrian, and rail components of the transportation system in Fresno. To provide a context for this analysis, the TIA begins with a description of the environmental setting, which describes the geographical, jobs, and housing context for the plan area. Following the environmental setting is the relevant regulatory framework, which influences the transportation system and provides the basis for impact significance thresholds that are used in the impact analysis findings and recommended mitigation measures. To provide the transportation infrastructure and describe the future transportation conditions, the General Plan conditions will be evaluated based on the current projections from Fresno Council of Governments (Fresno COG). Currently, Fresno COG provides projections for year 2035 conditions, which is the basis upon which the COG's current Activity Based Model (ABM) is built. The ABM has been used to develop traffic conditions for the General Plan. Therefore, for purposes of this analysis, the General Plan conditions are assumed for the year 2035. Also, the changes in vehicle miles traveled (VMT) per capita associated with the General Plan update will be addressed. This TIA is a part of the update of the Master EIR (MEIR) that included review of the roadway segments throughout the City. Similar to the previous approach, this TIA studies roadway segments throughout the City. These roadway segments have been determined in coordination with the City staff. In addition, an evaluation of transportation impact using the new State prescribed metric, vehicle miles traveled (VMT) is included in the EIR analysis.

Project Description

The City is responsible for preparation of a 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 the 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 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.

Environmental Setting

Fresno is approximately 114.7 square miles located in the Central Valley of California. Fresno is near the geographical center of California and lies approximately 220 miles from Los Angeles, 170 miles south of Sacramento, and 185 miles from San Francisco with easy access to the California Central Coast and Sierra Nevada. Fresno contains four major freeway axes: State Route (SR) 99, SR-41, SR-168, and SR-180. SR-99 runs northwest-southeast on the western edge of the City, connecting it with Sacramento, the San Francisco Bay Area, Bakersfield, and Los Angeles. SR-41 runs north-south through the heart of the City, connecting it with Yosemite National Park and Central Coast. SR-168 links the Downtown to Clovis, and SR-180 runs east-west to both agricultural communities and Kings Canyon National Park. Fresno is considered the economic hub for Fresno County and San Joaquin Valley, as it is the largest city in Fresno County and the fifth-largest city in California. Fresno had a population of approximately 528,000 residents in 2017. The City is projected to reach a population of 771,000 by year 2035 and 970,000 after 2050.

Employment

The City of Fresno is at the center of the Central Valley and continues to see a significant number of its jobs in the agricultural sector, both in direct farming and in food processing, storage, and shipping. The total farming employment in Fresno County in 2013 was 49,200 jobs and remains a vital contributor to the employment within the County. In addition to farming, the City retains employment across all industry sectors. As stated in the Fresno General Plan (2014), the total annual average employment was approximately 364,200 jobs in 2010. It was projected that employment would increase to approximately 423,100 jobs in the year 2020. Some larger industrial employment contributors were identified, such as Trade, Transportation, and Utilities (15.1 percent); Total Farm (12.6 percent); Local Government (12.6 percent); Education Services, Health Care, and Social Assistance (11.2 percent); and Self-Employment, Family Workers, and Private Household (10.6 percent). The Fresno General Plan anticipates an employment percentage increase within such industries as Trade, Transportation,

and Utilities (15.5 percent); and Education Services, Health Care, and Social Assistance (12.0 percent). Also anticipated was an employment decrease within these industries: Local Government (11.9 percent); Self-Employment, Family Workers, and Private Household (10.1 percent); and Total Farm (11.7 percent).

As a product of this anticipated growth in employment, by year 2035, the General Plan will be able to accommodate 0.48 jobs per new resident, thereby accommodating approximately 108,000 new jobs above the current levels.

Housing

California General Plan law requires each city and county to have land zoned to accommodate its fair share of the regional housing need. Housing and Community Development (HCD) allocates a numeric regional housing goal to the Fresno Council of Governments (FCOG). FCOG is then mandated to distribute the numerical goal among the 15 cities within the region and the county. This share for the FCOG 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 economic segments.

Projecting housing needs follows a similar process, whereby the State (i.e., the Department of Housing and Community Development) provides regional housing projections to the region (i.e., FCOG), which in turn projects housing growth for local jurisdictions. Unlike other data projections, rather than being simply informative, the housing allocation provided to jurisdictions through the RHNA process is enforceable through the Housing Accountability Act. The current RHNA planning period spans from 2013 to 2023; a previous RHNA planning period was established for 2008 to 2013. The HCD found that the City did not make adequate sites available to accommodate the RHNA in the previous planning period; therefore, the unaccommodated RHNA from 2008 to 2013 has rolled over to the current planning period. As an outcome of the most recent RHNA process, the City is required to provide a sufficient amount of property zoned land to accommodate 23,565 new dwelling units to accommodate future population growth.

Transportation

The early grid pattern, established from the construction of the railroad and the installation of the Fresno Station, created interconnected neighborhoods with relatively small blocks. This grid formation has remained consistent among the City's circulation system; however, with the evolution of vehicle travel, short and interconnected blocks became wider and longer in distance, resulting in vehicle-dependent travel. Several areas of the City do not have a full rush hour (or a.m. and p.m. peak hours), but rather a peak 15-minute period at most major intersections. For these areas, the street system is designed for a very small portion of overall demand and creates an oversupply of capacity the majority of the time. This excess capacity could promote denser development, maximize existing public resources, increase opportunities for economic development and property values, and encourage a diversity of development types. The fact that excess capacity is available will promote future high density development. This added development will make the most effective use.

Trends in Transportation

For decades, the transportation impacts of all projects subject to the California Environmental Quality Act (CEQA) have been evaluated by Level of Service (LOS). LOS is a qualitative measure that assesses the operation of a roadway according to congestion and delay to drivers. California's SB 743, passed in 2013, requires the transportation impact of projects to be evaluated using vehicle miles traveled (VMT). By July 1, 2020, the City is required to update the transportation impact analysis criteria from LOS to VMT. As a result, rather than treating traffic congestion as an environmental impact, LOS will be solely used for purposes of congestion relief, mobility efficiency, and traffic operations. VMT will now be the transportation criterion to determine potential

environmental impacts of a project. VMT is also a metric for other CEQA topics such as air quality and greenhouse gas emissions. VMT is calculated by multiplying the number of vehicle trips by the estimated number of miles driven per trip. Projects that create significant impact under VMT will be required to mitigate their impacts through transportation demand management (TDM) measures such as car sharing, improved transit, enhanced bicycle infrastructure, or mitigation fees. In the future, the use of VMT as the significance criterion for transportation impacts may help the City promote transit-oriented development and create more walkable and sustainable communities. Currently, the City's Active Transportation Plan and Complete Streets Policy play a key role in development of future General Plan Circulation Elements with the goal of reduction in VMT.

CHAPTER 2 – Existing Transportation System

The transportation system in Fresno includes motorized and non-motorized travel modes. This circulation system is considered multimodal, which provides alternatives to the automobile such as bicycle facilities, pedestrian facilities, rail, trails, and transit. These systems, along with streets and highways, all provide for the movement of people and goods throughout Fresno and the region. How these systems complement one another and interact with each other represents the complete transportation system.

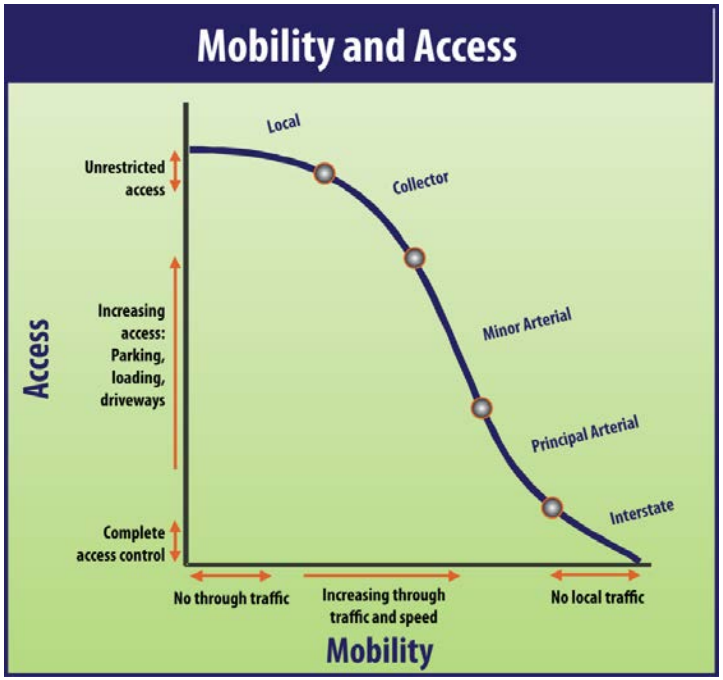
This chapter presents the existing setting for vehicles, as well as bicycle, transit, and pedestrian facilities in Fresno.

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 will increase opportunities for economic development, encourage a diversity of development types, and promote multimodal 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 relationship can be seen in Figure 2.1.

FIGURE 2.1: RELATIONSHIP BETWEEN MOBILITY AND ACCESS ON ROADWAYS



Source: Federal Highway Administration

Functional Classification

Functional classification groups roadways into classes according to the type of service they are intended to provide. The existing roadway segment functional classifications based on the 2014 Master Environmental Impact Report (2014 MEIR) Circulation Element are briefly described below.

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Fresno City Boundary

Existing Configuration

- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

FRIANT
COPPER
WILLOW
SHEPHERD
AUDUBON
PALM
NEES
CEDAR
ALLUVIAL
HERNDON
SIERRA
BULLARD
FRESNO
FIRST
CHESTNUT
BARSTOW
FRUIT
MARKS
BLACKSTONE
GRANTLAND
FIGARDEN
GARFIELD
SHAW
BRAWLEY
MARTY
GOLDEN STATE
WEST
HAYES
ASHLAN
PALM
GETTYSBURG
CEDAR
BRYAN
CORNELIA
DAKOTA
AIRWAYS
SHIELDS
CLOVIS
TEMPERANCE
CLINTON
HOLLAND
BLYTHE
MCKINLEY
PEACH
FOWLER
ARMSTRONG
BELMONT
VALENTINE
OLIVE
DIVISADERO
KINGS CANYON
MINNEWAWA
FULTON
VAN NESS
BUTLER
FRESNO
VENTURA
CALIFORNIA
CHURCH
DE WOLF
JENSEN
ELM
EAST
MAPLE
NORTH
CENTRAL

LSA

City of FRESNO

SOURCE: City of Fresno

Fresno General Plan Program EIR
Traffic Impact Analysis

0 4500 9000
FEET

Figure 2.2
Study Area Roadway Segments - Existing Configuration

I:\CFO1802\Reports\Traffic\fig_2.2_Exist Classification.mxd (1/23/2020)

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State Facilities

A State facility is highway 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 in Kern County. SR-99 extends through Fresno from the southeastern city limits to the northwestern city limits. The freeway includes three lanes per 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, extending 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 per 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 per 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 per 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 mph. Expressways typically experience high capacities and low accessibility. According to the Fresno General Plan Mobility and Transportation 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 (between Orange Avenue and Temperance 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.

Study Area Roadways

Traffic operation analysis 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 and General Plan conditions in the 2014 MEIR. In total, 282 roadway segments were included in the study area, listed in Table 2.A. Figure 2-2 illustrates the existing number of lanes for each of the analysis roadway segments.

Table 2.A: Existing Roadway Segment

Roadway	#	Segment
Garfield Avenue	1	Fairmont Avenue and Shaw Avenue
	2	Shaw Avenue and Barstow Avenue
Grantland Avenue	3	Shields Avenue and Dakota Avenue
	4	Ashlan Avenue and Shaw Avenue
	5	Barstow Avenue and Bullard Avenue
	6	Bullard Avenue and Parkway Drive
Bryan Avenue	7	Shields Avenue and Ashlan Avenue
	8	Ashlan Avenue and Gettysburg Avenue
	9	Gettysburg Avenue and Shaw Avenue
Veterans Boulevard	10	Barstow Avenue and Bullard Avenue
Hayes Avenue	11	McKinley Avenue and Clinton Avenue
	12	Clinton Avenue and Shields Avenue
	13	Ashlan Avenue and Gettysburg Avenue
	14	Gettysburg Avenue and Shaw Avenue
Polk Avenue	15	Olive Avenue and McKinley Avenue
	16	McKinley Avenue and Clinton Avenue
	17	Clinton Avenue and Shields Avenue
	18	Dakota Avenue and Ashlan Avenue

Table 2.A: Existing Roadway Segment

Roadway	#	Segment
	19	Ashlan Avenue and Gettysburg Avenue
Cornelia Avenue	20	Clinton Avenue and Cortland Avenue
	21	Cortland Avenue and Dakota Avenue
	22	Dakota Avenue and Griffith Way
	23	Griffith Way and Ashlan Avenue
Blythe Avenue	24	McKinley Avenue and Clinton Avenue
Brawley Avenue	25	Nielson Avenue and Belmont Avenue
	26	Olive Avenue and McKinley Avenue
	27	Clinton Avenue and Shields Avenue
	28	Dakota Avenue and Parkway Drive
	29	Shaw Avenue and San Jose Avenue
Figarden Drive	30	San Jose Avenue and Bullard Avenue
Marty Avenue	31	Shaw Avenue and San Jose Avenue
Valentine Avenue	32	Olive Avenue and McKinley Avenue
	33	McKinley Avenue and Clinton Avenue
Marks Avenue	34	Jensen Avenue and Church Avenue
	35	Church Avenue and California Avenue
	36	Kearney Avenue and Whitesbridge Avenue
	37	Whitesbridge Avenue and SR-180 EB ramps
	38	SR-180 WB ramps and Nielson Avenue
	39	Weber Avenue and Dakota Avenue
	40	Ashlan Avenue and Emerson Avenue
	41	Emerson Avenue and Shaw Avenue
West Avenue	42	California Avenue and Kearney Avenue
	43	McKinley Avenue and Clinton Avenue
	44	Ashlan Avenue and Shaw Avenue
Fruit Avenue	45	Barstow Avenue and Bullard Avenue

Table 2.A: Existing Roadway Segment

Roadway	#	Segment
Palm Avenue	46	Shields Avenue and Dakota Avenue
	47	Ashlan Avenue and Gettysburg Avenue
	48	Locust Avenue and Remington Avenue
	49	Alluvial Avenue and Nees Avenue
Audubon Drive	50	Nees Avenue and Del Mar Avenue
Maroa Avenue	51	Fedora Avenue and Dakota Avenue
	52	Holland Avenue and Gettysburg Avenue
	53	Bullard Avenue and Sample Avenue
Elm Avenue	54	North Avenue and Jensen Avenue
	55	Jensen Avenue and Church Avenue
G Street	56	Tulare Street and Fresno Street
	57	Fresno Street and Tuolumne Street
Fulton Street	58	Tulare Street and Fresno Street
Van Ness Avenue	59	Los Angeles Street & SR-41 ramps
	60	Tulare Street and Fresno Street
	61	Fresno Street and Tuolumne Street
O Street	62	Tulare Street and Fresno Street
	63	Fresno Street and Tuolumne Street
Blackstone Avenue	64	Olive Avenue and McKinley Avenue
	65	McKinley Avenue and Clinton Avenue
	66	Dakota Avenue and Ashlan Avenue
	67	Gettysburg Avenue and Shaw Avenue
	68	Bullard Avenue and Sierra Avenue
	69	Alluvial Avenue and Nees Avenue
Friant Road	70	SR-41 SB off-ramp and SR-41 NB off-ramp
	71	SR-41 NB off-ramp and Audubon Drive
	72	Audubon Drive and Shepherd Avenue

Table 2.A: Existing Roadway Segment

Roadway	#	Segment
	73	Copper Avenue and Willow Avenue
First Street	74	McKinley Avenue and Clinton Avenue
	75	Shields Avenue and Dakota Avenue
	76	Ashlan Avenue and Gettysburg Avenue
	77	Barstow Avenue and Bullard Avenue
	78	Bullard Avenue and Herndon Avenue
	79	Herndon Avenue and Alluvial Avenue
	80	Nees Avenue and Friant Road
East Avenue	81	North Avenue and Jensen Avenue
Cedar Avenue	82	American Avenue and Central Avenue
	83	Jensen Avenue and Church Avenue
	84	Church Avenue and California Avenue
	85	Tulare Avenue and Belmont Avenue
	86	Olive Avenue and McKinley Avenue
	87	Dakota Avenue and Ashlan Avenue
	88	Ashlan Avenue and Gettysburg Avenue
	89	Shaw Avenue and Barstow Avenue
	90	Nees Avenue and Teague Avenue
Maple Avenue	91	North Avenue and Jensen Avenue
	92	Jensen Avenue and Church Avenue
Chestnut Avenue	93	Jensen Avenue and Church Avenue
	94	Kings Canyon Road and Tulare Avenue
	95	Tulare Avenue and Belmont Avenue
	96	Clinton Avenue and Shields Avenue
	97	Bullard Avenue and Herndon Avenue
	98	Herndon Avenue and Alluvial Avenue
	99	Alluvial Avenue and Nees Avenue

Table 2.A: Existing Roadway Segment

Roadway	#	Segment
	100	Nees Avenue and Teague Avenue
	101	Teague Avenue and Shepherd Avenue
Willow Avenue	102	Herndon Avenue and Nees Avenue
	103	Teague Avenue and Shepherd Avenue
	104	Shepherd Avenue and Behymer Avenue
	105	Behymer Avenue and Copper Avenue
	106	Copper Avenue and Friant Road
Peach Avenue	107	North Avenue and Jensen Avenue
	108	Butler Avenue and Kings Canyon Road
	109	Tulare Avenue and Belmont Avenue
	110	Olive Avenue and McKinley Avenue
Minnewawa Avenue	111	Kings Canyon Road and Tulare Avenue
Clovis Avenue	112	North Avenue and Jensen Avenue
	113	Church Avenue and Butler Avenue
	114	Kings Canyon Road and Tulare Avenue
	115	Clinton Avenue and Shields Avenue
Fowler Avenue	116	Jensen Avenue and Kings Canyon Road
	117	Kings Canyon Road and Belmont Avenue
	118	SR-180 WB ramps and Olive Avenue
	119	Olive Avenue and Clinton Avenue
	120	Shields Avenue and Dakota Avenue
Armstrong Avenue	121	Jensen Avenue and Church Avenue
	122	Hamilton Avenue and Butler Avenue
	123	Butler Avenue and Lane Avenue
	124	Belmont Avenue and Clinton Avenue
	125	McKinley Avenue and Clinton Avenue
	126	Shields Avenue and Dakota Avenue

Table 2.A: Existing Roadway Segment

Roadway	#	Segment
Temperance Avenue	127	California Avenue and Hamilton Avenue
	128	Butler Avenue and Lowe Avenue
	129	Kings Canyon Road and SR-180 EB ramps
	130	Belmont Avenue and Olive Avenue
	131	McKinley Avenue and Shields Avenue
	132	Shields Avenue and Dakota Avenue
	133	Dakota Avenue and Ashlan Avenue
De Wolf Avenue	134	Church Avenue and Butler Avenue
Copper Avenue	135	Friant Road and Millbrook Avenue
	136	Millbrook Avenue and Cedar Avenue
	137	Cedar Avenue and Maple Avenue
	138	Maple Avenue and Chestnut Avenue
Shepherd Avenue	139	Millbrook Avenue and Cedar Avenue
	140	Cedar Avenue and Maple Avenue
	141	Chestnut Avenue and Willow Avenue
Nees Avenue	142	Audubon Drive and Millbrook Avenue
	143	Cedar Avenue and Maple Avenue
	144	Jordan Avenue and Paula Avenue
Alluvial Avenue	145	Mansionette Drive and Pinedale Avenue
	146	Pinedale Avenue and Chestnut Avenue
	147	Chestnut Avenue and Willow Avenue
Herndon Avenue	148	Polk Avenue and Milburn Avenue
	149	West Avenue and Fruit Avenue
	150	Fruit Avenue and Palm Avenue
	151	Blackstone Avenue and SR-41 SB ramps
	152	First Street and Cedar Avenue
	153	Cedar Avenue and Maple Avenue

Table 2.A: Existing Roadway Segment

Roadway	#	Segment
Sierra Avenue	154	Marks Avenue and Van Ness Avenue
	155	West Avenue and Fruit Avenue
	156	Throne Avenue and Palm Avenue
Bullard Avenue	157	Garfield Avenue and Grantland Avenue
	158	Grantland Avenue and Caspian Avenue
	159	West Avenue and Fruit Avenue
	160	Fruit Avenue and Palm Avenue
	161	Maroa Avenue and Blackstone Avenue
	162	SR-41 NB ramps and Fresno Street
	163	First Street and Cedar Avenue
Barstow Avenue	164	Garfield Avenue and Grantland Avenue
	165	Van Ness Boulevard and West Avenue
	166	Fruit Avenue and Palm Avenue
Shaw Avenue	167	Garfield Avenue and Grantland Avenue
	168	Bryan Avenue and Hayes Avenue
	169	Hayes Avenue and Polk Avenue
	170	SR-99 NB ramps and Cornelia Avenue
	171	Cornelia Avenue and Jennifer Avenue
	172	Brawley Avenue and Marks Avenue
	173	West Avenue and Fruit Avenue
	174	Maroa Avenue and Blackstone Avenue
	175	Fresno Street and First Street
	176	First Street and Cedar Avenue
Gettysburg Avenue	177	Maple Avenue and Winery Avenue
Ashlan Avenue	178	Bryan Avenue and Hayes Avenue
	179	Hayes Avenue and Polk Avenue
	180	Cornelia Avenue and Blythe Avenue

Table 2.A: Existing Roadway Segment

Roadway	#	Segment
	181	SR-99 SB ramps and Golden State Boulevard
	182	Weber Avenue and Valentine Avenue
	183	Fruit Avenue and Palm Avenue
	184	Palm Avenue and Maroa Avenue
	185	Maroa Avenue and Del Mar Avenue
	186	Del Mar Avenue and Blackstone Avenue
	187	Fresno Street and First Street
	188	Barton Avenue and SR-168 SB ramps
	189	SR-168 NB ramps and Chestnut Avenue
Dakota Avenue	190	Marks Avenue and Hughes Avenue
	191	West Avenue and Fruit Avenue
	192	Fruit Avenue and Palm Avenue
	193	Maroa Avenue and Del Mar Avenue
	194	Angus Street and First Street
	195	First Street and Millbrook Avenue
	196	Millbrook Avenue and Cedar Avenue
Shields Avenue	197	Garfield Avenue and Grantland Avenue
	198	Grantland Avenue and Bryan Avenue
	199	Brawley Avenue and Valentine Avenue
	200	Fruit Avenue and Palm Avenue
	201	Peach Avenue and Clovis Avenue
	202	Clovis Avenue and Fowler Avenue
	203	Temperance Avenue and Locan Avenue
	204	Locan Avenue and De Wolf Avenue
Clinton Avenue	205	Grantland Avenue and Bryan Avenue
	206	Bryan Avenue and Hayes Avenue
	207	Hayes Avenue and Polk Avenue

Table 2.A: Existing Roadway Segment

Roadway	#	Segment
	208	Polk Avenue and Cornelia Avenue
	209	Blythe Avenue and Brawley Avenue
	210	Valentine Avenue and Marks Avenue
	211	Weber Avenue and West Avenue
	212	Fruit Avenue and Palm Avenue
	213	Maroa Avenue and Blackstone Avenue
	214	First Street and Cedar Avenue
	215	Fowler Avenue and Armstrong Avenue
	216	Armstrong Avenue and Temperance Avenue
McKinley Avenue	217	Blythe Avenue and Valentine Avenue
	218	Marks Avenue and Hughes Avenue
	219	Fruit Avenue and Palm Avenue
	220	First Street and Cedar Avenue
	221	Peach Avenue and Clovis Avenue
Olive Avenue	222	Valentine Avenue and Marks Avenue
	223	SR-99 NB ramps and West Avenue
	224	Van Ness Avenue and Blackstone Avenue
	225	Fresno Street and First Street
	226	Peach Avenue and Clovis Avenue
Belmont Avenue	227	Hayes Avenue and Cornelia Avenue
	228	Marks Avenue and Hughes Avenue
	229	Pacific Avenue and Fruit Avenue
	230	Weber Avenue and Palm Avenue
	231	Palm Avenue and Roosevelt Avenue
	232	Abby Street and Fresno Street
	233	Orchard Street and First Street
	234	First Street and Cedar Avenue

Table 2.A: Existing Roadway Segment

Roadway	#	Segment
	235	Willow Avenue and Peach Avenue
	236	Peach Avenue and Clovis Avenue
	237	Clovis Avenue and Fowler Avenue
	238	De Wolf Avenue and Fancher Avenue
Divisadero Avenue	239	Roosevelt Avenue and H Street
	240	Fulton Street and Van Ness Avenue
	241	San Pablo Avenue and Glen Avenue
Fresno Street	242	Palo Alto Avenue and Herndon Avenue
	243	California Avenue and SR-99 SB ramps
	244	SR-99 NB ramps and E Street
Tulare Street	245	H Street and Van Ness Avenue
	246	Van Ness Avenue and M Street
Ventura Street	247	SR-99 NB ramps and G Street
	248	G Street and Broadway Street
	249	Van Ness Avenue and M Street
	250	SR-41 and First Street
Kings Canyon Road	251	Maple Avenue and Chestnut Avenue
	252	Chestnut Avenue and Willow Avenue
	253	Peach Avenue and Clovis Avenue
	254	Clovis Avenue and Fowler Avenue
	255	Fowler Avenue and Armstrong Avenue
	256	Armstrong Avenue and Temperance Avenue
Butler Avenue	257	Hazelwood Boulevard and Orange Avenue
California Avenue	258	Marks Avenue and Hughes Avenue
	259	Hughes Avenue and West Avenue
Church Avenue	260	Marks Avenue and Hughes Avenue
	261	Orange Avenue and Cedar Avenue

Table 2.A: Existing Roadway Segment

Roadway	#	Segment
	262	Cedar Avenue and Maple Avenue
	263	Minnewawa Avenue and Clovis Avenue
Jensen Avenue	264	West Avenue and Fruit Avenue
	265	Walnut Avenue and MLK Boulevard
	266	Elm Avenue and SR-41 SB ramps
	267	Cedar Avenue and Maple Avenue
	268	Maple Avenue and Chestnut Avenue
	269	Chestnut Avenue and Willow Avenue
	270	Willow Avenue and Peach Avenue
	271	Clovis Avenue and Fowler Avenue
North Avenue	272	MLK Boulevard and Elm Avenue
	273	Elm Avenue and SR-41 SB ramps
	274	Cherry Avenue and East Avenue
	275	SR-99 NB ramp and Cedar Avenue
	276	Cedar Avenue and Golden State Boulevard
	277	Maple Avenue and Chestnut Avenue
Central Avenue	278	East Avenue and Orange Avenue
Golden State Boulevard	279	North Avenue and Cedar Avenue
	280	Jensen Avenue and Church Avenue
	281	Motel Drive and Ashlan Avenue
	282	Swift Avenue and Shaw Avenue

Congestion

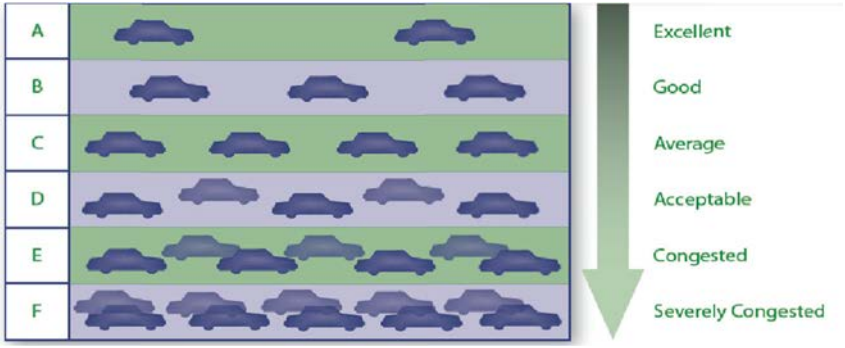
Congestion results when traffic demand approaches or exceeds the available capacity of the system. While this is a simple concept, it is not constant. Traffic demands vary significantly depending on the season of the year, the day of the week, and even the time of day. Also, the capacity can change because 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. Nonrecurring congestion is usually short in duration and is caused by such things as weather, construction, or special events. One way to gauge the level of congestion is grading a facility on its level of service.

Level of Service Definitions

Traffic operation analysis was conducted based on roadway segments representative of Fresno's overall transportation network. Traffic operation analysis was conducted on major roadway segments categorized as Arterial, Super Arterial, Expressway, 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 better grade, from A (the best) to F (the worst), is assigned. This methodology does not consider potential impact 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 shown in Figure 2.3 and Table 2.B.

FIGURE 2.3: LEVEL OF SERVICE



Source: Federal Highway Administration

Table 2.B: 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: *2014 MEIR*

Consistent with the City of Fresno General Plan and Development Code Update, 2014 MEIR, roadway segments have been analyzed based on the peak-hour capacity. Table 2.C demonstrates the relationship of peak-hour capacity to LOS, as indicated in the 2014 MEIR.

Table 2.C: Roadway Segment Capacity and Levels of Service

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

Table 2.C: Roadway Segment Capacity and Levels of Service

Functional Class	Median	Lanes	Peak Hour Level of Service Capacity Threshold				
			A	B	C	D	E
Collector	TWLTL	4	—		940	3,290	3,550
		2			420	1,550	1,760
	Undivided	4	—		770	2,740	2,980
		2			340	1,270	1,480
One-Way	Undivided	3	—	1,960	2,240	2,430	2,610
		2		1,250	1,490	1,620	1,740
		1		550	740	800	870
Rural State Highway	Undivided	2	310	570	1,020	1,730	2,470
Rural Arterial	Divided	4	—		1,950	3,580	3,780
	Undivided	2			570	1,230	1,310
Rural Collector/ Local	Undivided	2	—		700	930	1,000

[1] N/A - Not applicable for operational class

[2] Aux - Auxiliary Lane

[3] TWLTL – Two-way Left-turn Lane

— LOS is not achievable because of type of facility.

Source: 2014 MEIR

Level of Service Standard

Consistent with the 2014 MEIR LOS standards, the City includes four Traffic Impact Zones (TIZ), as shown in Figure 2.4. There are different LOS threshold standards for each zone. The four TIZs and their LOS threshold standards are defined below:

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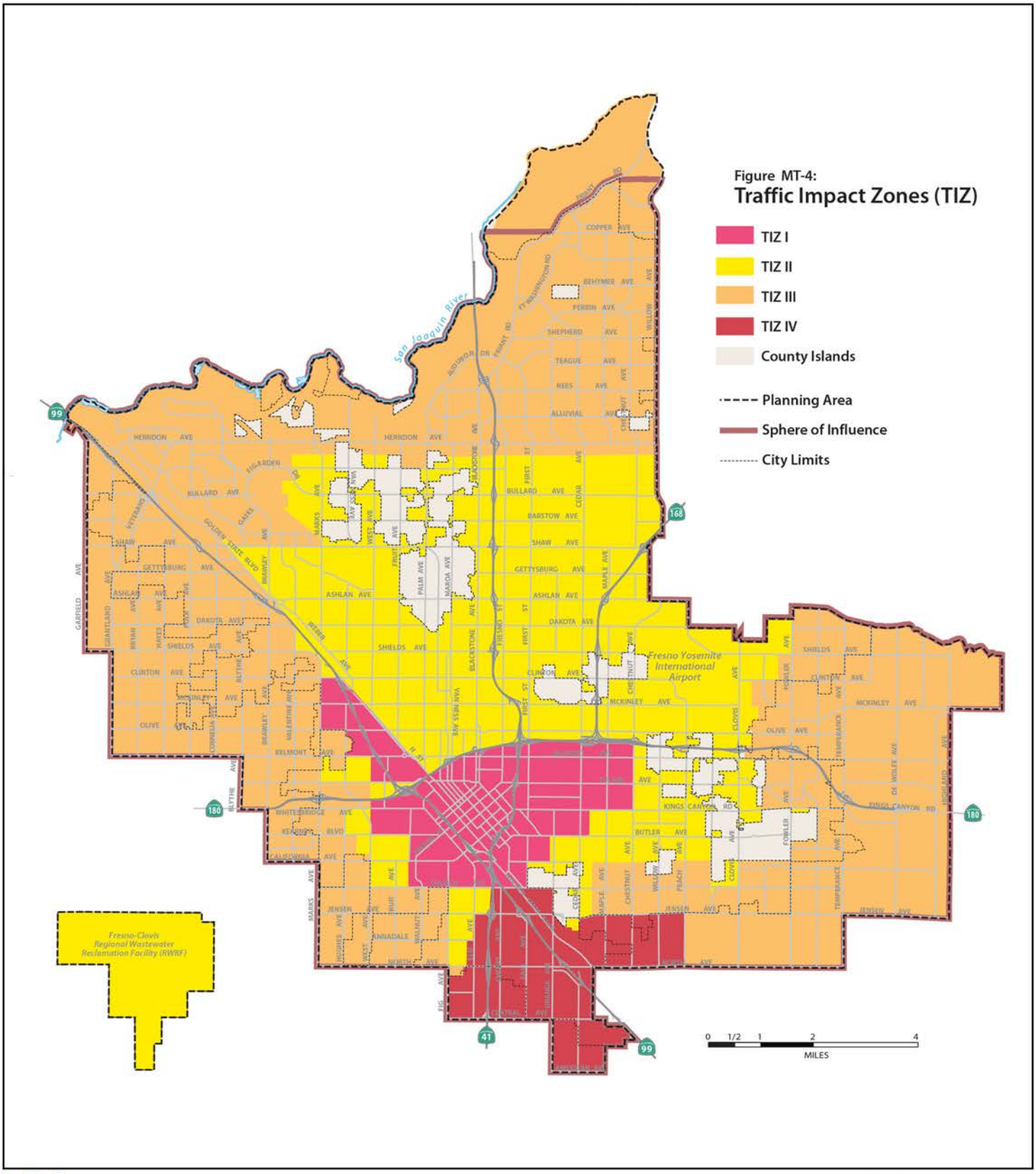

LSA

City of FRESNO

Fresno General Plan Program EIR
Traffic Impact Analysis

SOURCE: City of Fresno General Plan

Figure 2.4
City of Fresno Traffic Impact Zones

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- **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.

Existing Roadway Segment Traffic Volumes

The existing traffic volumes at the majority (235 out of 282) of the study area 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. Traffic counts were conducted by National Data & Surveying Services (NDS) and Counts Unlimited. 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 Appendix A. In order to represent 2019 conditions, 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 COG ABM.

To develop traffic volumes for the remaining 47 segments where existing traffic counts were not available, LSA utilized the traffic count data from the 2014 MEIR and adjusted them up 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 in the 2014 MEIR. This 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 shows the existing peak-hour traffic volumes at study area roadway segments.

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, all roadway segments are currently operating at satisfactory LOS, 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).

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
Garfield Avenue	1	Fairmont Avenue and Shaw Avenue	III	D	2	Collector	Undivided	10	1,270	A	30	1,270	A
	2	Shaw Avenue and Barstow Avenue	III	D	2	Collector	Undivided	160	1,270	A	140	1,270	A
Grantland Avenue	3	Shields Avenue and Dakota Avenue[2,3]	III	D	2	Super Arterial	Undivided	340	1,585	A	300	1,585	A
	4	Ashlan Avenue and Shaw Avenue[2,3]	III	D	2	Super Arterial	Undivided	710	1,585	A	580	1,585	A
	5	Barstow Avenue and Bullard Avenue[2]	III	D	2	Super Arterial	Raised	790	1,585	A	870	1,585	A
	6	Bullard Avenue and Parkway Drive[2]	III	D	2	Super Arterial	Raised	1,750	1,585	D	1,800	1,585	D
Bryan Avenue	7	Shields Avenue and Ashlan Avenue	III	D	2	Collector	Undivided	220	1,270	A	90	1,270	A
	8	Ashlan Avenue and Gettysburg Avenue[2]	III	D	3	Collector	Undivided	390	1,905	A	250	1,905	A
	9	Gettysburg Avenue and Shaw Avenue	III	D	2	Collector	Undivided	290	1,270	A	230	1,270	A
Veterans Boulevard	10	Barstow Avenue and Bullard Avenue[4]	Future Roadway Segment										
Hayes Avenue	11	McKinley Avenue and Clinton Avenue	III	D	2	Collector	Undivided	180	1,270	A	190	1,270	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	12	Clinton Avenue and Shields Avenue	III	D	2	Collector	Undivided	180	1,270	A	180	1,270	A
	13	Ashlan Avenue and Gettysburg Avenue	III	D	2	Collector	Undivided	290	1,270	A	220	1,270	A
	14	Gettysburg Avenue and Shaw Avenue	III	D	2	Collector	Undivided	310	1,270	A	270	1,270	A
Polk Avenue	15	Olive Avenue and McKinley Avenue	III	D	2	Arterial	Raised	200	1,640	A	130	1,640	A
	16	McKinley Avenue and Clinton Avenue	III	D	2	Arterial	Undivided	500	1,270	A	350	1,270	A
	17	Clinton Avenue and Shields Avenue	III	D	2	Arterial	Undivided	500	1,270	A	370	1,270	A
	18	Dakota Avenue and Ashlan Avenue	III	D	2	Arterial	Undivided	810	1,270	A	710	1,270	A
	19	Ashlan Avenue and Gettysburg Avenue	III	D	2	Arterial	Raised	650	1,640	A	580	1,640	A
Cornelia Avenue	20	Clinton Avenue and Cortland Avenue	III	D	2	Collector	Undivided	1,120	1,270	C	970	1,270	B
	21	Cortland Avenue and Dakota Avenue	III	D	2	Collector	Undivided	1,120	1,270	C	970	1,270	B
	22	Dakota Avenue and Griffith Way	III	D	2	Collector	TWLTL	1,170	1,550	B	910	1,550	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	23	Griffith Way and Ashlan Avenue	III	D	2	Collector	TWLTL	1,170	1,550	B	910	1,550	A
Blythe Avenue	24	McKinley Avenue and Clinton Avenue[2]	III	D	3	Collector	Undivided	280	1,905	A	500	1,905	A
Brawley Avenue	25	Nielson Avenue and Belmont Avenue	III	D	2	Collector	Undivided	590	1,270	A	620	1,270	A
	26	Olive Avenue and McKinley Avenue	III	D	2	Collector	Undivided	860	1,270	A	890	1,270	B
	27	Clinton Avenue and Shields Avenue	III	D	2	Collector	Undivided	540	1,270	A	1,020	1,270	B
	28	Dakota Avenue and Parkway Drive	III	D	2	Collector	Undivided	640	1,270	A	870	1,270	A
	29	Shaw Avenue and San Jose Avenue	III	D	4	Arterial	Raised	1,480	3,470	A	1,780	3,470	A
Figarden Drive	**30**	**San Jose Avenue and Bullard Avenue**	**III**	**D**	**4**	**Arterial**	**Raised**	1,680	3,470	A	**3,490**	**3,470**	**E**
Marty Avenue	31	Shaw Avenue and San Jose Avenue	III	D	2	Collector	TWLTL	700	1,550	A	790	1,550	A
Valentine Avenue	32	Olive Avenue and McKinley Avenue	III	D	2	Collector	Undivided	120	1,270	A	160	1,270	A
	33	McKinley Avenue and Clinton Avenue	III	D	2	Collector	Undivided	300	1,270	A	340	1,270	A
Marks Avenue	34	Jensen Avenue and Church Avenue	III	D	2	Arterial	Undivided	170	1,270	A	190	1,270	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	35	Church Avenue and California Avenue	III	D	2	Arterial	Undivided	160	1,270	A	220	1,270	A
	36	Kearney Avenue and Whitesbridge Avenue	III	D	2	Arterial	Raised	660	1,270	A	830	1,270	A
	37	Whitesbridge Avenue and SR-180 EB ramps	III	D	4	Arterial	Raised	420	3,470	A	740	3,470	A
	38	SR-180 WB ramps and Nielson Avenue	III	D	4	Arterial	Raised	690	3,470	A	940	3,470	A
	39	**Weber Avenue and Dakota Avenue**	**II**	**E**	**2**	**Arterial**	**Undivided**	1,410	1,480	E	**2,370**	**1,480**	**F**
	40	Ashlan Avenue and Emerson Avenue	II	E	4	Arterial	TWLTL	1,410	3,550	A	1,520	3,550	A
	41	Emerson Avenue and Shaw Avenue	II	E	4	Arterial	TWLTL	1,280	3,550	A	1,750	3,550	A
West Avenue	42	California Avenue and Kearney Avenue	II	E	2	Collector	Undivided	50	1,480	A	80	1,480	A
	43	McKinley Avenue and Clinton Avenue	II	E	4	Arterial	Raised	1,140	3,730	A	1,110	3,730	A
	44	Ashlan Avenue and Shaw Avenue	II	E	4	Arterial	Raised	1,640	3,730	A	1,600	3,730	A
Fruit Avenue	45	Barstow Avenue and Bullard Avenue	U	D	4	Collector	Undivided	40	2,740	A	890	2,740	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
Palm Avenue	46	Shields Avenue and Dakota Avenue	II	E	4	Collector	Undivided	1,140	2,980	A	1,400	2,980	A
	47	Ashlan Avenue and Gettysburg Avenue	U	D	4	Collector	Undivided	1,010	2,740	A	1,240	2,740	A
	48	Locust Avenue and Remington Avenue	III	D	4	Arterial	Raised	2,100	3,470	A	2,800	3,470	C
	49	Alluvial Avenue and Nees Avenue	III	D	4	Arterial	Raised	1,900	3,470	A	2,500	3,470	B
Audubon Drive	50	Nees Avenue and Del Mar Avenue	III	D	2	Collector	TWLTL	1,260	1,550	C	1,480	1,550	D
Maroa Avenue	51	Fedora Avenue and Dakota Avenue	II	E	2	Collector	Undivided	1,340	1,480	E	790	1,480	A
	52	Holland Avenue and Gettysburg Avenue	II	E	2	Collector	Undivided	1,340	1,480	E	790	1,480	A
	53	**Bullard Avenue and Sample Avenue**	**U**	**D**	**4**	**Collector**	**Undivided**	**2,790**	**2,740**	**E**	1,230	2,740	A
Elm Avenue	54	North Avenue and Jensen Avenue	IV	E	4	Arterial	Raised	280	3,730	A	480	3,730	A
	55	Jensen Avenue and Church Avenue	II	E	4	Arterial	Raised	440	3,730	A	680	3,730	A
G Street	56	Tulare Street and Fresno Street	I	F	4	Collector	Undivided	150	2,980	A	260	2,980	A
	57	Fresno Street and Tuolumne Street	I	F	4	Collector	TWLTL	190	3,550	A	170	3,550	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
Fulton Street	58	Tulare Street and Fresno Street	I	F	2	Collector	Undivided	80	1,480	A	140	1,480	A
Van Ness Avenue	59	Los Angeles Street & SR-41 ramps	I	F	4	Collector	Undivided	380	2,980	A	340	2,980	A
	60	Tulare Street and Fresno Street[3]	I	F	2	Collector	Raised	440	1,860	A	750	1,860	A
	61	Fresno Street and Tuolumne Street	I	F	2	Collector	Undivided	430	1,480	A	520	1,480	A
O Street	62	Tulare Street and Fresno Street	I	F	2	Collector	Undivided	190	1,480	A	200	1,480	A
	63	Fresno Street and Tuolumne Street	I	F	2	Collector	Undivided	150	1,480	A	260	1,480	A
Blackstone Avenue	64	Olive Avenue and McKinley Avenue	II	E	6	Arterial	Raised	1,470	5,610	A	2,440	5,610	A
	65	McKinley Avenue and Clinton Avenue	II	E	6	Arterial	Raised	1,190	5,610	A	1,880	5,610	A
	66	Dakota Avenue and Ashlan Avenue	II	E	6	Arterial	Raised	1,510	5,610	A	2,420	5,610	A
	67	Gettysburg Avenue and Shaw Avenue	II	E	6	Arterial	Raised	960	5,610	A	2,230	5,610	A
	68	Bullard Avenue and Sierra Avenue	II	E	6	Arterial	Raised	1,340	5,610	A	2,650	5,610	A
	69	Alluvial Avenue and Nees Avenue	III	D	6	Arterial	Raised	860	5,270	A	2,140	5,270	A
Friant Road	**70**	**SR-41 SB off-ramp and SR-41 NB off-ramp**	**III**	**D**	**6**	**Super Arterial**	**Raised**	5,100	4,910	D	**5,820**	**4,910**	**E**

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	71	**SR-41 NB off-ramp and Audubon Drive**	**III**	**D**	**6**	**Super Arterial**	**Raised**	5,100	4,910	D	**5,820**	**4,910**	**E**
	72	Audubon Drive and Shepherd Avenue	III	D	6	Expressway	Raised	5,120	6,170	C	5,800	6,170	D
	73	Copper Avenue and Willow Avenue	III	D	4	Expressway	Raised	790	4,050	A	810	4,050	A
First Street	74	McKinley Avenue and Clinton Avenue	II	E	4	Arterial	Raised	1,700	3,730	A	2,070	3,730	A
	75	Shields Avenue and Dakota Avenue	II	E	4	Arterial	Raised	1,050	3,730	A	1,960	3,730	A
	76	Ashlan Avenue and Gettysburg Avenue	II	E	4	Arterial	Raised	1,230	3,730	A	1,730	3,730	A
	77	Barstow Avenue and Bullard Avenue	II	E	4	Arterial	Raised	1,280	3,730	A	1,860	3,730	A
	78	Bullard Avenue and Herndon Avenue	II	E	4	Arterial	Raised	1,150	3,730	A	1,790	3,730	A
	79	Herndon Avenue and Alluvial Avenue	III	D	4	Arterial	Raised	1,620	3,470	A	2,250	3,470	B
	80	Nees Avenue and Friant Road	III	D	4	Arterial	Raised	1,220	3,470	A	1,410	3,470	A
East Avenue	81	North Avenue and Jensen Avenue	IV	E	2	Collector	Undivided	200	1,480	A	130	1,480	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
Cedar Avenue	82	American Avenue and Central Avenue	IV	E	2	Arterial	Undivided	190	1,480	A	190	1,480	A
	83	Jensen Avenue and Church Avenue	II	E	4	Arterial	Undivided	510	2,980	A	590	2,980	A
	84	Church Avenue and California Avenue	U	D	4	Arterial	Undivided	910	2,740	A	870	2,740	A
	85	Tulare Avenue and Belmont Avenue	I	F	4	Arterial	Undivided	2,010	2,980	B	2,100	2,980	C
	86	Olive Avenue and McKinley Avenue	II	E	4	Arterial	TWLTL	1,520	3,550	A	1,470	3,550	A
	87	Dakota Avenue and Ashlan Avenue	II	E	4	Arterial	Raised	1,590	3,730	A	2,780	3,730	C
	88	Ashlan Avenue and Gettysburg Avenue	II	E	4	Arterial	Raised	1,430	3,730	A	1,830	3,730	A
	89	Shaw Avenue and Barstow Avenue	II	E	4	Arterial	Raised	1,530	3,730	A	2,180	3,730	A
	90	Nees Avenue and Teague Avenue	III	D	4	Arterial	Raised	1,490	3,470	A	1,840	3,470	A
Maple Avenue	91	North Avenue and Jensen Avenue[2]	IV	E	3	Collector	Undivided	320	2,220	A	440	2,220	A
	92	Jensen Avenue and Church Avenue	III	D	4	Collector	Undivided	610	2,740	A	830	2,740	A
Chestnut Avenue	93	Jensen Avenue and Church Avenue	III	D	4	Arterial	Raised	530	3,470	A	720	3,470	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	94	Kings Canyon Road and Tulare Avenue	II	E	4	Arterial	Raised	1,340	3,730	A	1,780	3,730	A
	95	Tulare Avenue and Belmont Avenue	II	E	4	Arterial	Raised	1,690	3,730	A	1,880	3,730	A
	96	Clinton Avenue and Shields Avenue	U	D	4	Arterial	Raised	1,280	3,470	A	1,360	3,470	A
	97	Bullard Avenue and Herndon Avenue	II	E	4	Collector	Undivided	1,150	2,980	A	1,440	2,980	A
	98	Herndon Avenue and Alluvial Avenue	III	D	4	Arterial	Raised	1,110	3,470	A	1,320	3,470	A
	99	Alluvial Avenue and Nees Avenue	III	D	4	Arterial	Raised	1,470	3,470	A	1,610	3,470	A
	100	Nees Avenue and Teague Avenue	III	D	4	Arterial	Raised	830	3,470	A	940	3,470	A
	101	Teague Avenue and Shepherd Avenue	III	D	4	Arterial	Raised	1,300	3,470	A	1,710	3,470	A
Willow Avenue	102	Herndon Avenue and Nees Avenue	III	D	5	Super Arterial	Raised	2,000	4,040	A	2,210	4,040	A
	103	Teague Avenue and Shepherd Avenue	III	D	5	Super Arterial	Raised	1,220	4,040	A	1,350	4,040	A
	104	Shepherd Avenue and Behymer Avenue	III	D	4	Super Arterial	Raised	1,540	3,170	A	1,700	3,170	A
	105	Behymer Avenue and Copper Avenue	III	D	4	Super Arterial	Raised	1,260	3,170	A	1,390	3,170	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	106	Copper Avenue and Friant Road[2,3]	III	D	2	Super Arterial	Undivided	410	1,585	A	390	1,585	A
Peach Avenue	107	North Avenue and Jensen Avenue	III	D	2	Arterial	Undivided	180	1,270	A	170	1,270	A
	108	Butler Avenue and Kings Canyon Road	II	E	4	Arterial	Raised	1,820	3,730	A	1,680	3,730	A
	109	Tulare Avenue and Belmont Avenue	II	E	4	Arterial	Raised	1,830	3,730	A	1,870	3,730	A
	110	Olive Avenue and McKinley Avenue	II	E	4	Arterial	Raised	1,180	3,730	A	1,280	3,730	A
Minnewawa Avenue	111	Kings Canyon Road and Tulare Avenue	U	D	2	Collector	Undivided	130	1,270	A	170	1,270	A
Clovis Avenue	112	North Avenue and Jensen Avenue	III	D	4	Arterial	Raised	1,380	3,470	A	1,400	3,470	A
	113	Church Avenue and Butler Avenue	U	D	4	Arterial	Raised	2,100	3,470	A	2,200	3,470	A
	114	Kings Canyon Road and Tulare Avenue	II	E	6	Arterial	Raised	2,670	5,610	A	3,440	5,610	B
	115	Clinton Avenue and Shields Avenue	II	E	6	Arterial	Raised	2,610	5,610	A	2,770	5,610	A
Fowler Avenue	116	Jensen Avenue and Kings Canyon Road	III	D	2	Arterial	Undivided	600	1,270	A	390	1,270	A
	117	**Kings Canyon Road and Belmont Avenue**	**III**	**D**	**2**	**Arterial**	**Raised**	**1,860**	**1,640**	**E**	1,590	1,640	D
	118	**SR-180 WB ramps and Olive Avenue**	**III**	**D**	**2**	**Arterial**	**Undivided**	**1,390**	**1,270**	**E**	1,230	1,270	D
	119	Olive Avenue and Clinton Avenue	III	D	2	Arterial	Undivided	870	1,270	A	1,030	1,270	B

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	120	Shields Avenue and Dakota Avenue[2]	III	D	3	Arterial	Undivided	1,140	1,905	A	1,050	1,905	A
Armstrong Avenue	121	Jensen Avenue and Church Avenue	III	D	2	Collector	Undivided	300	1,270	A	190	1,270	A
	122	Hamilton Avenue and Butler Avenue	III	D	4	Collector	Undivided	450	2,740	A	280	2,740	A
	123	Butler Avenue and Lane Avenue[2]	III	D	3	Collector	Undivided	520	1,905	A	370	1,905	A
	124	Belmont Avenue and Clinton Avenue	III	D	2	Collector	Undivided	490	1,270	A	220	1,270	A
	125	McKinley Avenue and Clinton Avenue	III	D	2	Collector	Undivided	690	1,270	A	460	1,270	A
	126	Shields Avenue and Dakota Avenue	III	D	4	Collector	TWLTL	750	3,290	A	500	3,290	A
Temperance Avenue	127	California Avenue and Hamilton Avenue[2,3]	III	D	2	Super Arterial	Undivided	430	1,585	A	340	1,585	A
	128	**Butler Avenue and Lowe Avenue[2,3]**	**III**	**D**	**2**	**Super Arterial**	**Undivided**	**2,270**	**1,585**	**F**	1,830	1,585	D
	129	Kings Canyon Road and SR-180 EB ramps	III	D	5	Super Arterial	Raised	2,110	4,040	A	2,700	4,040	A
	130	Belmont Avenue and Olive Avenue[2,3]	III	D	2	Super Arterial	Undivided	940	1,585	A	720	1,585	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	131	**McKinley Avenue and Shields Avenue[2,3]**	**III**	**D**	**2**	**Super Arterial**	**Undivided**	**2,420**	**1,585**	**F**	**2,230**	**1,585**	**F**
	132	Shields Avenue and Dakota Avenue[2]	III	D	3	Super Arterial	Raised	830	2,380	A	720	2,380	A
	133	Dakota Avenue and Ashlan Avenue[2]	III	D	3	Super Arterial	Raised	1,050	2,380	A	520	2,380	A
De Wolf Avenue	134	Church Avenue and Butler Avenue	III	D	2	Collector	Undivided	330	1,270	A	250	1,270	A
Copper Avenue	135	Friant Road and Millbrook Avenue	III	D	4	Super Arterial	Raised	710	3,170	A	600	3,170	A
	136	Millbrook Avenue and Cedar Avenue	III	D	4	Super Arterial	Raised	940	3,170	A	950	3,170	A
	137	Cedar Avenue and Maple Avenue	III	D	4	Super Arterial	Raised	850	3,170	A	720	3,170	A
	138	Maple Avenue and Chestnut Avenue[2]	III	D	3	Super Arterial	Raised	870	2,380	A	760	2,380	A
Shepherd Avenue	139	Millbrook Avenue and Cedar Avenue	III	D	4	Arterial	Raised	1,520	3,470	A	2,000	3,470	A
	140	Cedar Avenue and Maple Avenue	III	D	3	Arterial	Raised	1,660	2,555	A	2,050	2,555	C
	141	Chestnut Avenue and Willow Avenue	III	D	4	Arterial	Raised	940	3,470	A	1,130	3,470	A
Nees Avenue	142	Audubon Drive and Millbrook Avenue	III	D	4	Arterial	Raised	950	3,470	A	1,150	3,470	A
	143	Cedar Avenue and Maple Avenue	III	D	4	Arterial	Raised	1,590	3,470	A	2,020	3,470	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	144	Jordan Avenue and Paula Avenue	III	D	4	Arterial	Raised	1,110	3,470	A	2,060	3,470	A
Alluvial Avenue	145	Mansionette Drive and Pinedale Avenue	III	D	2	Collector	TWLTL	720	1,550	A	1,080	1,550	B
	146	Pinedale Avenue and Chestnut Avenue	III	D	2	Collector	TWLTL	690	1,550	A	1,210	1,550	B
	147	Chestnut Avenue and Willow Avenue	III	D	2	Collector	TWLTL	660	1,550	A	1,200	1,550	B
Herndon Avenue	148	Polk Avenue and Milburn Avenue	III	D	4	Expressway	Raised	1,680	4,050	A	2,330	4,050	A
	149	West Avenue and Fruit Avenue	III	D	6	Expressway	Raised	4,250	6,170	B	5,020	6,170	C
	150	Fruit Avenue and Palm Avenue	III	D	6	Expressway	Raised	4,290	6,170	B	4,960	6,170	C
	151	Blackstone Avenue and SR-41 SB ramps	III	D	6	Expressway	Raised	4,170	6,170	B	4,380	6,170	B
	152	First Street and Cedar Avenue	III	D	6	Expressway	Raised	4,290	6,170	B	4,660	6,170	C
	153	Cedar Avenue and Maple Avenue	III	D	6	Expressway	Raised	3,420	6,170	A	2,900	6,170	A
Sierra Avenue	154	Marks Avenue and Van Ness Avenue	II	E	2	Collector	Undivided	270	1,480	A	460	1,480	A
	155	West Avenue and Fruit Avenue	U	D	2	Collector	Undivided	410	1,270	A	700	1,270	A
	156	Throne Avenue and Palm Avenue	III	D	2	Collector	Undivided	410	1,270	A	700	1,270	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
Bullard Avenue	157	Garfield Avenue and Grantland Avenue	III	D	2	Collector	Undivided	40	1,270	A	50	1,270	A
	158	Grantland Avenue and Caspian Avenue	III	D	4	Collector	TWLTL	310	3,290	A	210	3,290	A
	159	West Avenue and Fruit Avenue	U	D	4	Arterial	Undivided	1,910	2,740	B	1,750	2,740	A
	160	Fruit Avenue and Palm Avenue	II	E	4	Arterial	Undivided	1,300	2,980	A	1,410	2,980	A
	161	Maroa Avenue and Blackstone Avenue	II	E	4	Arterial	TWLTL	1,780	3,550	A	2,250	3,550	B
	162	SR-41 NB ramps and Fresno Street	II	E	5	Arterial	Raised	2,560	4,670	A	2,620	4,670	A
	163	First Street and Cedar Avenue	II	E	4	Arterial	Raised	1,970	3,730	A	2,370	3,730	B
Barstow Avenue	164	Garfield Avenue and Grantland Avenue	III	D	2	Collector	Undivided	50	1,270	A	50	1,270	A
	165	Van Ness Boulevard and West Avenue	U	D	2	Collector	Undivided	310	1,270	A	390	1,270	A
	166	Fruit Avenue and Palm Avenue	U	D	2	Collector	TWLTL	440	1,550	A	510	1,550	A
Shaw Avenue	167	Garfield Avenue and Grantland Avenue	III	D	2	Arterial	Undivided	490	1,270	A	580	1,270	A
	168	Bryan Avenue and Hayes Avenue	III	D	2	Arterial	Undivided	820	1,270	A	890	1,270	B
	169	Hayes Avenue and Polk Avenue	III	D	2	Arterial	Undivided	870	1,270	A	840	1,270	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	170	SR-99 NB ramps and Cornelia Avenue	III	D	4	Arterial	TWLTL	2,170	3,290	B	2,550	3,290	C
	171	Cornelia Avenue and Jennifer Avenue	III	D	4	Arterial	Raised	2,170	3,470	A	2,550	3,470	B
	172	Brawley Avenue and Marks Avenue	III	D	6	Arterial	Raised	1,950	5,270	A	2,940	5,270	A
	173	West Avenue and Fruit Avenue	II	E	6	Arterial	Raised	3,140	5,610	A	3,630	5,610	B
	174	Maroa Avenue and Blackstone Avenue	II	E	6	Arterial	Raised	4,360	5,610	C	5,150	5,610	E
	175	Fresno Street and First Street	II	E	6	Arterial	Raised	2,180	5,610	A	2,900	5,610	A
	176	First Street and Cedar Avenue	II	E	6	Arterial	Raised	2,340	5,610	A	3,590	5,610	B
Gettysburg Avenue	**177**	**Maple Avenue and Winery Avenue**	**II**	**E**	**2**	**Collector**	**TWLTL**	**3,780**	**1,760**	**F**	**4,050**	**1,760**	**F**
Ashlan Avenue	178	Bryan Avenue and Hayes Avenue	III	D	2	Arterial	Undivided	670	1,270	A	340	1,270	A
	179	Hayes Avenue and Polk Avenue	III	D	2	Arterial	Undivided	480	1,270	A	420	1,270	A
	180	Cornelia Avenue and Blythe Avenue	III	D	4	Arterial	Raised	2,430	3,470	B	2,580	3,470	B
	181	SR-99 SB ramps and Golden State Boulevard	III	D	4	Arterial	Raised	2,110	3,470	A	2,270	3,470	B
	182	Weber Avenue and Valentine Avenue	II	E	4	Arterial	Raised	1,810	3,730	A	2,260	3,730	B

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	183	Fruit Avenue and Palm Avenue	U	D	2	Collector	Undivided	1,020	1,270	B	990	1,270	B
	184	Palm Avenue and Maroa Avenue	U	D	2	Collector	Undivided	830	1,270	A	1,000	1,270	B
	185	Maroa Avenue and Del Mar Avenue	U	D	2	Collector	Undivided	1,090	1,270	C	1,160	1,270	C
	186	Del Mar Avenue and Blackstone Avenue	II	E	4	Collector	Undivided	1,350	2,980	A	1,530	2,980	A
	187	Fresno Street and First Street	II	E	4	Arterial	Undivided	1,810	2,980	B	2,340	2,980	C
	188	Barton Avenue and SR-168 SB ramps	II	E	4	Arterial	Raised	2,400	3,730	B	2,970	3,730	C
	189	SR-168 NB ramps and Chestnut Avenue	II	E	4	Arterial	Raised	1,950	3,730	A	2,280	3,730	B
Dakota Avenue	190	Marks Avenue and Hughes Avenue	II	E	2	Collector	Undivided	140	1,480	A	1,110	1,480	C
	191	West Avenue and Fruit Avenue	II	E	2	Collector	TWLTL	70	1,760	A	560	1,760	A
	192	Fruit Avenue and Palm Avenue	II	E	2	Collector	Undivided	70	1,480	A	630	1,480	A
	193	**Maroa Avenue and Del Mar Avenue**	**II**	**E**	**2**	**Collector**	**Undivided**	330	1,480	A	**2,000**	**1,480**	**F**
	194	**Angus Street and First Street**	**II**	**E**	**2**	**Collector**	**TWLTL**	330	1,760	A	**2,000**	**1,760**	**F**
	195	First Street and Millbrook Avenue	II	E	2	Collector	TWLTL	130	1,760	A	1,010	1,760	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	196	Millbrook Avenue and Cedar Avenue	II	E	2	Collector	TWLTL	970	1,760	A	1,200	1,760	B
Shields Avenue	197	Garfield Avenue and Grantland Avenue	III	D	2	Collector	Undivided	330	1,270	A	200	1,270	A
	198	Grantland Avenue and Bryan Avenue	III	D	2	Collector	Undivided	320	1,270	A	240	1,270	A
	199	Brawley Avenue and Valentine Avenue	III	D	2	Collector	Undivided	1,280	1,270	D	960	1,270	B
	200	Fruit Avenue and Palm Avenue	II	E	4	Arterial	Undivided	1,030	2,980	A	1,340	2,980	A
	201	Peach Avenue and Clovis Avenue	II	E	4	Arterial	Raised	1,180	3,730	A	1,260	3,730	A
	202	Clovis Avenue and Fowler Avenue	II	E	4	Arterial	Raised	1,520	3,730	A	1,470	3,730	A
	203	Temperance Avenue and Locan Avenue	III	D	3	Arterial	Raised	860	2,555	A	570	2,555	A
	204	Locan Avenue and De Wolf Avenue	III	D	2	Collector	Undivided	610	1,270	A	360	1,270	A
Clinton Avenue	205	Grantland Avenue and Bryan Avenue	III	D	2	Collector	Undivided	40	1,270	A	40	1,270	A
	206	Bryan Avenue and Hayes Avenue	III	D	2	Collector	Undivided	80	1,270	A	60	1,270	A
	207	Hayes Avenue and Polk Avenue	III	D	2	Collector	Undivided	90	1,270	A	90	1,270	A
	208	Polk Avenue and Cornelia Avenue	III	D	2	Collector	Undivided	360	1,270	A	350	1,270	A
	209	Blythe Avenue and Brawley Avenue	III	D	4	Collector	TWLTL	700	3,290	A	880	3,290	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	210	Valentine Avenue and Marks Avenue	III	D	2	Collector	TWLTL	900	1,550	A	1,130	1,550	B
	211	Weber Avenue and West Avenue	II	E	4	Collector	Undivided	230	2,980	A	2,040	2,980	B
	212	Fruit Avenue and Palm Avenue	II	E	4	Collector	Undivided	160	2,980	A	1,410	2,980	A
	213	Maroa Avenue and Blackstone Avenue	II	E	4	Collector	Undivided	190	2,980	A	1,660	2,980	A
	214	First Street and Cedar Avenue	U	D	4	Collector	Undivided	710	2,740	A	980	2,740	A
	215	Fowler Avenue and Armstrong Avenue	III	D	2	Collector	Undivided	300	1,270	A	220	1,270	A
	216	Armstrong Avenue and Temperance Avenue	III	D	2	Collector	Undivided	270	1,270	A	170	1,270	A
McKinley Avenue	217	Blythe Avenue and Valentine Avenue	III	D	2	Arterial	Undivided	550	1,270	A	560	1,270	A
	218	Marks Avenue and Hughes Avenue	I	F	2	Arterial	Undivided	820	1,480	A	740	1,480	A
	219	Fruit Avenue and Palm Avenue	II	E	4	Arterial	Undivided	1,200	2,980	A	950	2,980	A
	220	First Street and Cedar Avenue	II	E	4	Arterial	Raised	1,110	3,730	A	1,320	3,730	A
	221	Peach Avenue and Clovis Avenue	II	E	4	Arterial	Raised	860	3,730	A	840	3,730	A
Olive Avenue	222	Valentine Avenue and Marks Avenue	III	D	2	Collector	Undivided	330	1,270	A	470	1,270	A
	223	SR-99 NB ramps and West Avenue	I	F	4	Collector	TWLTL	810	3,550	A	1,160	3,550	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	224	Van Ness Avenue and Blackstone Avenue	II	E	2	Collector	Undivided	590	1,480	A	840	1,480	A
	225	Fresno Street and First Street	II	E	4	Collector	Undivided	660	2,980	A	900	2,980	A
	226	Peach Avenue and Clovis Avenue	II	E	4	Collector	TWLTL	700	3,550	A	500	3,550	A
Belmont Avenue	227	Hayes Avenue and Cornelia Avenue	III	D	2	Collector	Undivided	250	1,270	A	220	1,270	A
	228	Marks Avenue and Hughes Avenue	III	D	4	Collector	Undivided	370	2,740	A	350	2,740	A
	229	Pacific Avenue and Fruit Avenue	I	F	4	Collector	Undivided	440	2,980	A	760	2,980	A
	230	Weber Avenue and Palm Avenue	II	E	4	Collector	Undivided	410	2,980	A	700	2,980	A
	231	Palm Avenue and Roosevelt Avenue	II	E	4	Collector	Undivided	530	2,980	A	900	2,980	A
	232	Abby Street and Fresno Street[3]	I	F	4	Collector	Raised	530	3,730	A	1,100	3,730	A
	233	Orchard Street and First Street[3]	I	F	4	Collector	Raised	780	3,730	A	1,230	3,730	A
	234	First Street and Cedar Avenue[3]	I	F	4	Collector	Raised	970	3,730	A	1,540	3,730	A
	235	Willow Avenue and Peach Avenue	U	D	4	Arterial	Raised	930	3,470	A	870	3,470	A
	236	Peach Avenue and Clovis Avenue	U	D	4	Arterial	Raised	520	3,470	A	550	3,470	A
	237	Clovis Avenue and Fowler Avenue	III	D	2	Arterial	Raised	520	1,640	A	480	1,640	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	238	De Wolf Avenue and Fancher Avenue	III	D	2	Collector	Undivided	500	1,270	A	420	1,270	A
Divisadero Avenue	239	Roosevelt Avenue and H Street	I	F	2	Collector	Undivided	280	1,480	A	310	1,480	A
	240	Fulton Street and Van Ness Avenue	I	F	2	Collector	TWLTL	670	1,760	A	830	1,760	A
	241	San Pablo Avenue and Glen Avenue	I	F	2	Collector	TWLTL	480	1,760	A	630	1,760	A
Fresno Street	242	Palo Alto Avenue and Herndon Avenue[3]	III	D	4	Collector	Raised	1,020	3,470	A	1,460	3,470	A
	243	California Avenue and SR-99 SB ramps	I	F	4	Arterial	TWLTL	330	3,550	A	180	3,550	A
	244	SR-99 NB ramps and E Street	I	F	4	Arterial	Raised	1,040	3,730	A	1,230	3,730	A
Tulare Street	245	H Street and Van Ness Avenue	I	F	4	Collector	TWLTL	250	3,550	A	220	3,550	A
	246	Van Ness Avenue and M Street[3]	I	F	4	Collector	Raised	440	3,730	A	350	3,730	A
Ventura Street	247	SR-99 NB ramps and G Street	I	F	4	Arterial	Undivided	1,140	2,980	A	1,060	2,980	A
	248	G Street and Broadway Street	I	F	4	Arterial	Raised	970	3,730	A	1,300	3,730	A
	249	Van Ness Avenue and M Street	I	F	4	Arterial	Raised	950	3,730	A	830	3,730	A
	250	SR-41 and First Street	I	F	4	Arterial	Raised	1,240	3,730	A	1,760	3,730	A
Kings Canyon Road	251	Maple Avenue and Chestnut Avenue	II	E	4	Arterial	Raised	1,160	3,730	A	1,570	3,730	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	252	Chestnut Avenue and Willow Avenue	II	E	4	Arterial	Raised	1,240	3,730	A	1,810	3,730	A
	253	Peach Avenue and Clovis Avenue	II	E	4	Arterial	Raised	1,570	3,730	A	2,550	3,730	B
	254	Clovis Avenue and Fowler Avenue	III	D	4	Arterial	Raised	950	3,470	A	1,520	3,470	A
	255	Fowler Avenue and Armstrong Avenue	III	D	4	Arterial	TWLTL	1,190	3,290	A	1,640	3,290	A
	256	Armstrong Avenue and Temperance Avenue	III	D	2	Arterial	Undivided	750	1,270	A	810	1,270	A
Butler Avenue	257	Hazelwood Boulevard and Orange Avenue	I	F	2	Collector	TWLTL	700	1,760	A	940	1,760	A
California Avenue	258	Marks Avenue and Hughes Avenue	III	D	2	Collector	Undivided	130	1,270	A	190	1,270	A
	259	Hughes Avenue and West Avenue	III	D	2	Collector	Undivided	270	1,270	A	220	1,270	A
Church Avenue	260	Marks Avenue and Hughes Avenue	III	D	2	Collector	Undivided	100	1,270	A	140	1,270	A
	261	Orange Avenue and Cedar Avenue	U	D	4	Collector	Undivided	740	2,740	A	830	2,740	A
	262	Cedar Avenue and Maple Avenue[2]	III	D	3	Collector	Undivided	730	1,905	A	820	1,905	A
	263	Minnewawa Avenue and Clovis Avenue	III	D	4	Collector	TWLTL	860	3,290	A	610	3,290	A
Jensen Avenue	264	West Avenue and Fruit Avenue	III	D	2	Arterial	Undivided	390	1,270	A	470	1,270	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
	265	Walnut Avenue and MLK Boulevard	III	D	2	Arterial	Undivided	650	1,270	A	500	1,270	A
	266	Elm Avenue and SR-41 SB ramps	IV	E	4	Arterial	Raised	1,490	3,730	A	1,290	3,730	A
	267	Cedar Avenue and Maple Avenue	IV	E	4	Super Arterial	Raised	1,650	4,150	A	1,440	4,150	A
	268	Maple Avenue and Chestnut Avenue	IV	E	4	Super Arterial	Raised	1,110	4,150	A	1,070	4,150	A
	269	Chestnut Avenue and Willow Avenue	IV	E	4	Super Arterial	Raised	750	4,150	A	890	4,150	A
	270	Willow Avenue and Peach Avenue	III	D	4	Super Arterial	Raised	1,290	3,170	A	1,150	3,170	A
	271	Clovis Avenue and Fowler Avenue	III	D	4	Super Arterial	Raised	1,190	3,170	A	1,130	3,170	A
North Avenue	272	MLK Boulevard and Elm Avenue	IV	E	2	Arterial	Undivided	460	1,480	A	480	1,480	A
	273	Elm Avenue and SR-41 SB ramps	IV	E	2	Arterial	Undivided	540	1,480	A	570	1,480	A
	274	Cherry Avenue and East Avenue	IV	E	4	Arterial	TWLTL	620	3,550	A	630	3,550	A
	275	SR-99 NB ramp and Cedar Avenue	IV	E	2	Arterial	Undivided	760	1,480	A	660	1,480	A
	276	Cedar Avenue and Golden State Boulevard	IV	E	2	Arterial	Undivided	610	1,480	A	540	1,480	A
	277	Maple Avenue and Chestnut Avenue	IV	E	2	Arterial	Undivided	470	1,480	A	300	1,480	A
Central Avenue	278	East Avenue and Orange Avenue	IV	E	2	Arterial	Undivided	210	1,480	A	170	1,480	A

Table 2.D: Existing Roadway Segment Levels of Service

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								Existing Year (2019) Counts	LOS Capacity	Existing LOS	Existing Year (2019) Counts	LOS Capacity	Existing LOS
Golden State Boulevard	279	North Avenue and Cedar Avenue	IV	E	4	Arterial	Undivided	280	2,980	A	240	2,980	A
	280	Jensen Avenue and Church Avenue	IV	E	4	Arterial	Raised	790	3,730	A	610	3,730	A
	281	Motel Drive and Ashlan Avenue[3]	III	D	4	Collector	Raised	700	3,470	A	1,020	3,470	A
	282	Swift Avenue and Shaw Avenue	III	D	2	Collector	Undivided	700	1,270	A	1,020	1,270	B

[1] Classifications referenced from Fresno General Plan Circulation Diagram (2014)

[2] Table 2.C does not provide the capacity for the segment (based on the number of lanes). The capacity per lane was calculated from dividing the available capacity in Table 2.C by the number of lanes.

[3] Table 2.C does not provide the capacity for the segment (based on the median type). The capacity was assumed to be equal to the available capacity in Table 2.C based on the number of lanes (with different median types).

[4] The roadway segment does not currently exist.

U: Unincorporated Fresno County Bold and shading indicate deficient segments.

- 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 (pages 1 through 7) illustrates the locations of the roadway segments and corresponding existing LOS for the a.m. peak hour. Figure 2.6 (pages 1 through 7) illustrates the locations of the roadway segments and corresponding existing LOS for the p.m. peak hour.

Public Transportation

Fresno Area Express (FAX)

The City operates the Fresno Area Express (FAX), its primary transportation service provider. Its 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.

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.

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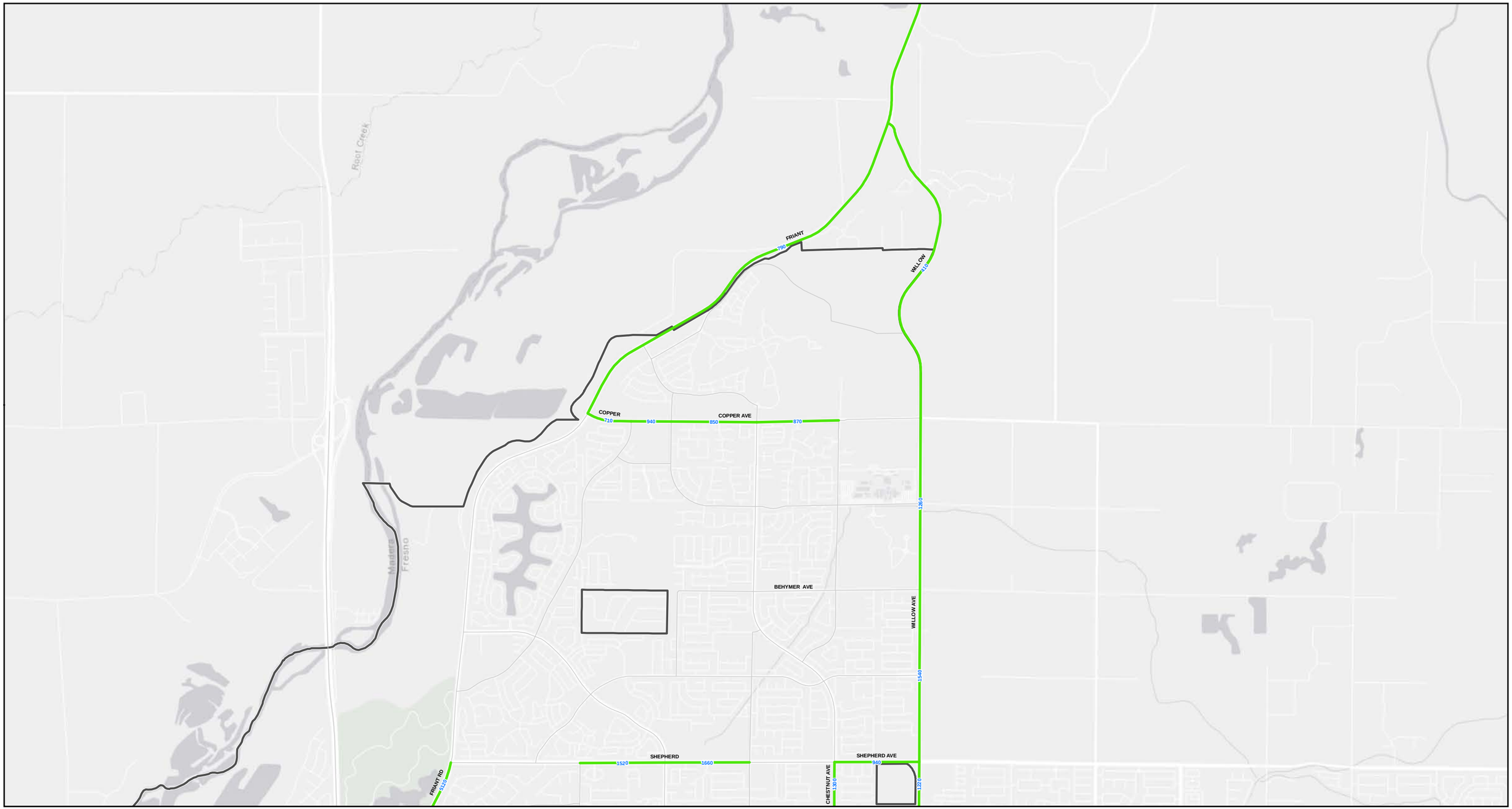

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SOURCE: City of Fresno

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Existing Roadway Segment Levels of Service - AM Peak Hour

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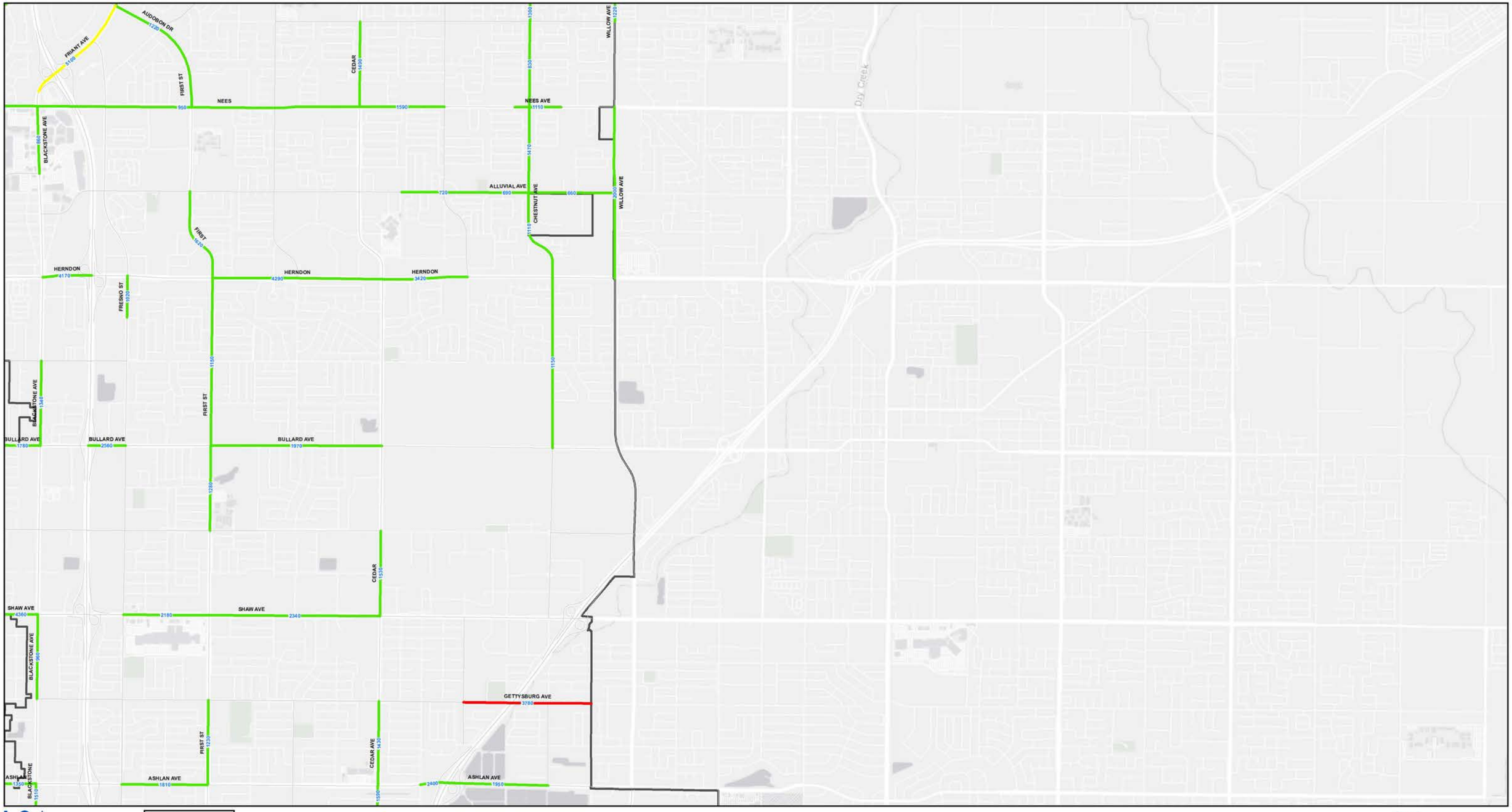

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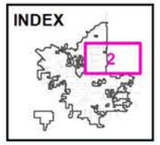

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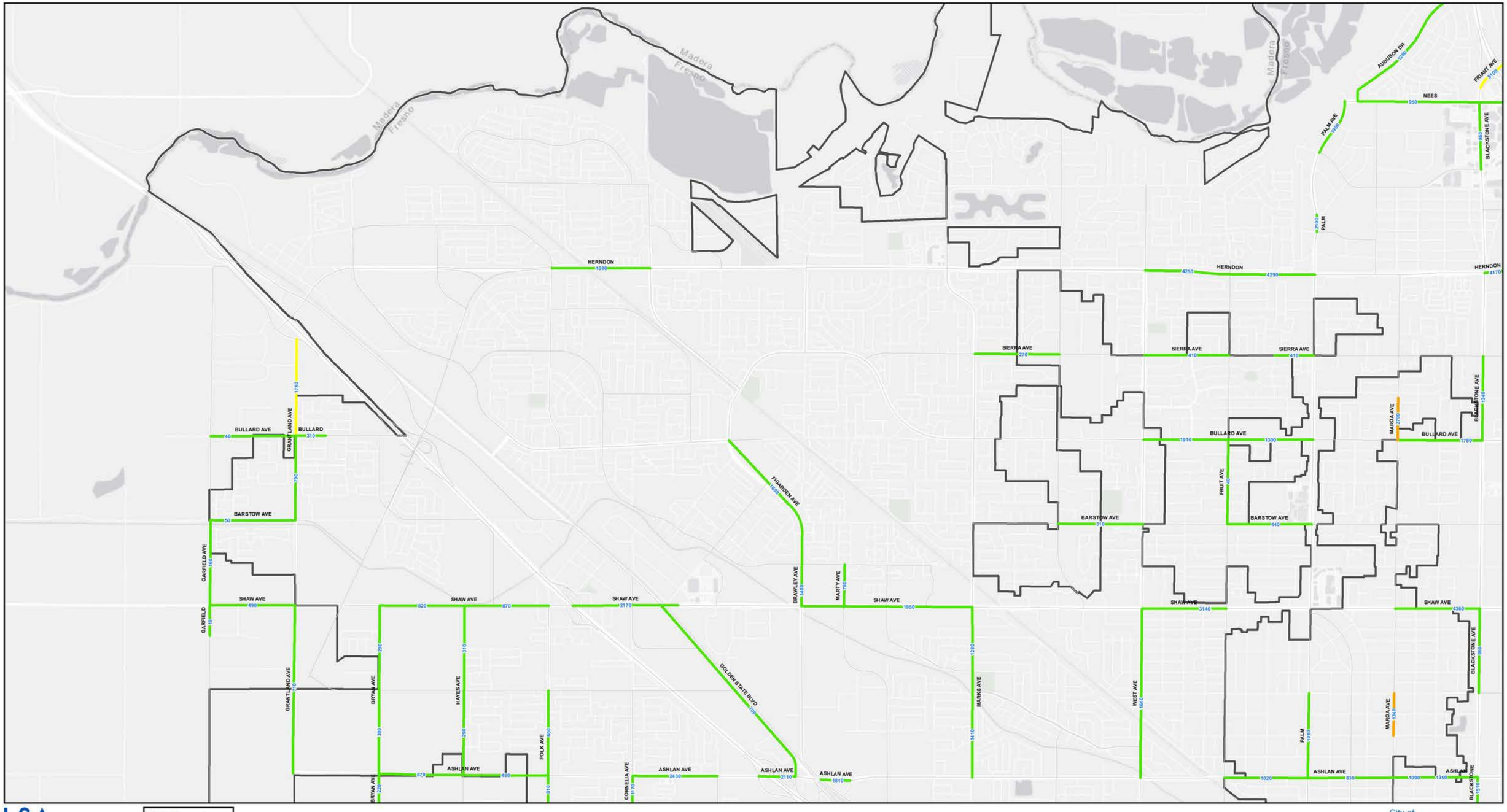

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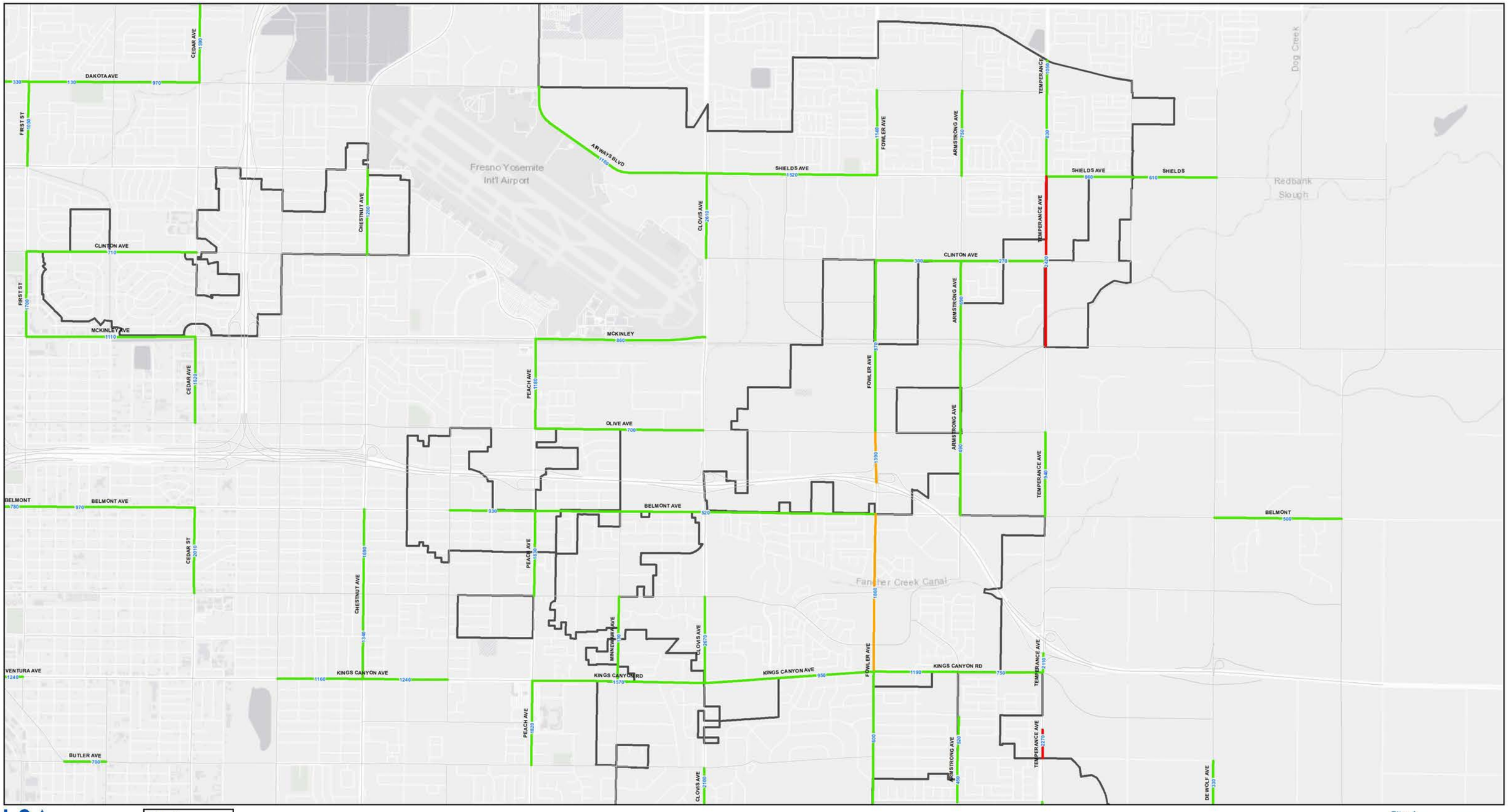

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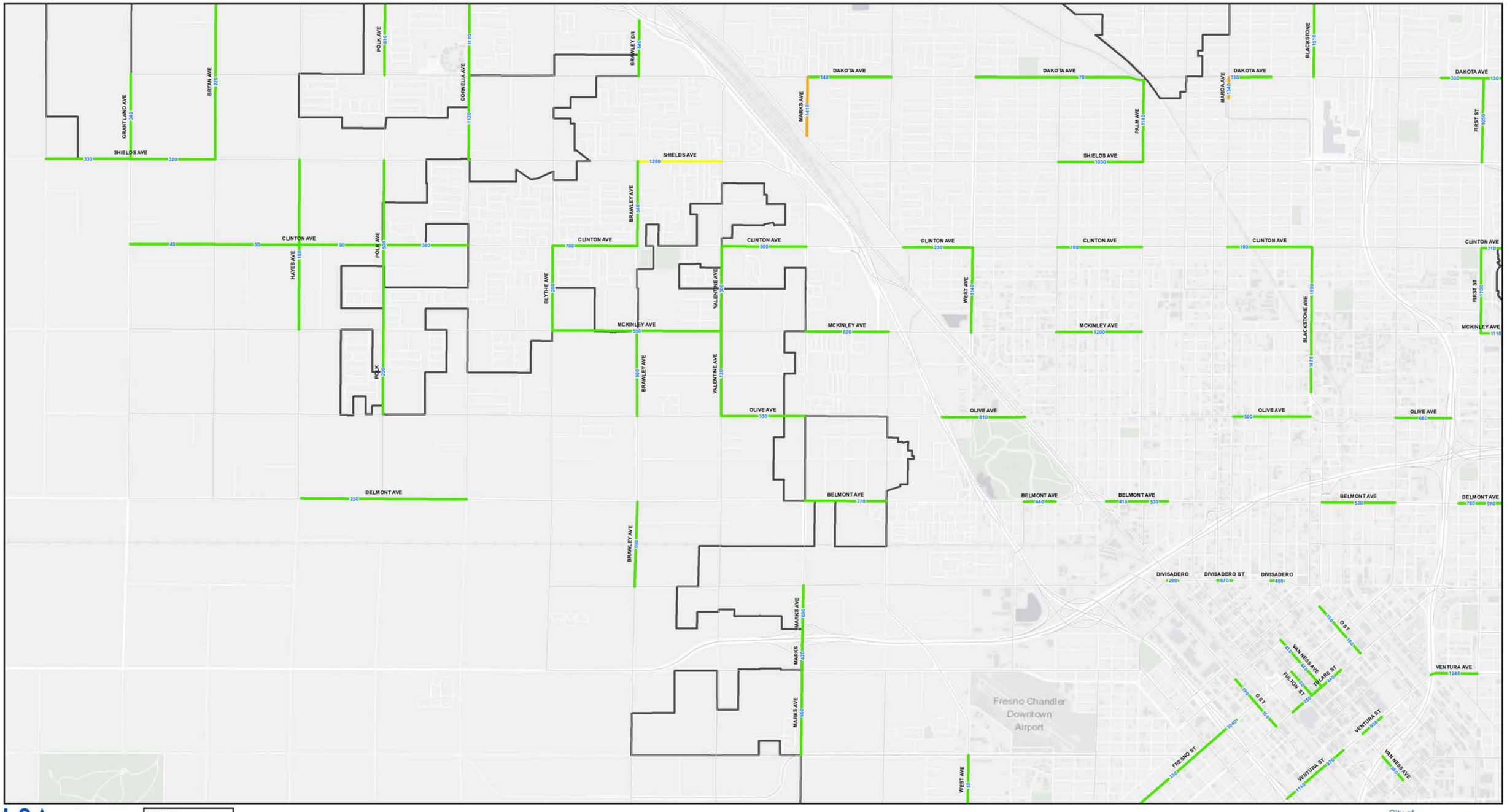

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Existing Roadway Segment Levels of Service - AM Peak Hour

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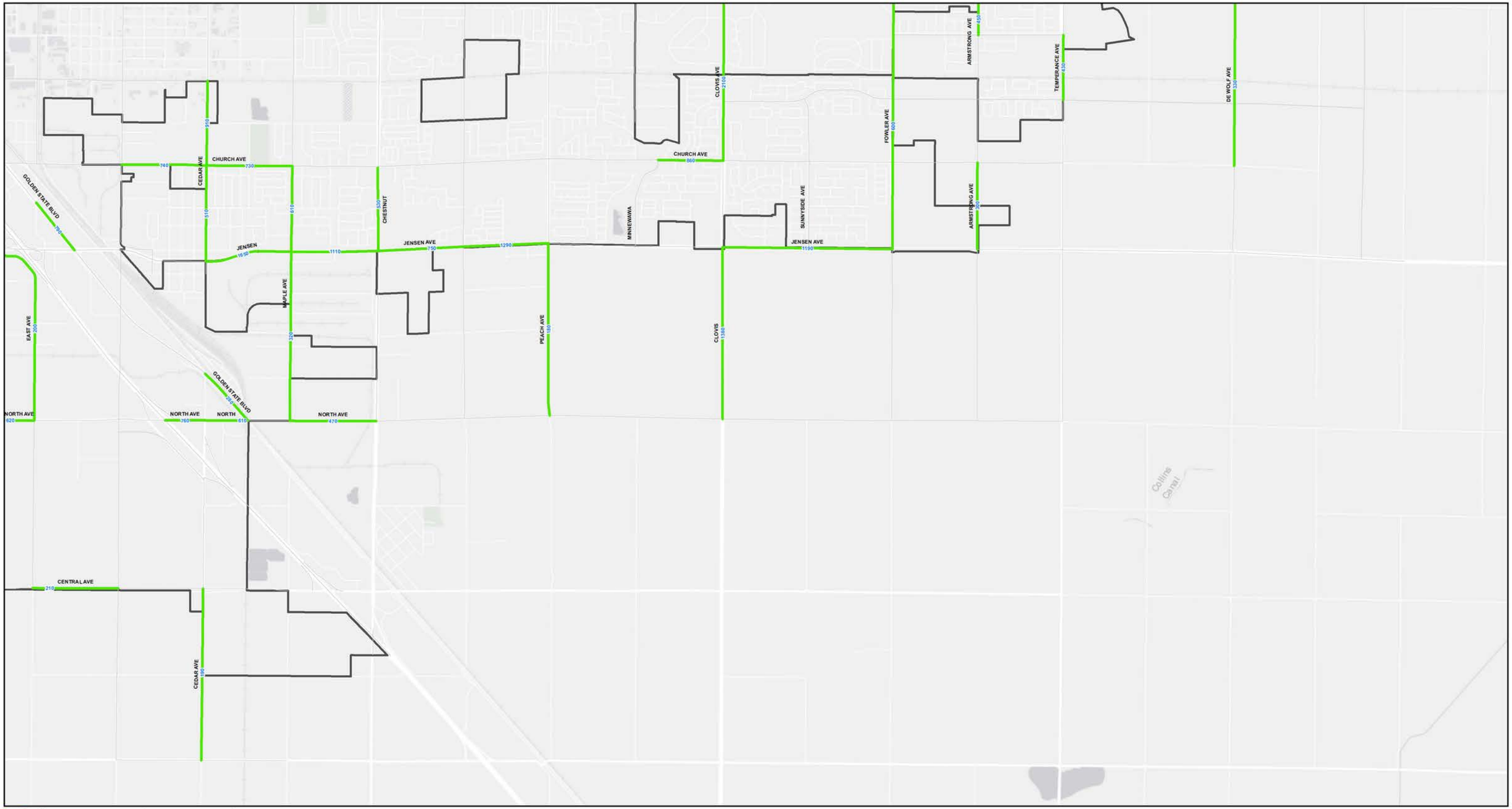

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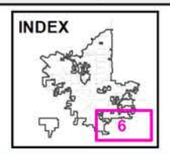

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SOURCE: City of Fresno

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Existing Roadway Segment Levels of Service - AM Peak Hour

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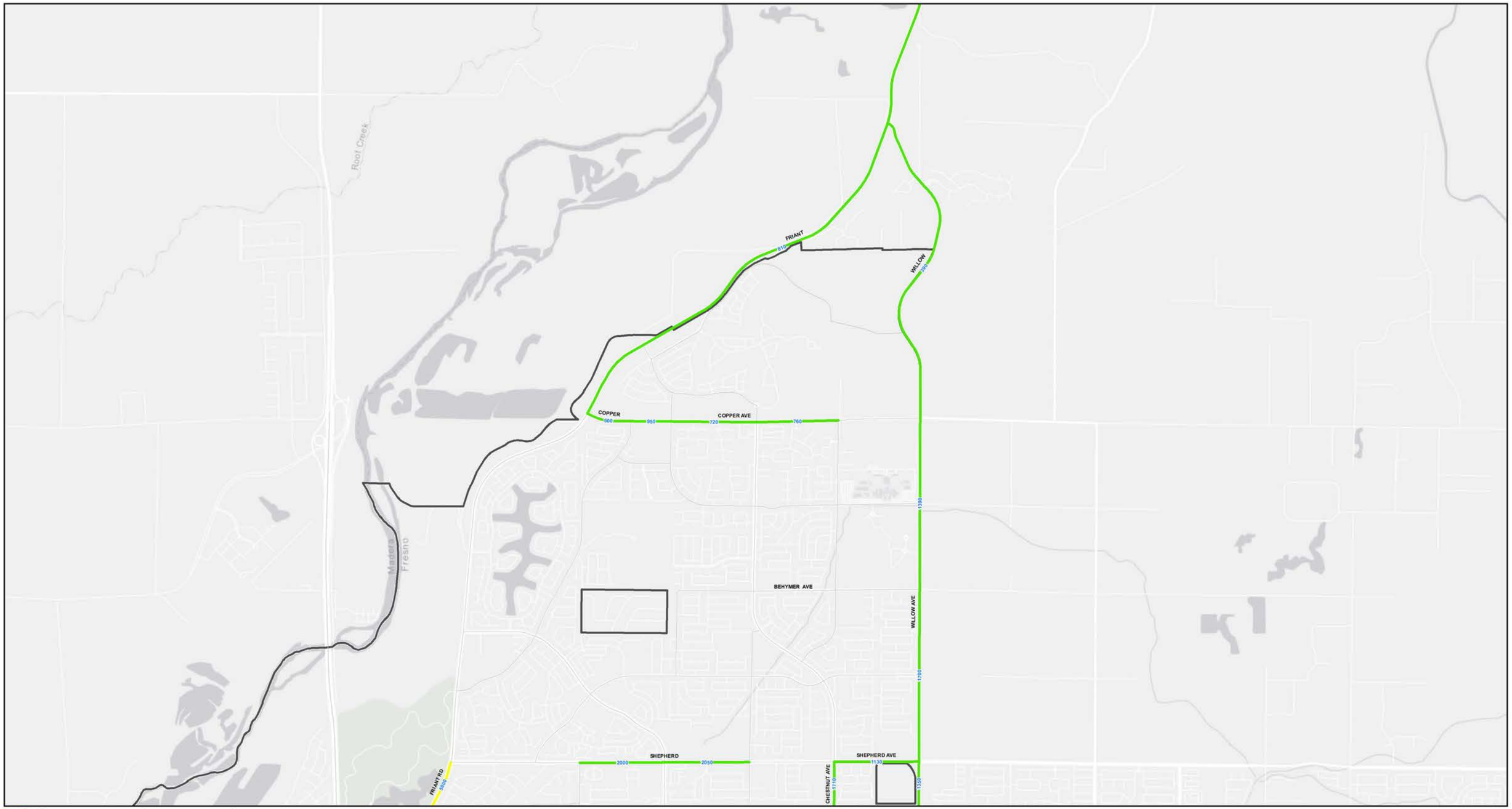

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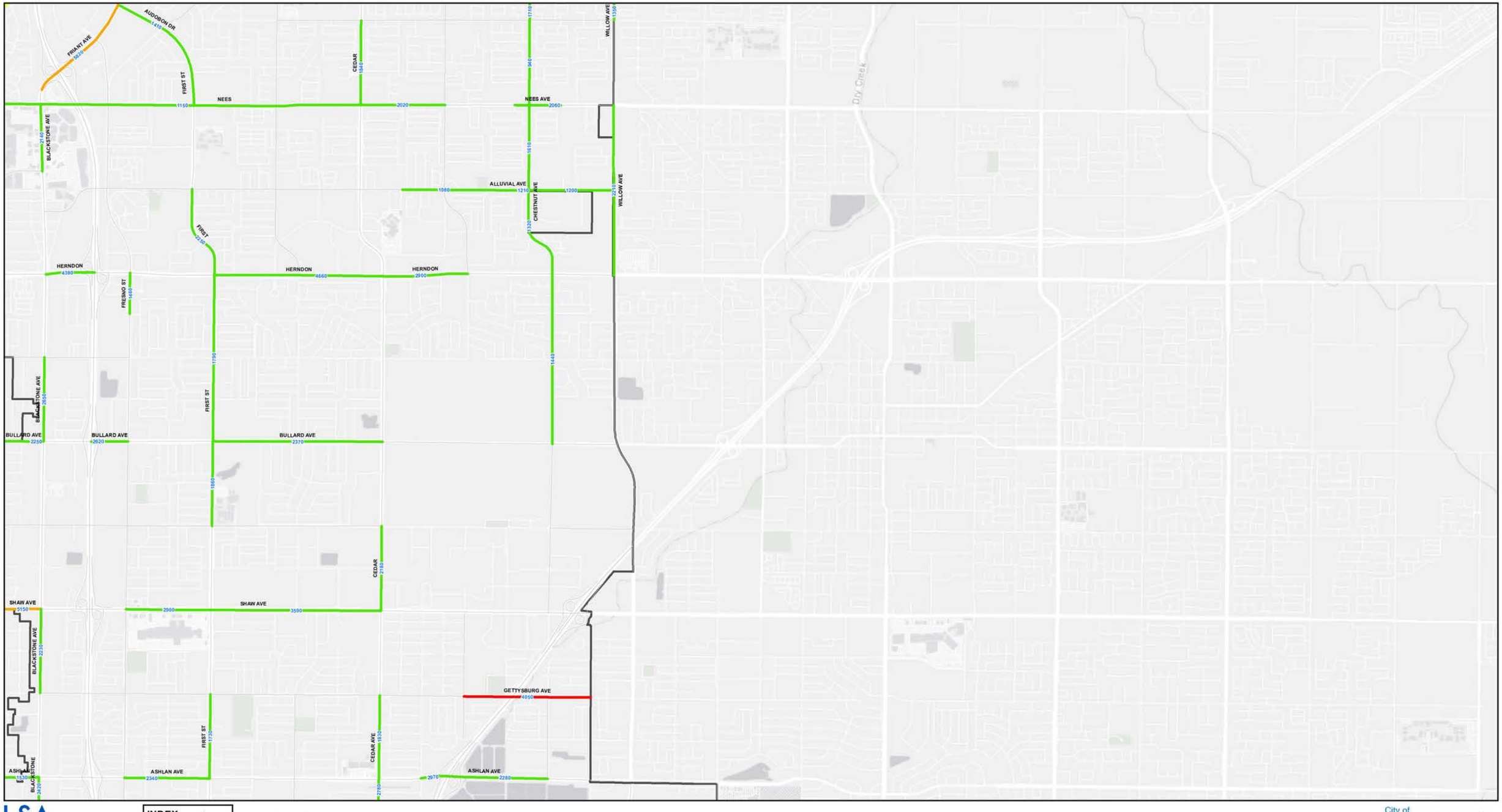

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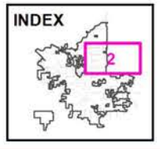

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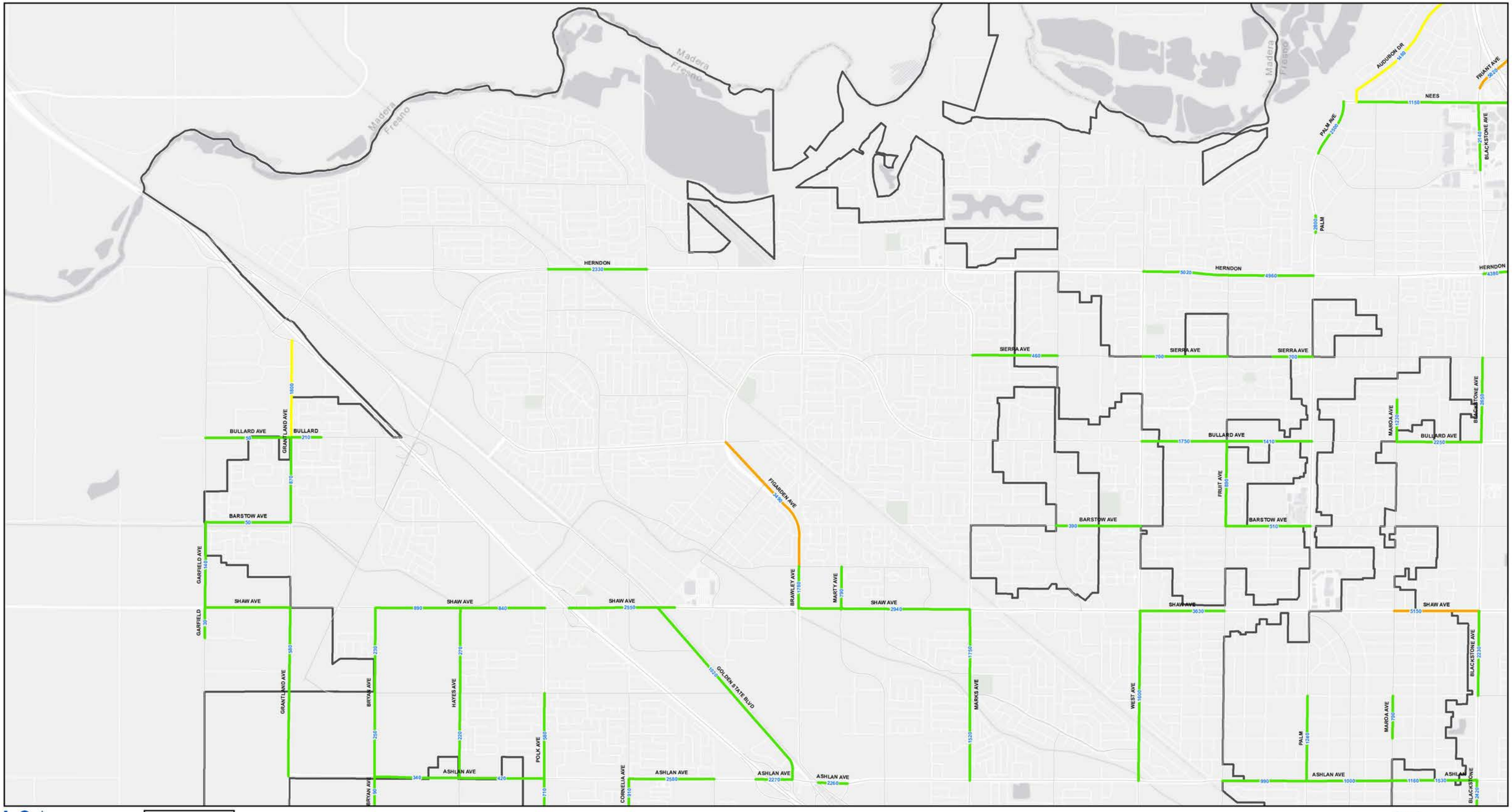

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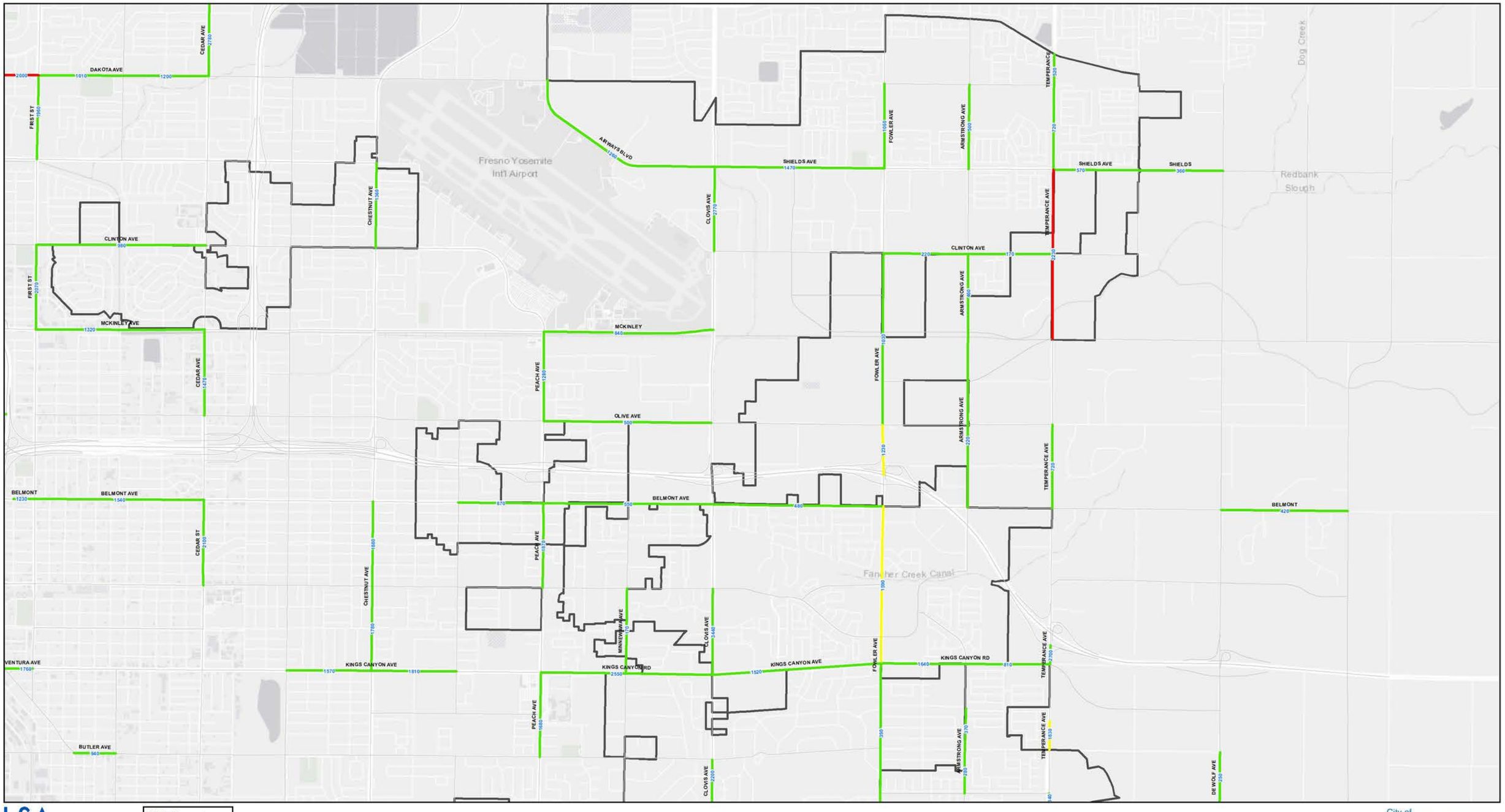

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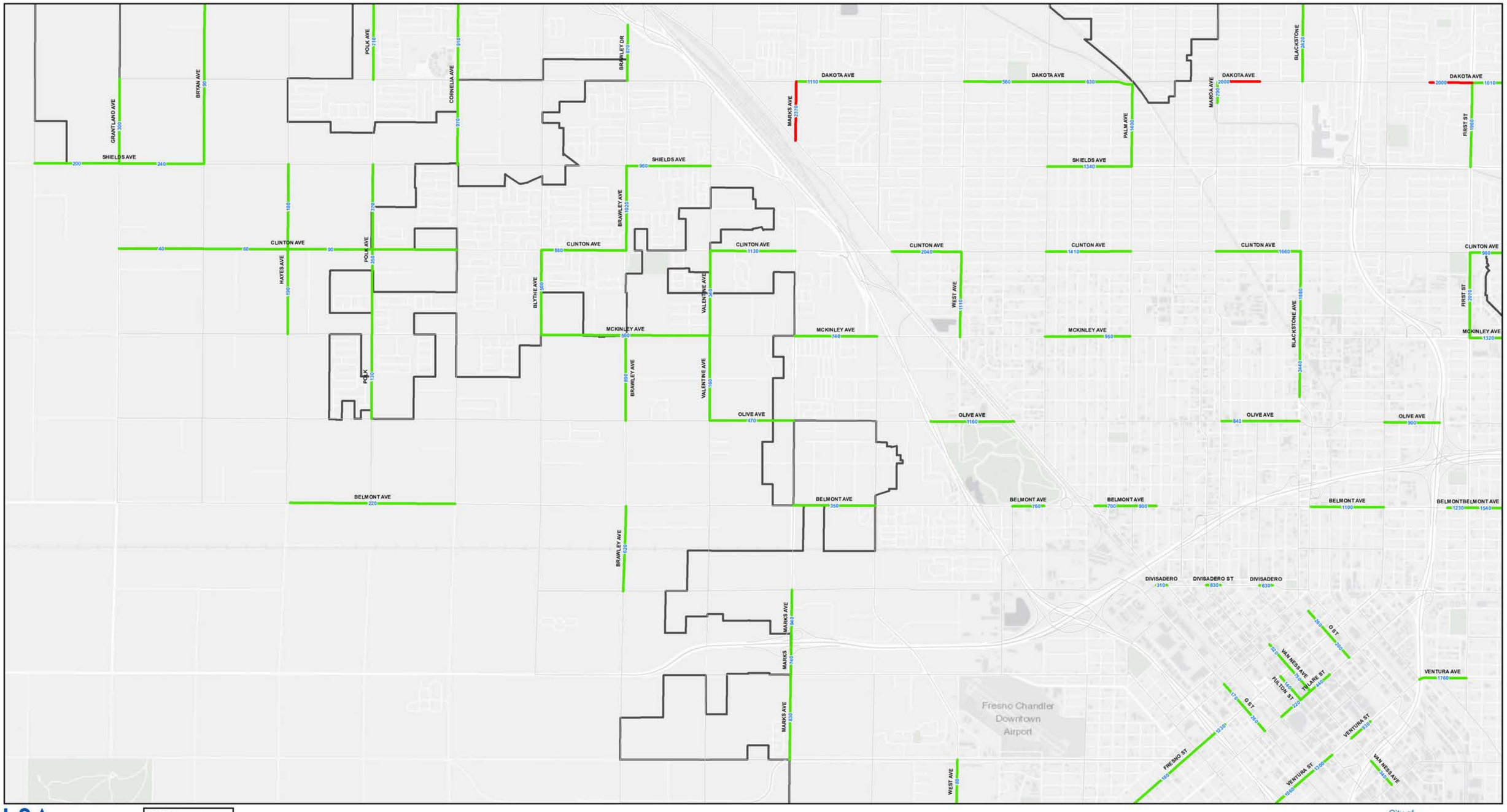

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Existing Roadway Segment Levels of Service - PM Peak Hour

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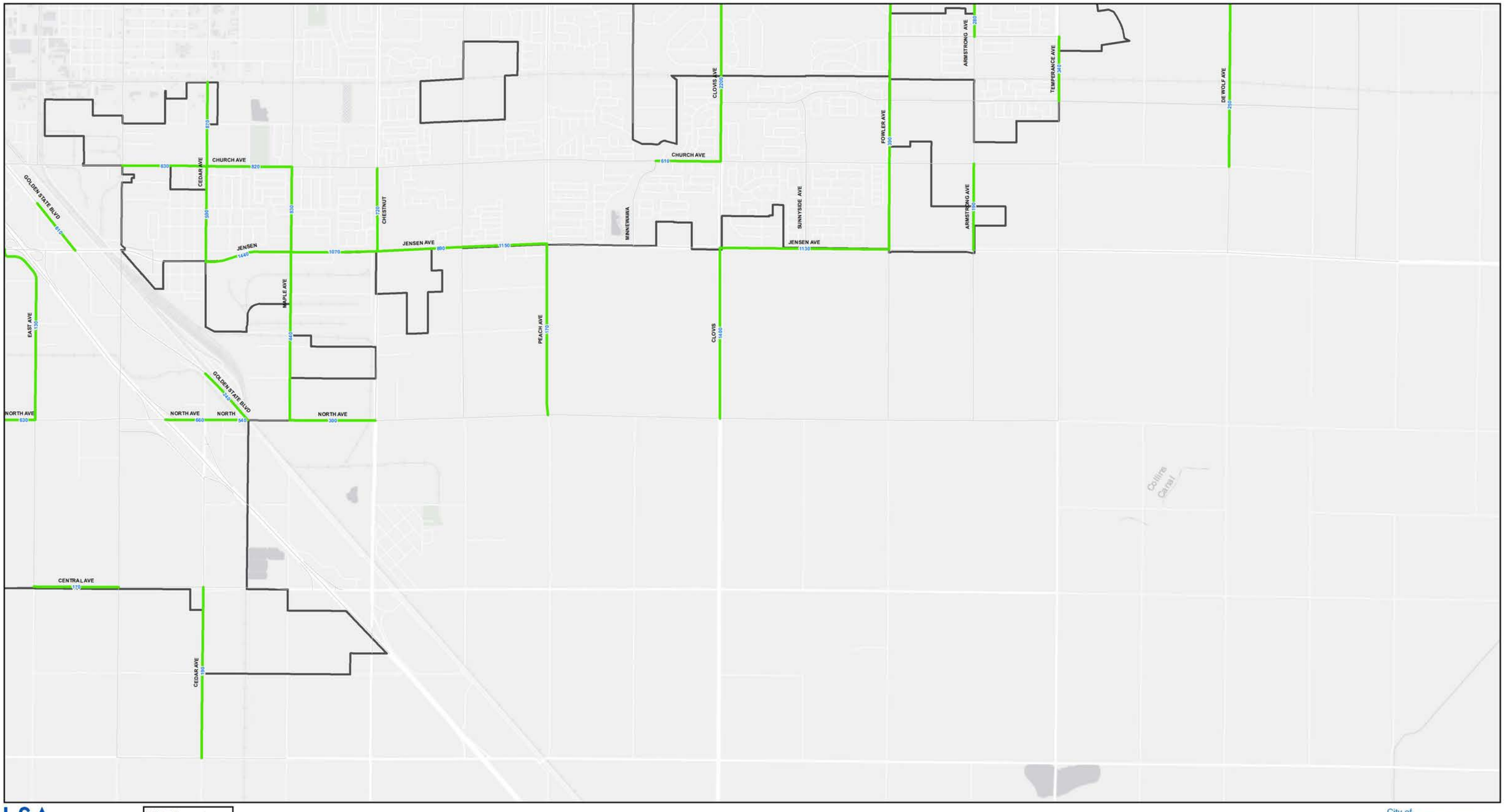

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Existing Roadway Segment Levels of Service - PM Peak Hour

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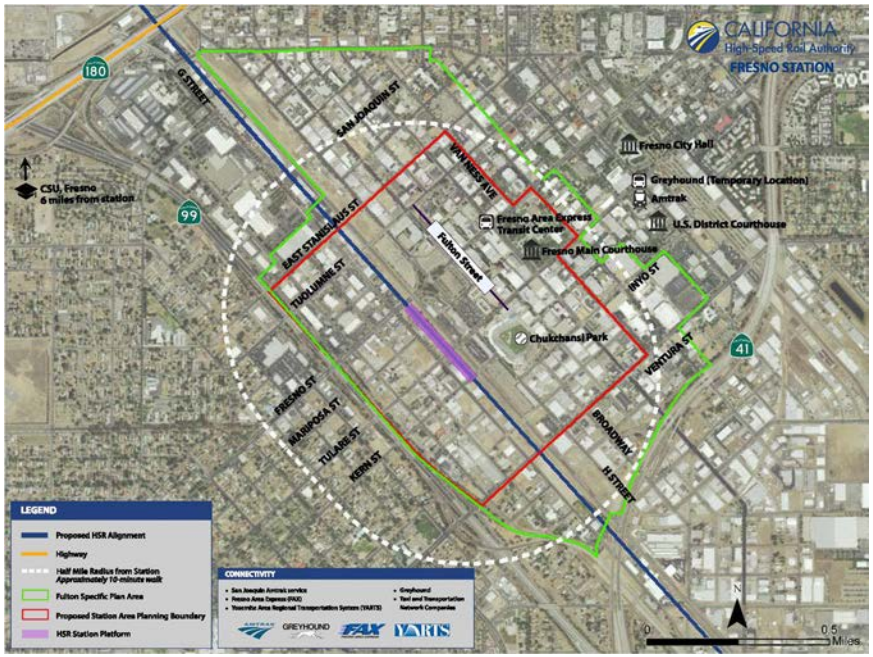
Bus Rapid Transit

A first-phase 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.

Public transportation serving Fresno is shown in Figure 2.7.

High-Speed Rail



HIGH-SPEED RAIL FRESNO STATION

Source: California High-Speed Rail Authority

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 line would extend through the San Joaquin Valley, linking San Francisco with Los Angeles. Construction began on 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's 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 station that takes advantage of the proximity of the HSR station.

The City of Fresno 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.

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 supports the BMP's aspirations for a comprehensive bicycle and pedestrian facilities network consisting of sidewalks, lanes, paths, and trails while recognizing that the BMP identifies more facilities and programs than discussed in the General Plan.

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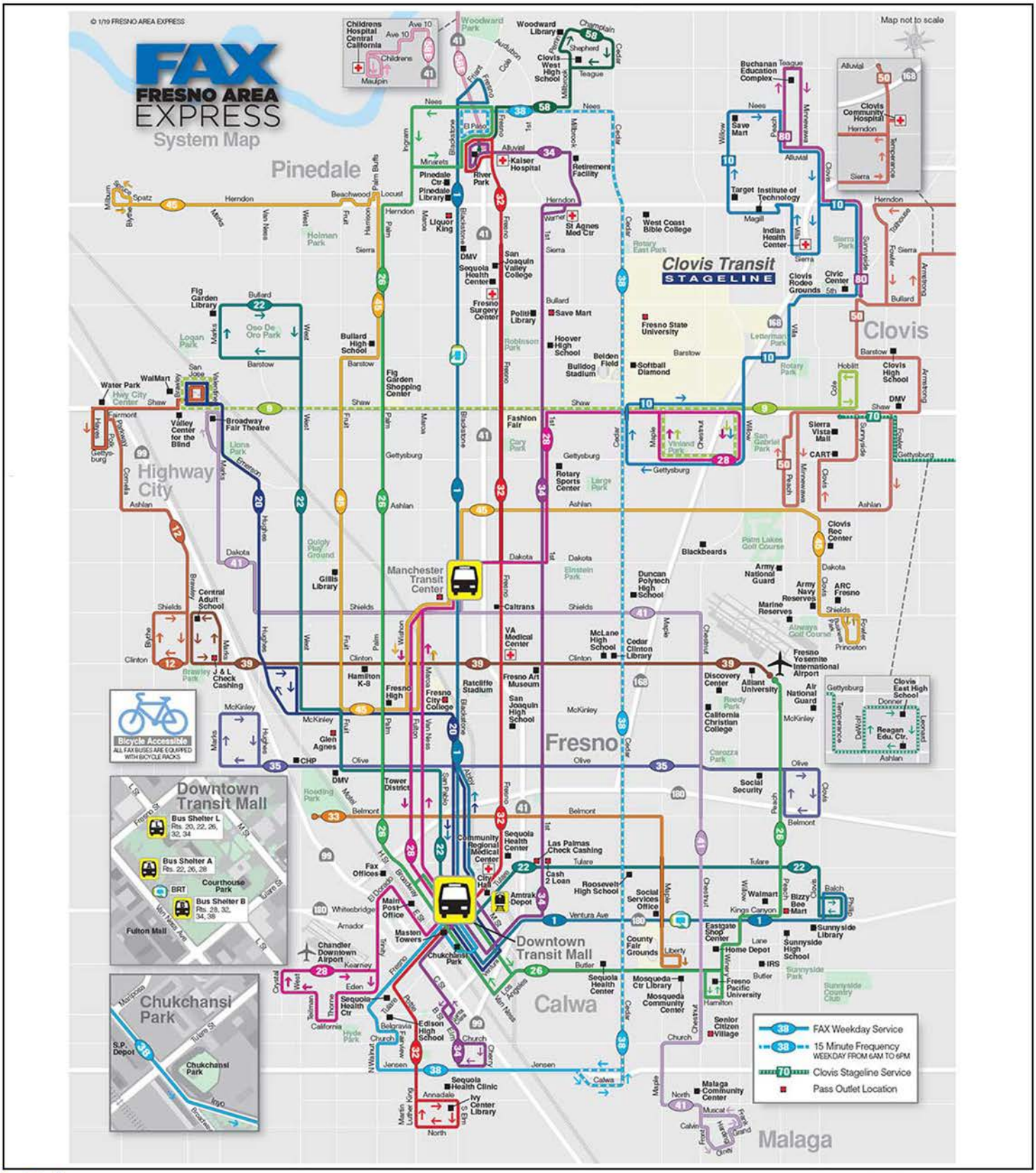

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Fresno General Plan Program EIR
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SOURCE: City of Fresno Department of Transportation

Figure 2.7
Existing Transit System

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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 Plan:

- 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 (1999), 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 the City are provided in the City of Fresno Active Transportation Plan, adopted in March 2017.

Bicycle Circulation

Bicycle facilities consist of the following four types of 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 a 10- to 12-foot wide concrete/asphalt paved surface 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 riding. Current City standards require 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 City of Fresno Active Transportation Plan, adopted in March 2017.

Regulatory Framework

For the purposes of this discussion, a jurisdiction is a level of government (city, county, state, or federal) or regulatory authority (local, regional, state, or federal) responsible for some or all aspects of the planning, implementation, operation, and maintenance of transportation facilities and services in a defined area. The City of Fresno has jurisdiction over all City streets and City-operated traffic signals. The neighboring cities of Clovis and Madera have jurisdiction over local roadways within their respective jurisdictional boundaries. Caltrans has jurisdiction over State facilities, including SR-180, SR-99, SR-41, and SR-168. Caltrans also has jurisdiction over on- and off-ramp intersections with local streets. The County of Fresno has jurisdiction over streets in unincorporated areas, as well as all the County Expressways. The transit agency of FAX operates within the City limits and provides connections to the City of Clovis.

This section identifies the laws, regulations, policies, and programs related to the physical environment that pertain to the project's effects on transportation and circulation on the highways and local roadways within the City of Fresno.

Federal Regulatory Framework

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.

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.

State Regulatory Framework

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; 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 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 emission 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, 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.

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 multimodal 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.

Regional Regulatory Framework

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 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 multimodal 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. 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 and preserve public health. This Bill is directed 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.

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 multimodal 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.

Local Regulatory Framework

The City uses different TIZs and tiered transportation impact criteria based on a project's location within the City's Sphere of Influence. The purpose of this is to assist areas being incentivized for development, such as inner city areas in need of infill development. Additionally, the City has adopted several plans and policies that provide guidance for managing Fresno's transportation system. Key plans and policies are described below.

City of Fresno Active Transportation Plan

The City's Active Transportation Plan, adopted in March 2017, provides a comprehensive guide outlining the vision for active transportation in

Fresno. This Plan supersedes an existing BMP that was adopted in 2010. The Fresno Active Transportation Plan 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.

Bus Rapid Transit Master Plan and Southern Blackstone Avenue Smart Mobility Strategy

The BRT Master Plan, adopted in June 2008, by the Council of Fresno County Governments (COFCG) 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 of Fresno 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 and part of the first phase of the BRT system. This strategy plan 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.

Fresno Area Express

FAX is a City-operated public transit service. In its role as a transit operator, FAX is responsible for providing dependable transit that runs smoothly and efficiently to serve the people of Fresno. FAX operates 17 fixed route bus routes, including BRT and FAX 15. FAX also provides paratransit services (Handy Ride), extended late-night and weekend services, and service to major regional destinations and transfer centers in adjacent cities.

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 the City to invest in that will significantly benefit the environment and economy of areas within the Downtown, Chinatown, and southwest Fresno.

Complete Streets Policy

The recent Complete Streets Policy was adopted by the City Council on October 10, 2019, to guide the implementation of the City's complete streets and multimodal objectives and policies 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, 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:

- *Multimodal 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 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 Plan (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 du 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.

Table 2.E: City Policy Matrix

Policy ID	Policy Statement
Development of Multimodal Transportation Networks	
MT-1-a	Transportation Planning Consistent with the General Plan
MT-1-c	Plan Line Adoption
MT-1-e	Ensure Interconnectivity Access Land Uses
MT-1-g	Complete Streets Concept Implementation
MT-1-h	Update Standards for Complete Streets
MT-1-k	Multi-Modal Level of Service Standards
MT-2-a	Intensification of Bus Rapid Transit Corridors
MT-2-d	Street Redesign where Excess Capacity Exists
MT-2-h	Update TIS
MT-2-j	Funding for Multi-Modal Transportation System
MT-2-k	Funding for Complete Streets Retrofits

Table 2.E: City Policy Matrix

Policy ID	Policy Statement
MT-2-l	Region-Wide Transportation Impact Fees
MT-4-a	Bicycle, Pedestrian, and Trails Master Plan
Mt-4-b	Bikeway Improvements
MT-4-c	Bikeway Linkages
MT-4-d	Prioritization of Bikeway Improvements
MT-4-e	Minimum Bike Lane Widths
MT-4-f	Bike Detection Devices
MT-4-g	Advocacy for Bike Accommodation
MT-4-h	Bicycle Parking Facilities
MT-4-i	Bicycle and Public Transportation
MT-4-j	Street Maintenance for Bicycle Safety
MT-4-k	Bicycle Safety, Awareness, and Education
MT-5-a	Sidewalk Development
MT-5-b	Sidewalk Requirements
MT-5-d	Pedestrian Safety
MT-5-e	Traffic Management in Established Neighborhoods
MT-5-f	Modification to Street Standards
MT-6-b	Multi-Agency Planning for Paths and Trail System
MT-6-c	Link Paths and Trails and Recreational Facilities
MT-6-d	Link Paths and trails and Cultural Resources
MT-6-e	Utilize Public Right of Way
MT-6-f	Path and Trail Designation Process
MT-6-g	Path and Trail Development
MT-6-h	Preference for Public Ownership
MT-6-i	Path and Trail Design Standards

Table 2.E: City Policy Matrix

Policy ID	Policy Statement
MT-6-j	Variety in Path and Trail Design
MT-6-k	Path and Trail Buffers
MT-6-m	Path and Trail Crossings
MT-7-a	Urban Path and Trail Development Funds
MT-7-c	Citywide Funding Program for Path and Trail Network
MT-8-a	Street Design Coordinated With Transit
MT-8-b	Transit Serving Residential and Employment Nodes
MT-8-d	Coordination of Transportation Modes
MT-8-f	Multi-Modal Downtown Transportation Facility
MT-8-g	High Speed Train
MT-8-h	Move Forward with High Speed Train Station Area Planning
MT-8-j	Transit Services
MT-9-a	Equitable Transit Provision
MT-9-b	Transit Service Productivity Evaluation
MT-9-c	Addressing Unmet Transit Needs
MT-9-d	Long-Range Transit Options
MT-9-e	Area Specific Transit Improvements
Reduction in Greenhouse Gases	
MT-1-p	Participate in Sustainable Communities Strategy/Regional Transportation Plan
MT-2-b	Reduce Vehicle Miles Traveled and Trips
MT-2-f	Optimization of Roadway Operations
MT-2-g	Transportation Demand Management and Transportation System Management
MT-8-i	Legislative Support

Table 2.E: City Policy Matrix

Policy ID	Policy Statement
MT-9-f	Encourage Telecommuting
MT-10-d	Parking Maximums
MT-10-c	Transportation Demand Management Guidelines
MT-10-d	Parking Maximums
MT-10-e	Parking Cash-out
Diversity of Land Uses	
MT-1-d	Integrate Land Use and Transportation Planning
MT-1-o	LOS Deviation Outside of Activity Centers and Areas Designated for Mixed-Used
MT-2-c	Reduce VMT through Infill Development
MT-6-a	Link Residencies to Destinations
MT-8-c	New Development Facilitating Transit
MT-10-a	Updating Parking Standards

Note:

MT – City of Fresno General Plan Mobility and Transportation Element

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CHAPTER 3 – General Plan (2035) Conditions Traffic

The City's long-term mobility system goals and policies are closely correlated to the Land Use Element. 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. This chapter 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 will assist in identifying improvements required to support growth anticipated for Fresno and the region. Identification of these improvements will 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 Land Use 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. 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, all roadway segments are forecast to operate at satisfactory LOS, with the exception of 21 roadway segments.

Figure 3.1 (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 (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.

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Table 3.A: General Plan Build Out Roadway Segment Levels of Service Using Existing Configurations

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
Garfield Avenue	1	Fairmont Avenue and Shaw Avenue	III	D	2	Collector	Undivided	70	1,270	A	150	1,270	A
	2	Shaw Avenue and Barstow Avenue	III	D	2	Collector	Undivided	170	1,270	A	160	1,270	A
Grantland Avenue	3	Shields Avenue and Dakota Avenue[2,3]	III	D	2	Super Arterial	Undivided	360	1,585	A	320	1,585	A
	4	Ashlan Avenue and Shaw Avenue[2,3]	III	D	2	Super Arterial	Undivided	800	1,585	A	720	1,585	A
	5	Barstow Avenue and Bullard Avenue[2]	III	D	2	Super Arterial	Raised	880	1,585	A	980	1,585	A
	6	**Bullard Avenue and Parkway Drive[2]**	**III**	**D**	**2**	**Super Arterial**	**Raised**	**1,880**	**1,585**	**E**	**1,890**	**1,585**	**E**
Bryan Avenue	7	Shields Avenue and Ashlan Avenue	III	D	2	Collector	Undivided	310	1,270	A	360	1,270	A
	8	Ashlan Avenue and Gettysburg Avenue[2]	III	D	3	Collector	Undivided	920	1,905	A	800	1,905	A
	9	Gettysburg Avenue and Shaw Avenue	III	D	2	Collector	Undivided	710	1,270	A	660	1,270	A
Veterans Boulevard	10	Barstow Avenue and Bullard Avenue	III	D	6	Super Arterial	Raised	3,040	4,910	A	3,640	4,910	A
Hayes Avenue	11	McKinley Avenue and Clinton Avenue	III	D	2	Collector	Undivided	740	1,270	A	650	1,270	A
	12	Clinton Avenue and Shields Avenue	III	D	2	Collector	Undivided	710	1,270	A	640	1,270	A
	13	Ashlan Avenue and Gettysburg Avenue	III	D	2	Collector	Undivided	870	1,270	A	920	1,270	B
	14	Gettysburg Avenue and Shaw Avenue	III	D	2	Collector	Undivided	900	1,270	B	920	1,270	B
Polk Avenue	15	Olive Avenue and McKinley Avenue	III	D	2	Arterial	Raised	260	1,640	A	330	1,640	A
	16	McKinley Avenue and Clinton Avenue	III	D	2	Arterial	Undivided	650	1,270	A	880	1,270	A
	17	Clinton Avenue and Shields Avenue	III	D	2	Arterial	Undivided	660	1,270	A	740	1,270	A
	18	**Dakota Avenue and Ashlan Avenue**	**III**	**D**	**2**	**Arterial**	**Undivided**	1,280	1,270	D	**1,510**	**1,270**	**F**
	19	Ashlan Avenue and Gettysburg Avenue	III	D	2	Arterial	Raised	1,020	1,640	A	1,250	1,640	B
Cornelia Avenue	**20**	**Clinton Avenue and Cortland Avenue**	**III**	**D**	**2**	**Collector**	**Undivided**	**1,480**	**1,270**	**E**	1,270	1,270	D
	21	Cortland Avenue and Dakota Avenue	III	D	2	Collector	Undivided	1,320	1,270	D	1,210	1,270	D
	22	Dakota Avenue and Griffith Way	III	D	2	Collector	TWLTL	1,300	1,550	C	1,160	1,550	B
	23	Griffith Way and Ashlan Avenue	III	D	2	Collector	TWLTL	1,270	1,550	C	960	1,550	A
Blythe Avenue	24	McKinley Avenue and Clinton Avenue[2]	III	D	3	Collector	Undivided	480	1,905	A	640	1,905	A
Brawley Avenue	25	Nielson Avenue and Belmont Avenue	III	D	2	Collector	Undivided	1,190	1,270	D	1,220	1,270	D
	26	Olive Avenue and McKinley Avenue	III	D	2	Collector	Undivided	1,090	1,270	C	1,230	1,270	D
	27	Clinton Avenue and Shields Avenue	III	D	2	Collector	Undivided	650	1,270	A	1,180	1,270	C
	28	Dakota Avenue and Parkway Drive	III	D	2	Collector	Undivided	910	1,270	B	910	1,270	B
	29	Shaw Avenue and San Jose Avenue	III	D	4	Arterial	Raised	1,770	3,470	A	2,030	3,470	A
Figarden Drive	**30**	**San Jose Avenue and Bullard Avenue**	**III**	**D**	**4**	**Arterial**	**Raised**	1,910	3,470	A	**3,820**	**3,470**	**F**
Marty Avenue	31	Shaw Avenue and San Jose Avenue	III	D	2	Collector	TWLTL	740	1,550	A	830	1,550	A
Valentine Avenue	32	Olive Avenue and McKinley Avenue	III	D	2	Collector	Undivided	220	1,270	A	340	1,270	A
	33	McKinley Avenue and Clinton Avenue	III	D	2	Collector	Undivided	400	1,270	A	510	1,270	A
Marks Avenue	34	Jensen Avenue and Church Avenue	III	D	2	Arterial	Undivided	250	1,270	A	250	1,270	A
	35	Church Avenue and California Avenue	III	D	2	Arterial	Undivided	230	1,270	A	290	1,270	A
	36	Kearney Avenue and Whitesbridge Avenue	III	D	2	Arterial	Raised	960	1,270	A	1,090	1,270	A
	37	Whitesbridge Avenue and SR-180 EB ramps	III	D	4	Arterial	Raised	1,020	3,470	A	1,280	3,470	A

Table 3.A: General Plan Build Out Roadway Segment Levels of Service Using Existing Configurations

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
	38	SR-180 WB ramps and Nielson Avenue	III	D	4	Arterial	Raised	1,040	3,470	A	1,380	3,470	A
	39	**Weber Avenue and Dakota Avenue**	**II**	**E**	**2**	**Arterial**	**Undivided**	**1,670**	**1,480**	**F**	**2,750**	**1,480**	**F**
	40	Ashlan Avenue and Emerson Avenue	II	E	4	Arterial	TWLTL	1,420	3,550	A	1,530	3,550	A
	41	Emerson Avenue and Shaw Avenue	II	E	4	Arterial	TWLTL	1,360	3,550	A	1,940	3,550	A
West Avenue	42	California Avenue and Kearney Avenue	II	E	2	Collector	Undivided	320	1,480	A	410	1,480	A
	43	McKinley Avenue and Clinton Avenue	II	E	4	Arterial	Raised	1,400	3,730	A	1,470	3,730	A
	44	Ashlan Avenue and Shaw Avenue	II	E	4	Arterial	Raised	2,060	3,730	A	1,930	3,730	A
Fruit Avenue	45	Barstow Avenue and Bullard Avenue	U	D	4	Collector	Undivided	130	2,740	A	940	2,740	A
Palm Avenue	46	Shields Avenue and Dakota Avenue	II	E	4	Collector	Undivided	1,150	2,980	A	1,730	2,980	A
	47	Ashlan Avenue and Gettysburg Avenue	U	D	4	Collector	Undivided	1,020	2,740	A	1,690	2,740	A
	48	Locust Avenue and Remington Avenue	III	D	4	Arterial	Raised	2,710	3,470	C	2,980	3,470	C
	49	Alluvial Avenue and Nees Avenue	III	D	4	Arterial	Raised	2,500	3,470	B	2,670	3,470	C
Audubon Drive	**50**	**Nees Avenue and Del Mar Avenue**	**III**	**D**	**2**	**Collector**	**TWLTL**	1,300	1,550	C	**1,650**	**1,550**	**E**
Maroa Avenue	51	Fedora Avenue and Dakota Avenue	II	E	2	Collector	Undivided	1,370	1,480	E	900	1,480	B
	52	Holland Avenue and Gettysburg Avenue	II	E	2	Collector	Undivided	1,350	1,480	E	1,080	1,480	C
	53	**Bullard Avenue and Sample Avenue**	**U**	**D**	**4**	**Collector**	**Undivided**	**2,810**	**2,740**	**E**	1,690	2,740	A
Elm Avenue	54	North Avenue and Jensen Avenue	IV	E	4	Arterial	Raised	490	3,730	A	830	3,730	A
	55	Jensen Avenue and Church Avenue	II	E	4	Arterial	Raised	640	3,730	A	910	3,730	A
G Street	56	Tulare Street and Fresno Street	I	F	4	Collector	Undivided	570	2,980	A	710	2,980	A
	57	Fresno Street and Tuolumne Street	I	F	4	Collector	TWLTL	710	3,550	A	550	3,550	A
Fulton Street	58	Tulare Street and Fresno Street	I	F	2	Collector	Undivided	190	1,480	A	200	1,480	A
Van Ness Avenue	59	Los Angeles Street & SR-41 ramps	I	F	4	Collector	Undivided	630	2,980	A	660	2,980	A
	60	Tulare Street and Fresno Street[3]	I	F	2	Collector	Raised	620	1,860	A	1,070	1,860	A
	61	Fresno Street and Tuolumne Street	I	F	2	Collector	Undivided	620	1,480	A	660	1,480	A
O Street	62	Tulare Street and Fresno Street	I	F	2	Collector	Undivided	460	1,480	A	570	1,480	A
	63	Fresno Street and Tuolumne Street	I	F	2	Collector	Undivided	530	1,480	A	560	1,480	A
Blackstone Avenue	64	Olive Avenue and McKinley Avenue	II	E	6	Arterial	Raised	1,810	5,610	A	3,120	5,610	A
	65	McKinley Avenue and Clinton Avenue	II	E	6	Arterial	Raised	1,700	5,610	A	2,360	5,610	A
	66	Dakota Avenue and Ashlan Avenue	II	E	6	Arterial	Raised	1,940	5,610	A	3,170	5,610	A
	67	Gettysburg Avenue and Shaw Avenue	II	E	6	Arterial	Raised	1,500	5,610	A	2,750	5,610	A
	68	Bullard Avenue and Sierra Avenue	II	E	6	Arterial	Raised	2,010	5,610	A	2,750	5,610	A
	69	Alluvial Avenue and Nees Avenue	III	D	6	Arterial	Raised	1,140	5,270	A	2,320	5,270	A
Friant Road	**70**	**SR-41 SB off-ramp and SR-41 NB off-ramp**	**III**	**D**	**6**	**Super Arterial**	**Raised**	5,420	4,910	D	**6,360**	**4,910**	**F**
	71	**SR-41 NB off-ramp and Audubon Drive**	**III**	**D**	**6**	**Super Arterial**	**Raised**	**5,720**	**4,910**	**E**	**6,650**	**4,910**	**F**
	72	**Audubon Drive and Shepherd Avenue**	**III**	**D**	**6**	**Expressway**	**Raised**	**5,880**	**6,170**	**E**	**6,640**	**6,170**	**F**
	73	Copper Avenue and Willow Avenue	III	D	4	Expressway	Raised	1,780	4,050	A	1,250	4,050	A
First Street	74	McKinley Avenue and Clinton Avenue	II	E	4	Arterial	Raised	2,120	3,730	A	2,350	3,730	B

Table 3.A: General Plan Build Out Roadway Segment Levels of Service Using Existing Configurations

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
	75	Shields Avenue and Dakota Avenue	II	E	4	Arterial	Raised	1,320	3,730	A	2,290	3,730	B
	76	Ashlan Avenue and Gettysburg Avenue	II	E	4	Arterial	Raised	1,310	3,730	A	2,170	3,730	A
	77	Barstow Avenue and Bullard Avenue	II	E	4	Arterial	Raised	1,350	3,730	A	2,330	3,730	B
	78	Bullard Avenue and Herndon Avenue	II	E	4	Arterial	Raised	1,230	3,730	A	2,150	3,730	A
	79	Herndon Avenue and Alluvial Avenue	III	D	4	Arterial	Raised	1,910	3,470	A	2,620	3,470	C
	80	Nees Avenue and Friant Road	III	D	4	Arterial	Raised	1,300	3,470	A	1,760	3,470	A
East Avenue	81	North Avenue and Jensen Avenue	IV	E	2	Collector	Undivided	220	1,480	A	170	1,480	A
Cedar Avenue	82	American Avenue and Central Avenue	IV	E	2	Arterial	Undivided	380	1,480	A	380	1,480	A
	83	Jensen Avenue and Church Avenue	II	E	4	Arterial	Undivided	810	2,980	A	930	2,980	A
	84	Church Avenue and California Avenue	U	D	4	Arterial	Undivided	1,240	2,740	A	1,220	2,740	A
	85	Tulare Avenue and Belmont Avenue	I	F	4	Arterial	Undivided	2,280	2,980	C	2,320	2,980	C
	86	Olive Avenue and McKinley Avenue	II	E	4	Arterial	TWLTL	1,950	3,550	A	1,650	3,550	A
	87	Dakota Avenue and Ashlan Avenue	II	E	4	Arterial	Raised	2,220	3,730	A	3,040	3,730	D
	88	Ashlan Avenue and Gettysburg Avenue	II	E	4	Arterial	Raised	1,830	3,730	A	2,020	3,730	A
	89	Shaw Avenue and Barstow Avenue	II	E	4	Arterial	Raised	2,060	3,730	A	2,330	3,730	B
	90	Nees Avenue and Teague Avenue	III	D	4	Arterial	Raised	1,600	3,470	A	1,920	3,470	A
Maple Avenue	91	North Avenue and Jensen Avenue[2]	IV	E	3	Collector	Undivided	650	2,220	A	800	2,220	A
	92	Jensen Avenue and Church Avenue	III	D	4	Collector	Undivided	840	2,740	A	1,020	2,740	A
Chestnut Avenue	93	Jensen Avenue and Church Avenue	III	D	4	Arterial	Raised	980	3,470	A	1,080	3,470	A
	94	Kings Canyon Road and Tulare Avenue	II	E	4	Arterial	Raised	1,740	3,730	A	1,880	3,730	A
	95	Tulare Avenue and Belmont Avenue	II	E	4	Arterial	Raised	2,030	3,730	A	1,990	3,730	A
	96	Clinton Avenue and Shields Avenue	U	D	4	Arterial	Raised	1,500	3,470	A	1,540	3,470	A
	97	Bullard Avenue and Herndon Avenue	II	E	4	Collector	Undivided	1,290	2,980	A	1,830	2,980	B
	98	Herndon Avenue and Alluvial Avenue	III	D	4	Arterial	Raised	1,500	3,470	A	1,540	3,470	A
	99	Alluvial Avenue and Nees Avenue	III	D	4	Arterial	Raised	1,740	3,470	A	1,770	3,470	A
	100	Nees Avenue and Teague Avenue	III	D	4	Arterial	Raised	910	3,470	A	1,030	3,470	A
	101	Teague Avenue and Shepherd Avenue	III	D	4	Arterial	Raised	1,400	3,470	A	1,860	3,470	A
Willow Avenue	102	Herndon Avenue and Nees Avenue	III	D	5	Super Arterial	Raised	2,480	4,040	A	2,950	4,040	A
	103	Teague Avenue and Shepherd Avenue	III	D	5	Super Arterial	Raised	2,200	4,040	A	2,310	4,040	A
	104	Shepherd Avenue and Behymer Avenue	III	D	4	Super Arterial	Raised	2,220	3,170	A	2,800	3,170	B
	105	Behymer Avenue and Copper Avenue	III	D	4	Super Arterial	Raised	2,040	3,170	A	2,250	3,170	A
	106	Copper Avenue and Friant Road[2,3]	III	D	2	Super Arterial	Undivided	510	1,585	A	1,010	1,585	A
Peach Avenue	107	North Avenue and Jensen Avenue	III	D	2	Arterial	Undivided	470	1,270	A	480	1,270	A
	108	Butler Avenue and Kings Canyon Road	II	E	4	Arterial	Raised	2,020	3,730	A	1,880	3,730	A
	109	Tulare Avenue and Belmont Avenue	II	E	4	Arterial	Raised	2,080	3,730	A	2,210	3,730	A
	110	Olive Avenue and McKinley Avenue	II	E	4	Arterial	Raised	1,260	3,730	A	1,500	3,730	A
Minnewawa Avenue	111	Kings Canyon Road and Tulare Avenue	U	D	2	Collector	Undivided	160	1,270	A	290	1,270	A

Table 3.A: General Plan Build Out Roadway Segment Levels of Service Using Existing Configurations

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
Clovis Avenue	112	North Avenue and Jensen Avenue	III	D	4	Arterial	Raised	1,570	3,470	A	1,510	3,470	A
	113	Church Avenue and Butler Avenue	U	D	4	Arterial	Raised	2,370	3,470	B	2,400	3,470	B
	114	Kings Canyon Road and Tulare Avenue	II	E	6	Arterial	Raised	3,260	5,610	A	3,990	5,610	C
	115	Clinton Avenue and Shields Avenue	II	E	6	Arterial	Raised	3,010	5,610	A	2,950	5,610	A
Fowler Avenue	116	Jensen Avenue and Kings Canyon Road	III	D	2	Arterial	Undivided	860	1,270	A	590	1,270	A
	117	**Kings Canyon Road and Belmont Avenue**	**III**	**D**	**2**	**Arterial**	**Raised**	**2,150**	**1,640**	**F**	**1,810**	**1,640**	**E**
	118	**SR-180 WB ramps and Olive Avenue**	**III**	**D**	**2**	**Arterial**	**Undivided**	**2,250**	**1,270**	**F**	**1,930**	**1,270**	**F**
	119	**Olive Avenue and Clinton Avenue**	**III**	**D**	**2**	**Arterial**	**Undivided**	**1,390**	**1,270**	**E**	1,330	1,270	D
	120	Shields Avenue and Dakota Avenue[2]	III	D	3	Arterial	Undivided	1,320	1,905	A	1,100	1,905	A
Armstrong Avenue	121	Jensen Avenue and Church Avenue	III	D	2	Collector	Undivided	330	1,270	A	220	1,270	A
	122	Hamilton Avenue and Butler Avenue	III	D	4	Collector	Undivided	490	2,740	A	330	2,740	A
	123	Butler Avenue and Lane Avenue[2]	III	D	3	Collector	Undivided	550	1,905	A	380	1,905	A
	124	Belmont Avenue and Clinton Avenue	III	D	2	Collector	Undivided	770	1,270	A	500	1,270	A
	125	McKinley Avenue and Clinton Avenue	III	D	2	Collector	Undivided	990	1,270	B	960	1,270	B
	126	Shields Avenue and Dakota Avenue	III	D	4	Collector	TWLTL	1,330	3,290	A	1,230	3,290	A
Temperance Avenue	**127**	**California Avenue and Hamilton Avenue[2,3]**	**III**	**D**	**2**	**Super Arterial**	**Undivided**	**1,910**	**1,585**	**E**	**1,980**	**1,585**	**E**
	128	**Butler Avenue and Lowe Avenue[2,3]**	**III**	**D**	**2**	**Super Arterial**	**Undivided**	**3,870**	**1,585**	**F**	**3,580**	**1,585**	**F**
	129	**Kings Canyon Road and SR-180 EB ramps**	**III**	**D**	**5**	**Super Arterial**	**Raised**	3,930	4,040	C	**4,930**	**4,040**	**E**
	130	**Belmont Avenue and Olive Avenue[2,3]**	**III**	**D**	**2**	**Super Arterial**	**Undivided**	**1,950**	**1,585**	**E**	**2,050**	**1,585**	**E**
	131	**McKinley Avenue and Shields Avenue[2,3]**	**III**	**D**	**2**	**Super Arterial**	**Undivided**	**3,340**	**1,585**	**F**	**3,450**	**1,585**	**F**
	132	Shields Avenue and Dakota Avenue[2]	III	D	3	Super Arterial	Raised	1,340	2,380	A	1,090	2,380	A
	133	Dakota Avenue and Ashlan Avenue[2]	III	D	3	Super Arterial	Raised	1,530	2,380	A	840	2,380	A
De Wolf Avenue	134	Church Avenue and Butler Avenue	III	D	2	Collector	Undivided	350	1,270	A	260	1,270	A
Copper Avenue	135	Friant Road and Millbrook Avenue	III	D	4	Super Arterial	Raised	1,250	3,170	A	990	3,170	A
	136	Millbrook Avenue and Cedar Avenue	III	D	4	Super Arterial	Raised	2,050	3,170	A	1,630	3,170	A
	137	Cedar Avenue and Maple Avenue	III	D	4	Super Arterial	Raised	1,380	3,170	A	940	3,170	A
	138	Maple Avenue and Chestnut Avenue[2]	III	D	3	Super Arterial	Raised	1,140	2,380	A	920	2,380	A
Shepherd Avenue	139	Millbrook Avenue and Cedar Avenue	III	D	4	Arterial	Raised	1,950	3,470	A	2,460	3,470	B
	140	**Cedar Avenue and Maple Avenue**	**III**	**D**	**3**	**Arterial**	**Raised**	2,460	2,555	D	**2,740**	**2,555**	**E**
	141	Chestnut Avenue and Willow Avenue	III	D	4	Arterial	Raised	2,000	3,470	A	2,040	3,470	A
Nees Avenue	142	Audubon Drive and Millbrook Avenue	III	D	4	Arterial	Raised	1,280	3,470	A	1,510	3,470	A
	143	Cedar Avenue and Maple Avenue	III	D	4	Arterial	Raised	1,620	3,470	A	2,140	3,470	A
	144	Jordan Avenue and Paula Avenue	III	D	4	Arterial	Raised	1,230	3,470	A	2,300	3,470	B
Alluvial Avenue	145	Mansionette Drive and Pinedale Avenue	III	D	2	Collector	TWLTL	730	1,550	A	1,200	1,550	B
	146	Pinedale Avenue and Chestnut Avenue	III	D	2	Collector	TWLTL	710	1,550	A	1,540	1,550	D
	147	Chestnut Avenue and Willow Avenue	III	D	2	Collector	TWLTL	690	1,550	A	1,440	1,550	D
Herndon Avenue	148	Polk Avenue and Milburn Avenue	III	D	4	Expressway	Raised	2,840	4,050	B	3,210	4,050	C
	149	West Avenue and Fruit Avenue	III	D	6	Expressway	Raised	5,120	6,170	C	5,450	6,170	D

Table 3.A: General Plan Build Out Roadway Segment Levels of Service Using Existing Configurations

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
	150	Fruit Avenue and Palm Avenue	III	D	6	Expressway	Raised	5,170	6,170	C	5,380	6,170	D
	151	Blackstone Avenue and SR-41 SB ramps	III	D	6	Expressway	Raised	4,910	6,170	C	4,700	6,170	C
	152	First Street and Cedar Avenue	III	D	6	Expressway	Raised	4,770	6,170	C	4,930	6,170	C
	153	Cedar Avenue and Maple Avenue	III	D	6	Expressway	Raised	3,530	6,170	A	3,060	6,170	A
Sierra Avenue	154	Marks Avenue and Van Ness Avenue	II	E	2	Collector	Undivided	370	1,480	A	530	1,480	A
	155	West Avenue and Fruit Avenue	U	D	2	Collector	Undivided	690	1,270	A	810	1,270	A
	156	Throne Avenue and Palm Avenue	III	D	2	Collector	Undivided	490	1,270	A	810	1,270	A
Bullard Avenue	157	Garfield Avenue and Grantland Avenue	III	D	2	Collector	Undivided	50	1,270	A	40	1,270	A
	158	Grantland Avenue and Caspian Avenue	III	D	4	Collector	TWLTL	330	3,290	A	250	3,290	A
	159	West Avenue and Fruit Avenue	U	D	4	Arterial	Undivided	2,170	2,740	C	1,990	2,740	B
	160	Fruit Avenue and Palm Avenue	II	E	4	Arterial	Undivided	1,530	2,980	A	1,650	2,980	A
	161	Maroa Avenue and Blackstone Avenue	II	E	4	Arterial	TWLTL	2,140	3,550	B	2,390	3,550	B
	162	SR-41 NB ramps and Fresno Street	II	E	5	Arterial	Raised	2,950	4,670	B	2,810	4,670	B
	163	First Street and Cedar Avenue	II	E	4	Arterial	Raised	2,210	3,730	A	2,470	3,730	B
Barstow Avenue	164	Garfield Avenue and Grantland Avenue	III	D	2	Collector	Undivided	160	1,270	A	120	1,270	A
	165	Van Ness Boulevard and West Avenue	U	D	2	Collector	Undivided	400	1,270	A	750	1,270	A
	166	Fruit Avenue and Palm Avenue	U	D	2	Collector	TWLTL	470	1,550	A	770	1,550	A
Shaw Avenue	167	Garfield Avenue and Grantland Avenue	III	D	2	Arterial	Undivided	1,110	1,270	C	1,260	1,270	D
	168	Bryan Avenue and Hayes Avenue	III	D	2	Arterial	Undivided	1,290	1,270	D	1,310	1,270	D
	169	Hayes Avenue and Polk Avenue	III	D	2	Arterial	Undivided	1,250	1,270	D	1,100	1,270	C
	170	SR-99 NB ramps and Cornelia Avenue	III	D	4	Arterial	TWLTL	2,990	3,290	D	2,920	3,290	D
	171	Cornelia Avenue and Jennifer Avenue	III	D	4	Arterial	Raised	2,990	3,470	D	2,920	3,470	C
	172	Brawley Avenue and Marks Avenue	III	D	6	Arterial	Raised	2,310	5,270	A	3,340	5,270	A
	173	West Avenue and Fruit Avenue	II	E	6	Arterial	Raised	3,710	5,610	B	4,040	5,610	C
	174	Maroa Avenue and Blackstone Avenue	II	E	6	Arterial	Raised	4,710	5,610	D	5,570	5,610	E
	175	Fresno Street and First Street	II	E	6	Arterial	Raised	2,540	5,610	A	3,050	5,610	A
	176	First Street and Cedar Avenue	II	E	6	Arterial	Raised	2,810	5,610	A	3,810	5,610	B
Gettysburg Avenue	**177**	**Maple Avenue and Winery Avenue**	**II**	**E**	**2**	**Collector**	**TWLTL**	**4,030**	**1,760**	**F**	**4,330**	**1,760**	**F**
Ashlan Avenue	178	Bryan Avenue and Hayes Avenue	III	D	2	Arterial	Undivided	790	1,270	A	580	1,270	A
	179	Hayes Avenue and Polk Avenue	III	D	2	Arterial	Undivided	570	1,270	A	720	1,270	A
	180	**Cornelia Avenue and Blythe Avenue**	**III**	**D**	**4**	**Arterial**	**Raised**	2,870	3,470	C	**4,400**	**3,470**	**F**
	181	SR-99 SB ramps and Golden State Boulevard	III	D	4	Arterial	Raised	2,390	3,470	B	2,550	3,470	B
	182	Weber Avenue and Valentine Avenue	II	E	4	Arterial	Raised	2,090	3,730	A	2,540	3,730	B
	183	Fruit Avenue and Palm Avenue	U	D	2	Collector	Undivided	1,280	1,270	D	1,110	1,270	C
	184	Palm Avenue and Maroa Avenue	U	D	2	Collector	Undivided	1,120	1,270	C	1,020	1,270	B
	185	Maroa Avenue and Del Mar Avenue	U	D	2	Collector	Undivided	1,250	1,270	D	1,190	1,270	D
	186	Del Mar Avenue and Blackstone Avenue	II	E	4	Collector	Undivided	1,520	2,980	A	1,630	2,980	A

Table 3.A: General Plan Build Out Roadway Segment Levels of Service Using Existing Configurations

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
	187	Fresno Street and First Street	II	E	4	Arterial	Undivided	2,160	2,980	C	2,620	2,980	D
	188	Barton Avenue and SR-168 SB ramps	II	E	4	Arterial	Raised	2,530	3,730	B	3,110	3,730	D
	189	SR-168 NB ramps and Chestnut Avenue	II	E	4	Arterial	Raised	2,090	3,730	A	2,400	3,730	B
Dakota Avenue	190	Marks Avenue and Hughes Avenue	II	E	2	Collector	Undivided	170	1,480	A	1,170	1,480	C
	191	West Avenue and Fruit Avenue	II	E	2	Collector	TWLTL	300	1,760	A	620	1,760	A
	192	Fruit Avenue and Palm Avenue	II	E	2	Collector	Undivided	150	1,480	A	730	1,480	A
	193	**Maroa Avenue and Del Mar Avenue**	**II**	**E**	**2**	**Collector**	**Undivided**	340	1,480	A	**2,150**	**1,480**	**F**
	194	**Angus Street and First Street**	**II**	**E**	**2**	**Collector**	**TWLTL**	600	1,760	A	**2,070**	**1,760**	**F**
	195	First Street and Millbrook Avenue	II	E	2	Collector	TWLTL	230	1,760	A	1,060	1,760	B
	196	Millbrook Avenue and Cedar Avenue	II	E	2	Collector	TWLTL	1,720	1,760	E	1,310	1,760	C
Shields Avenue	197	Garfield Avenue and Grantland Avenue	III	D	2	Collector	Undivided	370	1,270	A	240	1,270	A
	198	Grantland Avenue and Bryan Avenue	III	D	2	Collector	Undivided	340	1,270	A	250	1,270	A
	199	Brawley Avenue and Valentine Avenue	III	D	2	Collector	Undivided	1,310	1,270	D	980	1,270	B
	200	Fruit Avenue and Palm Avenue	II	E	4	Arterial	Undivided	1,190	2,980	A	1,800	2,980	B
	201	Peach Avenue and Clovis Avenue	II	E	4	Arterial	Raised	1,640	3,730	A	1,520	3,730	A
	202	Clovis Avenue and Fowler Avenue	II	E	4	Arterial	Raised	1,850	3,730	A	1,830	3,730	A
	203	Temperance Avenue and Locan Avenue	III	D	3	Arterial	Raised	1,150	2,555	A	830	2,555	A
	204	Locan Avenue and De Wolf Avenue	III	D	2	Collector	Undivided	870	1,270	A	570	1,270	A
Clinton Avenue	205	Grantland Avenue and Bryan Avenue	III	D	2	Collector	Undivided	40	1,270	A	150	1,270	A
	206	Bryan Avenue and Hayes Avenue	III	D	2	Collector	Undivided	300	1,270	A	230	1,270	A
	207	Hayes Avenue and Polk Avenue	III	D	2	Collector	Undivided	220	1,270	A	250	1,270	A
	208	Polk Avenue and Cornelia Avenue	III	D	2	Collector	Undivided	390	1,270	A	380	1,270	A
	209	Blythe Avenue and Brawley Avenue	III	D	4	Collector	TWLTL	860	3,290	A	950	3,290	A
	210	Valentine Avenue and Marks Avenue	III	D	2	Collector	TWLTL	1,120	1,550	B	1,220	1,550	B
	211	Weber Avenue and West Avenue	II	E	4	Collector	Undivided	720	2,980	A	2,430	2,980	D
	212	Fruit Avenue and Palm Avenue	II	E	4	Collector	Undivided	490	2,980	A	1,600	2,980	A
	213	Maroa Avenue and Blackstone Avenue	II	E	4	Collector	Undivided	410	2,980	A	1,910	2,980	B
	214	First Street and Cedar Avenue	U	D	4	Collector	Undivided	820	2,740	A	1,060	2,740	A
	215	Fowler Avenue and Armstrong Avenue	III	D	2	Collector	Undivided	460	1,270	A	320	1,270	A
	216	Armstrong Avenue and Temperance Avenue	III	D	2	Collector	Undivided	350	1,270	A	340	1,270	A
McKinley Avenue	217	Blythe Avenue and Valentine Avenue	III	D	2	Arterial	Undivided	1,250	1,270	D	1,270	1,270	D
	218	Marks Avenue and Hughes Avenue	I	F	2	Arterial	Undivided	1,770	1,480	F	1,660	1,480	F
	219	Fruit Avenue and Palm Avenue	II	E	4	Arterial	Undivided	1,580	2,980	A	1,310	2,980	A
	220	First Street and Cedar Avenue	II	E	4	Arterial	Raised	1,540	3,730	A	1,470	3,730	A
	221	Peach Avenue and Clovis Avenue	II	E	4	Arterial	Raised	1,130	3,730	A	1,010	3,730	A
Olive Avenue	222	Valentine Avenue and Marks Avenue	III	D	2	Collector	Undivided	480	1,270	A	670	1,270	A
	223	SR-99 NB ramps and West Avenue	I	F	4	Collector	TWLTL	880	3,550	A	1,720	3,550	A

Table 3.A: General Plan Build Out Roadway Segment Levels of Service Using Existing Configurations

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
	224	Van Ness Avenue and Blackstone Avenue	II	E	2	Collector	Undivided	930	1,480	B	1,140	1,480	C
	225	Fresno Street and First Street	II	E	4	Collector	Undivided	910	2,980	A	1,230	2,980	A
	226	Peach Avenue and Clovis Avenue	II	E	4	Collector	TWLTL	780	3,550	A	600	3,550	A
Belmont Avenue	227	Hayes Avenue and Cornelia Avenue	III	D	2	Collector	Undivided	540	1,270	A	780	1,270	A
	228	Marks Avenue and Hughes Avenue	III	D	4	Collector	Undivided	650	2,740	A	790	2,740	A
	229	Pacific Avenue and Fruit Avenue	I	F	4	Collector	Undivided	600	2,980	A	1,110	2,980	A
	230	Weber Avenue and Palm Avenue	II	E	4	Collector	Undivided	780	2,980	A	1,010	2,980	A
	231	Palm Avenue and Roosevelt Avenue	II	E	4	Collector	Undivided	1,160	2,980	A	1,380	2,980	A
	232	Abby Street and Fresno Street[3]	I	F	4	Collector	Raised	760	3,730	A	1,600	3,730	A
	233	Orchard Street and First Street[3]	I	F	4	Collector	Raised	1,070	3,730	A	1,560	3,730	A
	234	First Street and Cedar Avenue[3]	I	F	4	Collector	Raised	1,190	3,730	A	1,910	3,730	A
	235	Willow Avenue and Peach Avenue	U	D	4	Arterial	Raised	1,120	3,470	A	1,070	3,470	A
	236	Peach Avenue and Clovis Avenue	U	D	4	Arterial	Raised	750	3,470	A	830	3,470	A
	237	Clovis Avenue and Fowler Avenue	III	D	2	Arterial	Raised	810	1,640	A	860	1,640	A
	238	De Wolf Avenue and Fancher Avenue	III	D	2	Collector	Undivided	650	1,270	A	620	1,270	A
Divisadero Avenue	239	Roosevelt Avenue and H Street	I	F	2	Collector	Undivided	340	1,480	A	390	1,480	A
	240	Fulton Street and Van Ness Avenue	I	F	2	Collector	TWLTL	780	1,760	A	1,050	1,760	A
	241	San Pablo Avenue and Glen Avenue	I	F	2	Collector	TWLTL	860	1,760	A	840	1,760	A
Fresno Street	242	Palo Alto Avenue and Herndon Avenue[3]	III	D	4	Collector	Raised	1,080	3,470	A	1,490	3,470	A
	243	California Avenue and SR-99 SB ramps	I	F	4	Arterial	Raised	910	3,550	A	820	3,550	A
	244	SR-99 NB ramps and E Street	I	F	4	Arterial	Raised	1,280	3,730	A	1,650	3,730	A
Tulare Street	245	H Street and Van Ness Avenue	I	F	4	Collector	TWLTL	410	3,550	A	490	3,550	A
	246	Van Ness Avenue and M Street[3]	I	F	4	Collector	Raised	800	3,730	A	610	3,730	A
Ventura Street	247	SR-99 NB ramps and G Street	I	F	4	Arterial	Undivided	1,530	2,980	A	1,540	2,980	A
	248	G Street and Broadway Street	I	F	4	Arterial	Raised	1,720	3,730	A	1,940	3,730	A
	249	Van Ness Avenue and M Street	I	F	4	Arterial	Raised	1,790	3,730	A	1,020	3,730	A
	250	SR-41 and First Street	I	F	4	Arterial	Raised	1,870	3,730	A	2,290	3,730	B
Kings Canyon Road	251	Maple Avenue and Chestnut Avenue	II	E	4	Arterial	Raised	1,530	3,730	A	2,150	3,730	A
	252	Chestnut Avenue and Willow Avenue	II	E	4	Arterial	Raised	1,520	3,730	A	2,020	3,730	A
	253	Peach Avenue and Clovis Avenue	II	E	4	Arterial	Raised	2,000	3,730	A	3,050	3,730	D
	254	Clovis Avenue and Fowler Avenue	III	D	4	Arterial	Raised	1,370	3,470	A	2,020	3,470	A
	255	Fowler Avenue and Armstrong Avenue	III	D	4	Arterial	TWLTL	1,770	3,290	A	2,280	3,290	B
	256	**Armstrong Avenue and Temperance Avenue**	**III**	**D**	**2**	**Arterial**	**Undivided**	1,310	1,270	D	**1,460**	**1,270**	**E**
Butler Avenue	257	Hazelwood Boulevard and Orange Avenue	I	F	2	Collector	TWLTL	850	1,760	A	1,100	1,760	B
California Avenue	258	Marks Avenue and Hughes Avenue	III	D	2	Collector	Undivided	410	1,270	A	620	1,270	A
	259	Hughes Avenue and West Avenue	III	D	2	Collector	Undivided	630	1,270	A	770	1,270	A
Church Avenue	260	Marks Avenue and Hughes Avenue	III	D	2	Collector	Undivided	210	1,270	A	260	1,270	A

Table 3.A: General Plan Build Out Roadway Segment Levels of Service Using Existing Configurations

Roadway	#	Segment	TIZ	LOS Standard	Existing Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
	261	Orange Avenue and Cedar Avenue	U	D	4	Collector	Undivided	890	2,740	A	1,020	2,740	A
	262	Cedar Avenue and Maple Avenue[2]	III	D	3	Collector	Undivided	810	1,905	A	1,060	1,905	A
	263	Minnewawa Avenue and Clovis Avenue	III	D	4	Collector	TWLTL	910	3,290	A	650	3,290	A
Jensen Avenue	264	West Avenue and Fruit Avenue	III	D	2	Arterial	Undivided	770	1,270	A	840	1,270	A
	265	Walnut Avenue and MLK Boulevard	III	D	2	Arterial	Undivided	1,110	1,270	C	1,030	1,270	B
	266	Elm Avenue and SR-41 SB ramps	IV	E	4	Arterial	Raised	2,010	3,730	A	1,910	3,730	A
	267	Cedar Avenue and Maple Avenue	IV	E	4	Super Arterial	Raised	2,870	4,150	B	2,810	4,150	B
	268	Maple Avenue and Chestnut Avenue	IV	E	4	Super Arterial	Raised	2,580	4,150	B	2,350	4,150	A
	269	Chestnut Avenue and Willow Avenue	IV	E	4	Super Arterial	Raised	2,260	4,150	A	2,480	4,150	A
	270	Willow Avenue and Peach Avenue	III	D	4	Super Arterial	Raised	2,510	3,170	B	2,700	3,170	B
	271	Clovis Avenue and Fowler Avenue	III	D	4	Super Arterial	Raised	2,120	3,170	A	2,180	3,170	A
North Avenue	272	MLK Boulevard and Elm Avenue	IV	E	2	Arterial	Undivided	500	1,480	A	560	1,480	A
	273	Elm Avenue and SR-41 SB ramps	IV	E	2	Arterial	Undivided	1,230	1,480	D	1,320	1,480	D
	274	Cherry Avenue and East Avenue	IV	E	4	Arterial	TWLTL	870	3,550	A	1,000	3,550	A
	275	SR-99 NB ramp and Cedar Avenue	IV	E	2	Arterial	Undivided	1,220	1,480	D	1,210	1,480	D
	276	Cedar Avenue and Golden State Boulevard	IV	E	2	Arterial	Undivided	1,080	1,480	C	1,140	1,480	C
	277	Maple Avenue and Chestnut Avenue	IV	E	2	Arterial	Undivided	830	1,480	A	700	1,480	A
Central Avenue	278	East Avenue and Orange Avenue	IV	E	2	Arterial	Undivided	590	1,480	A	620	1,480	A
Golden State Boulevard	279	North Avenue and Cedar Avenue	IV	E	4	Arterial	Undivided	1,040	2,980	A	1,100	2,980	A
	280	Jensen Avenue and Church Avenue	IV	E	4	Arterial	Raised	1,270	3,730	A	940	3,730	A
	281	Motel Drive and Ashlan Avenue[3]	III	D	4	Collector	Raised	1,310	3,470	A	1,570	3,470	A
	282	**Swift Avenue and Shaw Avenue**	**III**	**D**	**2**	**Collector**	**Undivided**	**1,810**	**1,270**	**F**	**1,880**	**1,270**	**F**

Notes:

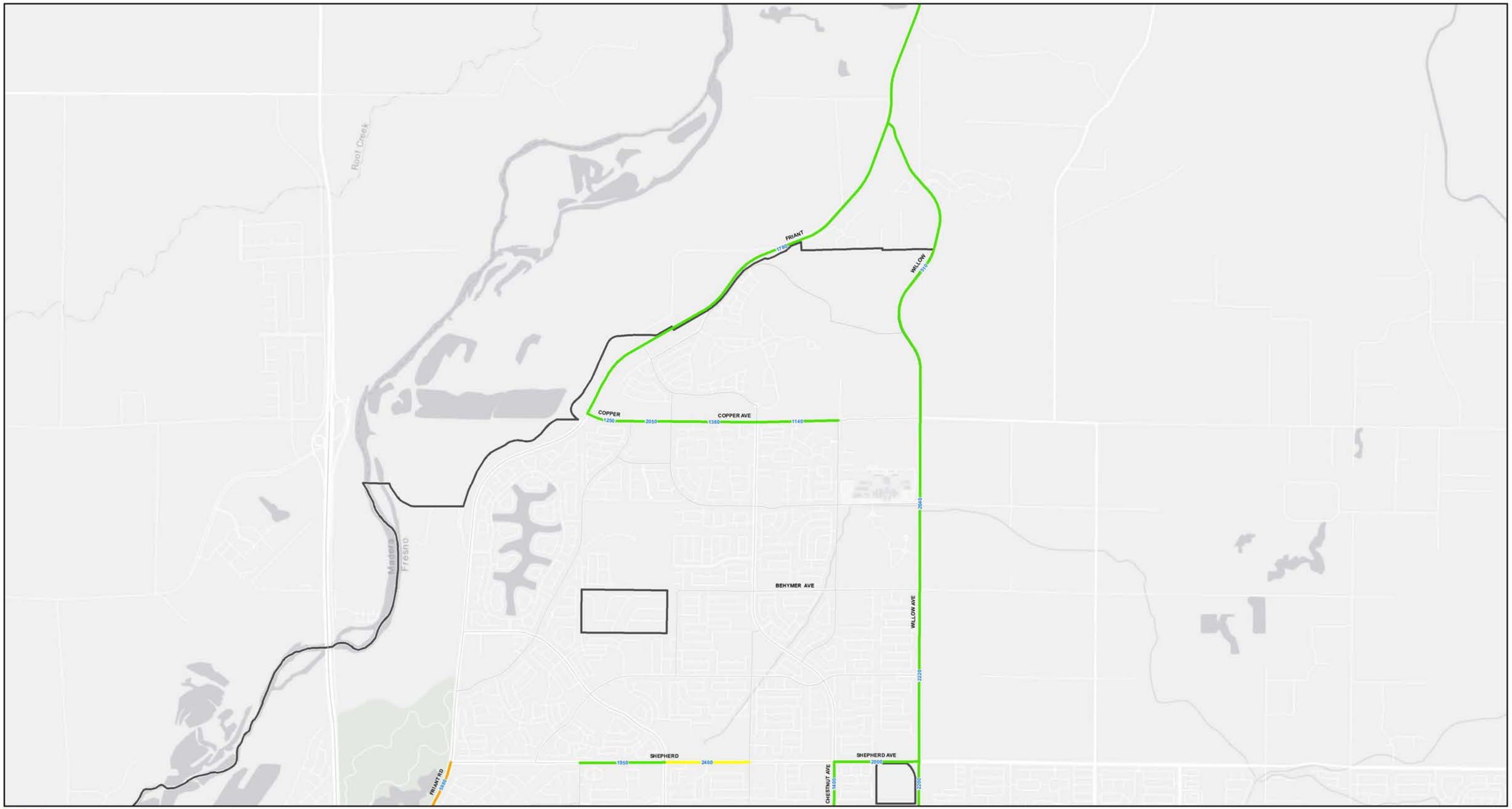
[1] Classifications referenced from Fresno General Plan Circulation Diagram (2014)

[2] Table 2.C does not provide the capacity for the segment (based on the number of lanes). The capacity per lane was calculated from dividing the available capacity in Table 2.C by the number of lanes.

[3] Table 2.C does not provide the capacity for the segment (based on the median type). The capacity was assumed to be equal to the available capacity in Table 2.C based on the number of lanes (with different median types).

U: Unincorporated Fresno County

Bold and shading indicate deficient segments.



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SOURCE: City of Fresno

0 1500 3000
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Figure 3.1 (Page 1 of 7)

General Plan (2035) Roadway Segment Levels of Service Using Existing Configurations - AM Peak Hour

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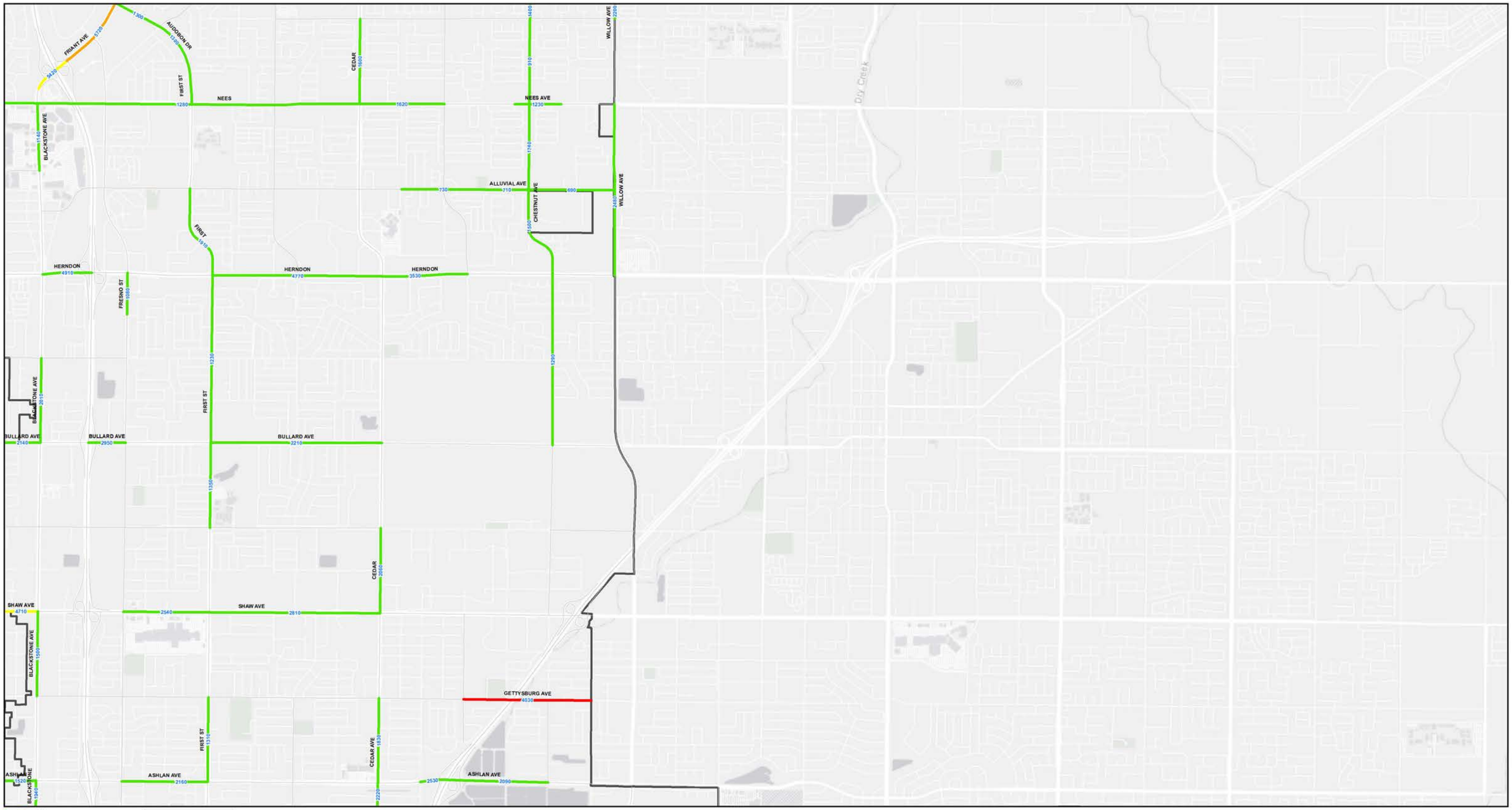

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SOURCE: City of Fresno

City of FRESNO

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Figure 3.1 (Page 2 of 7)

General Plan (2035) Roadway Segment Levels of Service Using Existing Configurations - AM Peak Hour

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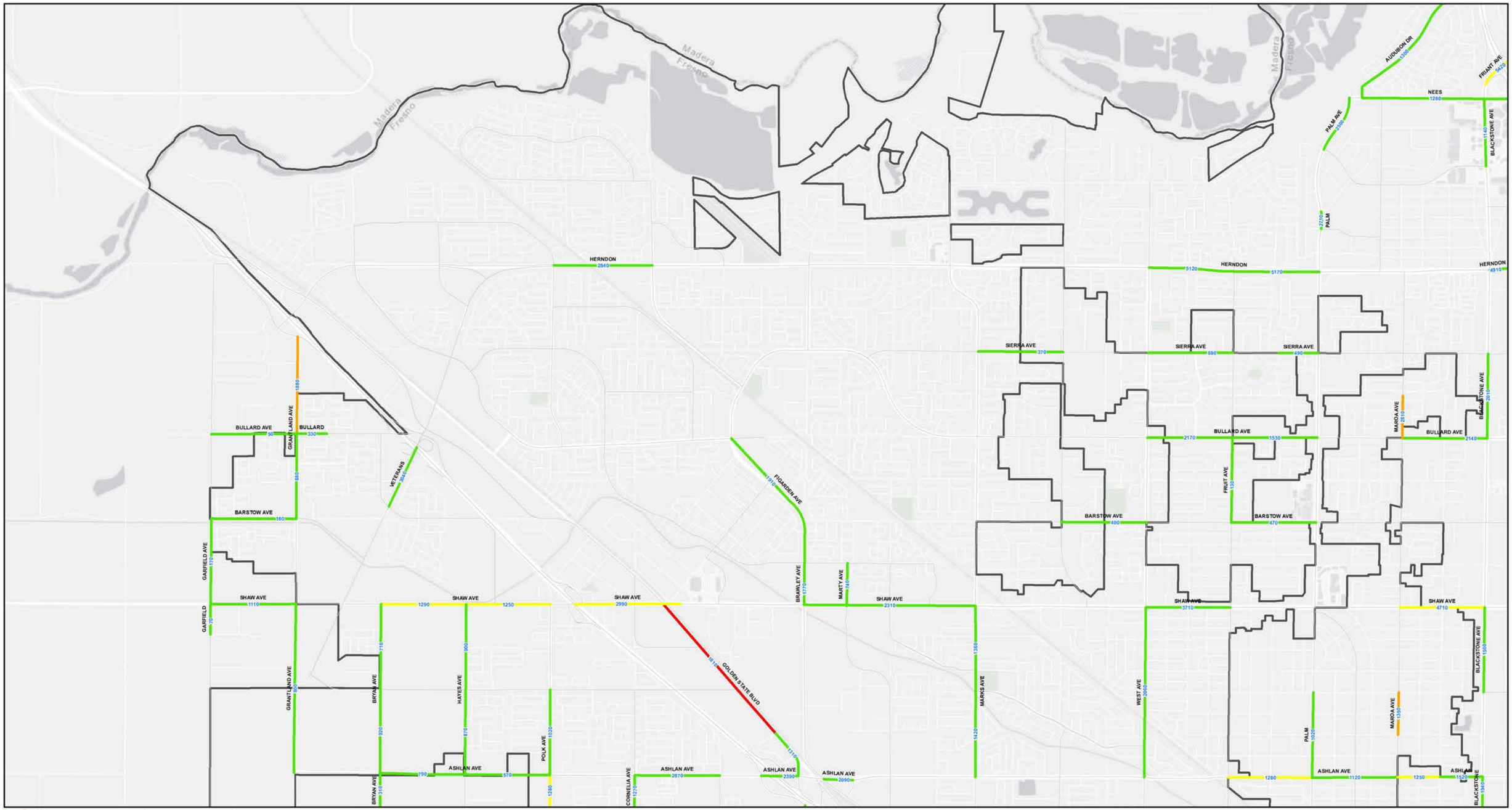

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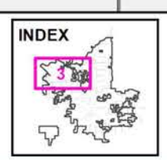

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XXX A.M. Peak Hour Volumes

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SOURCE: City of Fresno

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Figure 3.1 (Page 3 of 7)

General Plan (2035) Roadway Segment Levels of Service Using Existing Configurations - AM Peak Hour

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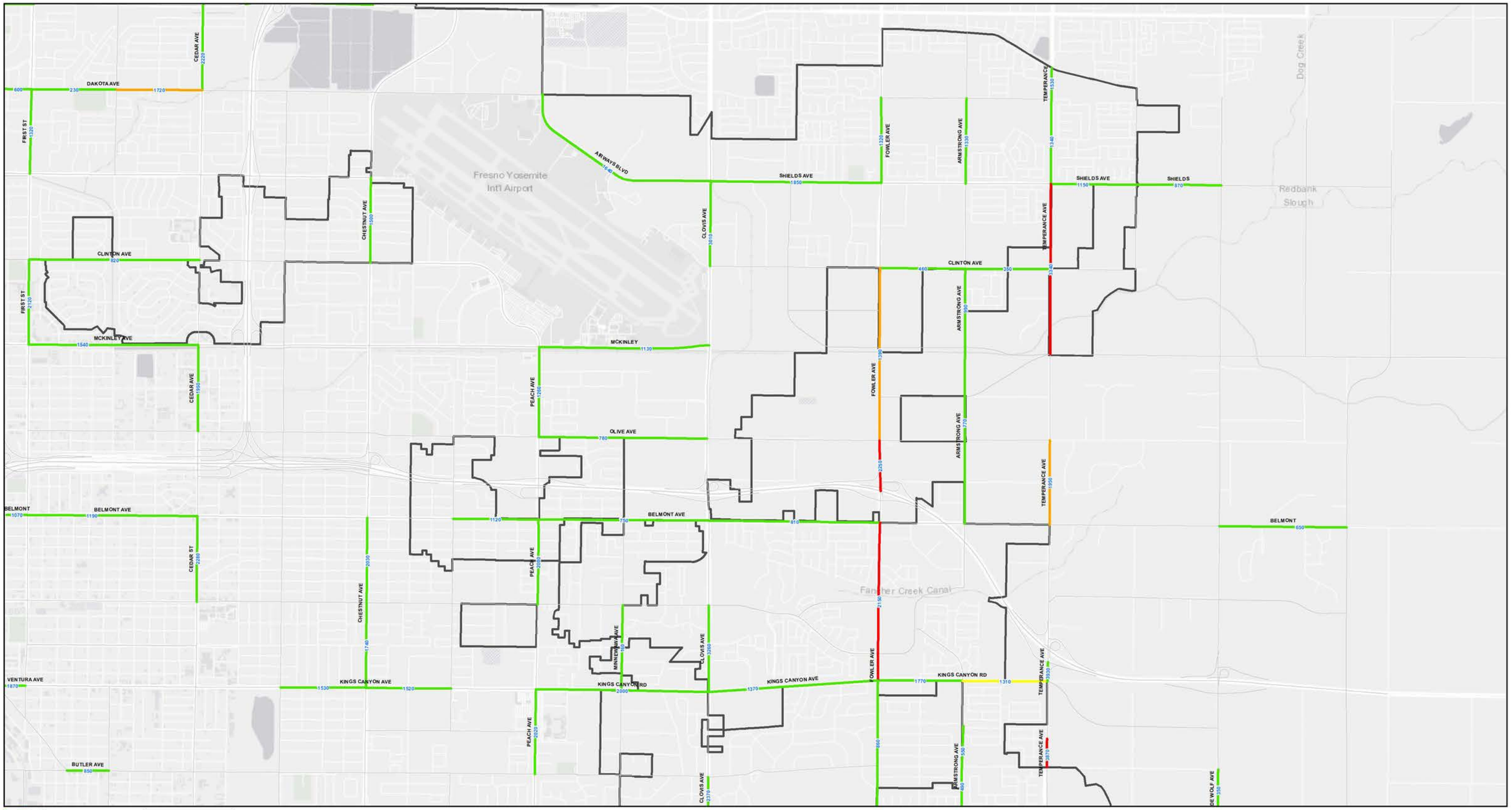

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General Plan (2035) Roadway Segment Levels of Service Using Existing Configurations - AM Peak Hour

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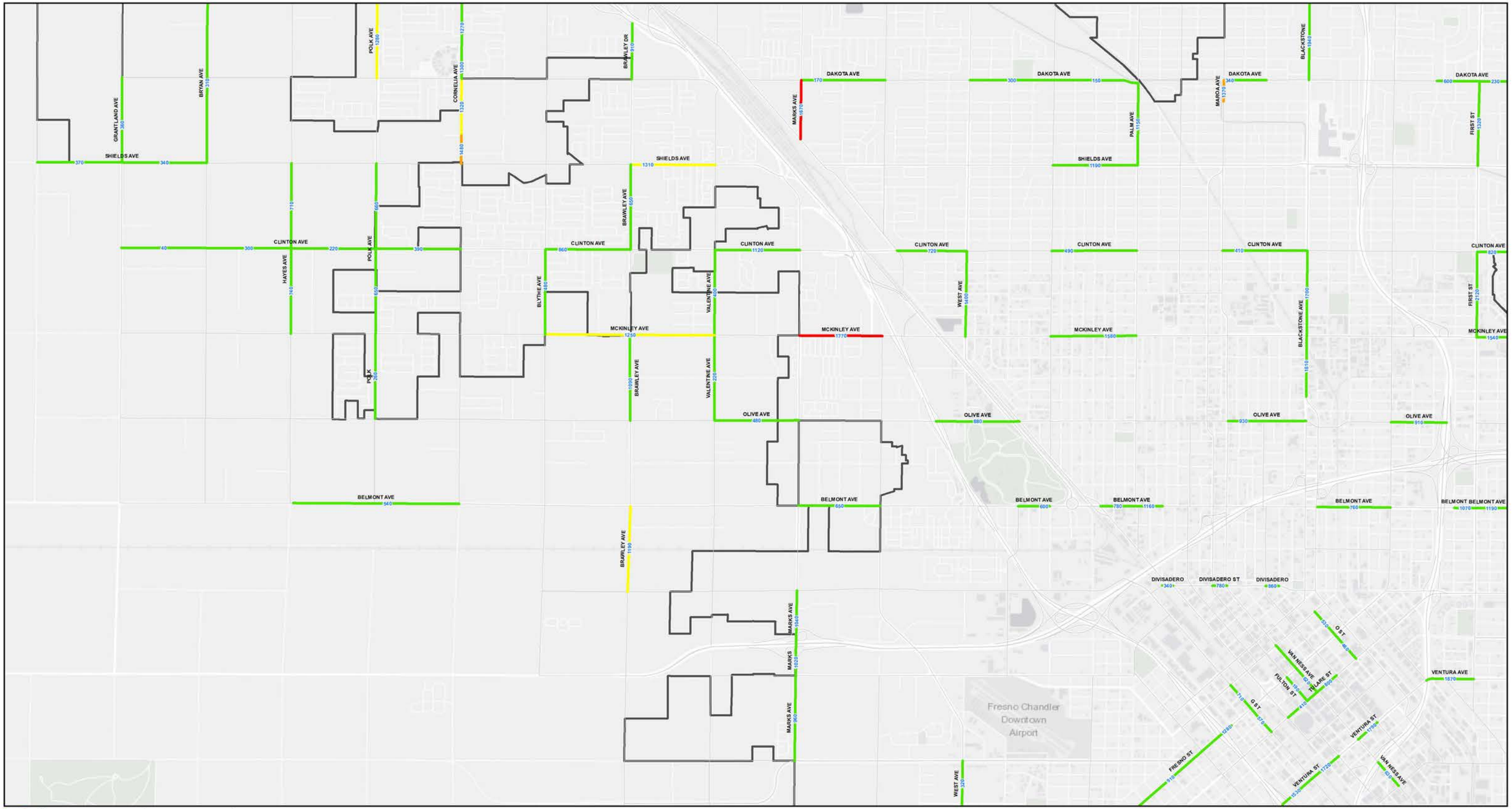

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Figure 3.1 (Page 5 of 7)

General Plan (2035) Roadway Segment Levels of Service Using Existing Configurations - AM Peak Hour

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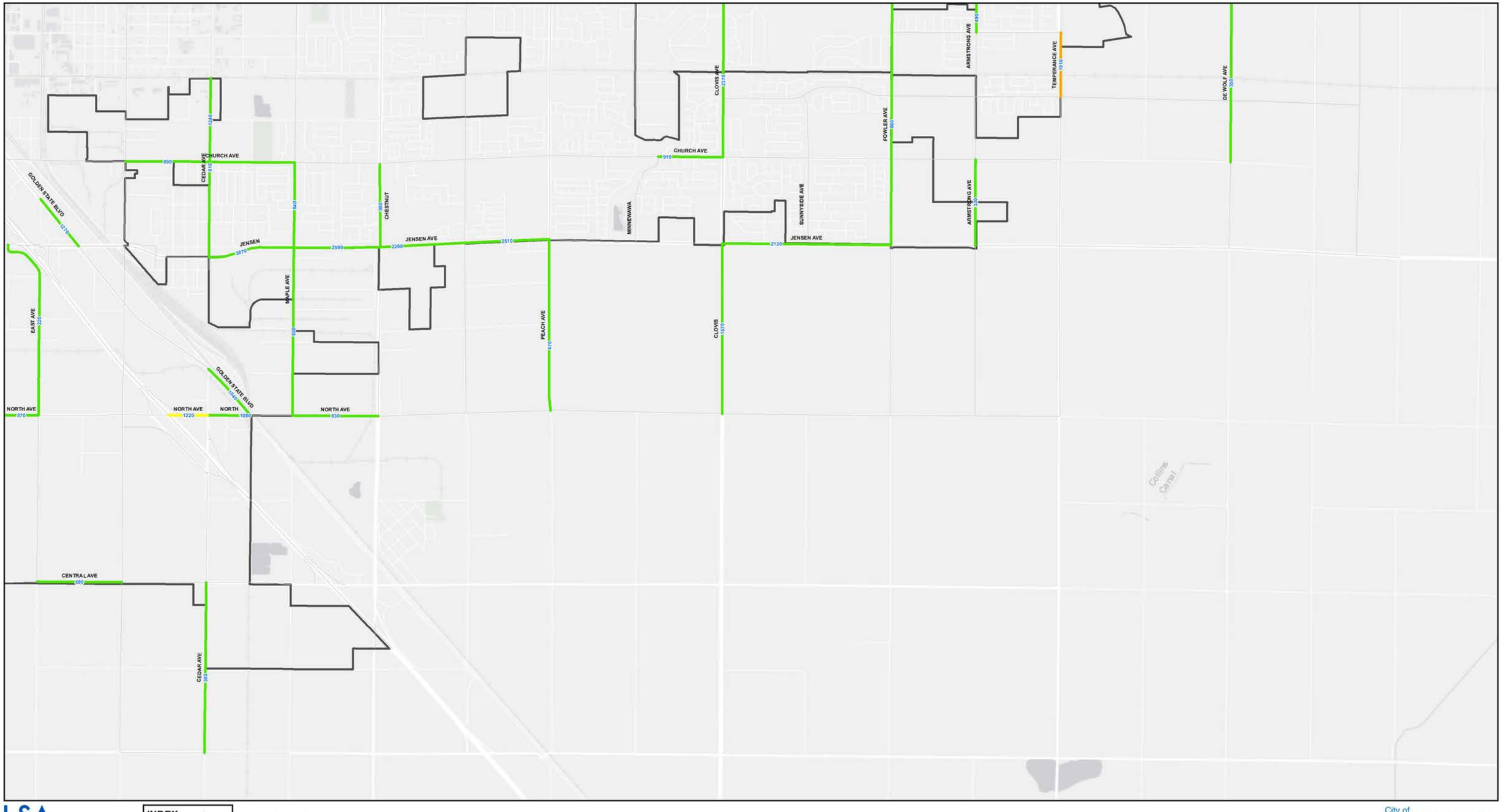

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Figure 3.1 (Page 6 of 7)

General Plan (2035) Roadway Segment Levels of Service Using Existing Configurations - AM Peak Hour

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SOURCE: City of Fresno

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General Plan (2035) Roadway Segment Levels of Service Using Existing Configurations - AM Peak Hour

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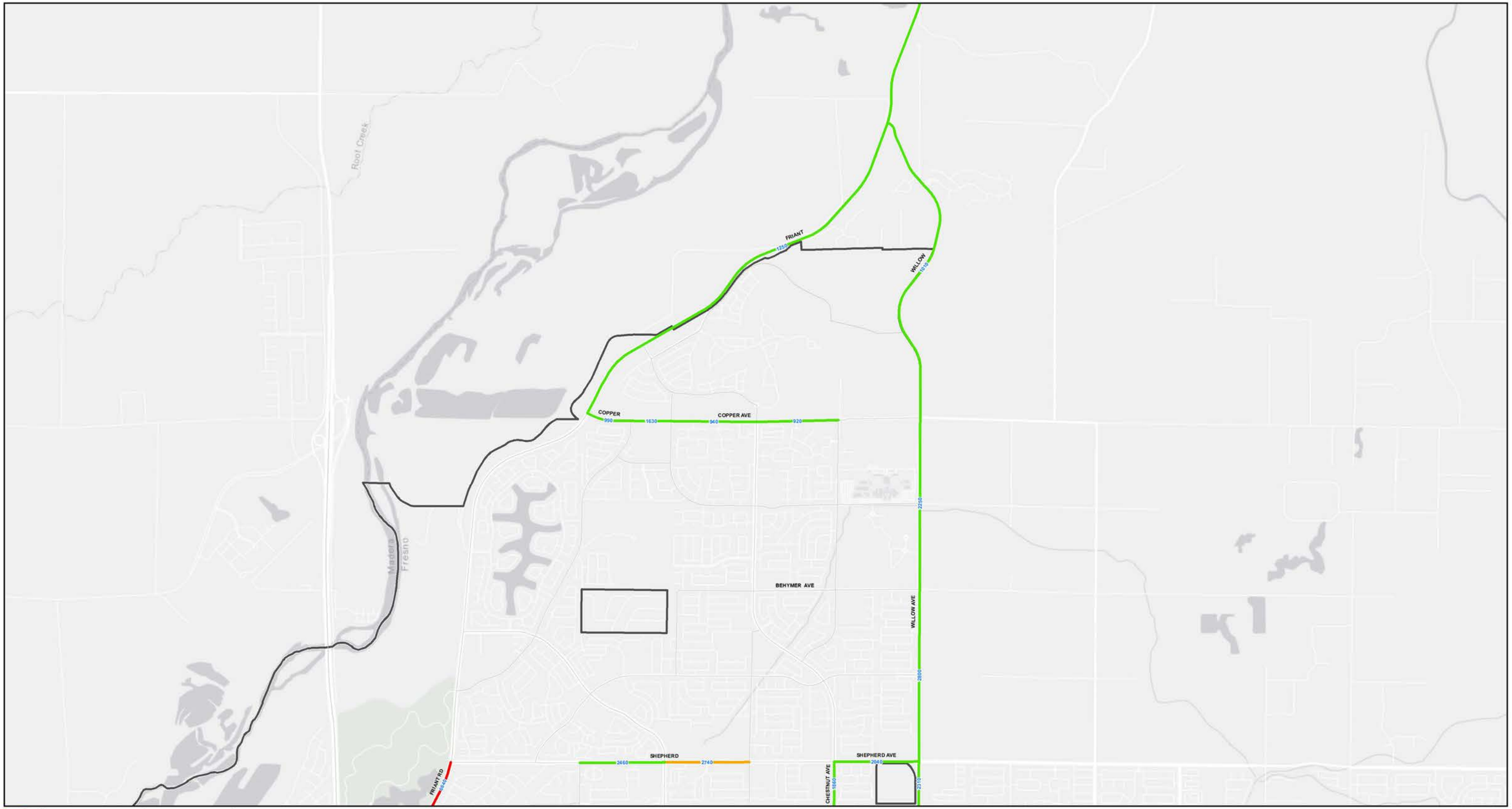

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SOURCE: City of Fresno

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Figure 3.2 (Page 1 of 7)

General Plan (2035) Roadway Segment Levels of Service Using Existing Configurations - PM Peak Hour

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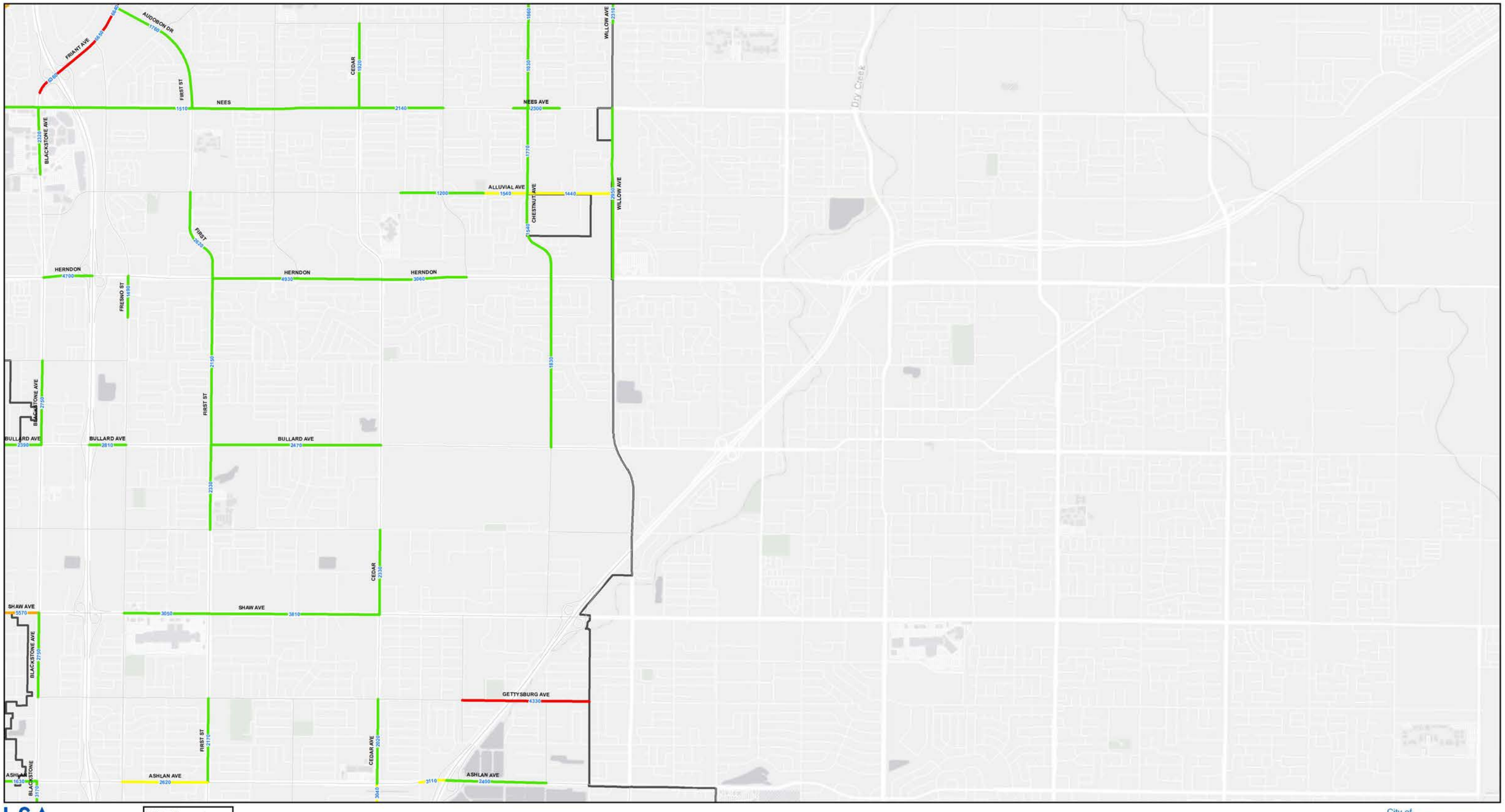

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SOURCE: City of Fresno

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General Plan (2035) Roadway Segment Levels of Service Using Existing Configurations - PM Peak Hour

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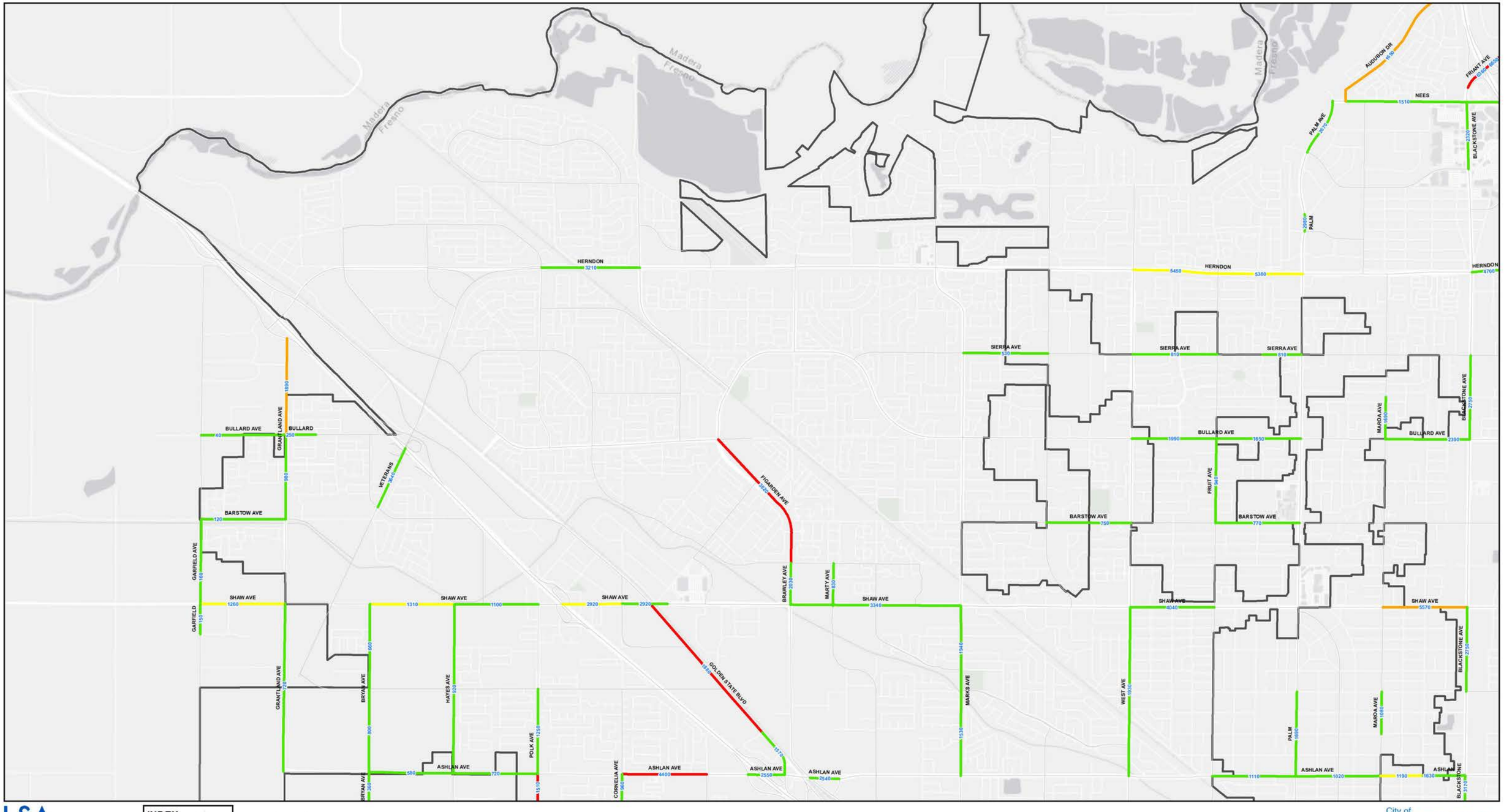

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XXX P.M. Peak Hour Volumes

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SOURCE: City of Fresno

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General Plan (2035) Roadway Segment Levels of Service Using Existing Configurations - PM Peak Hour

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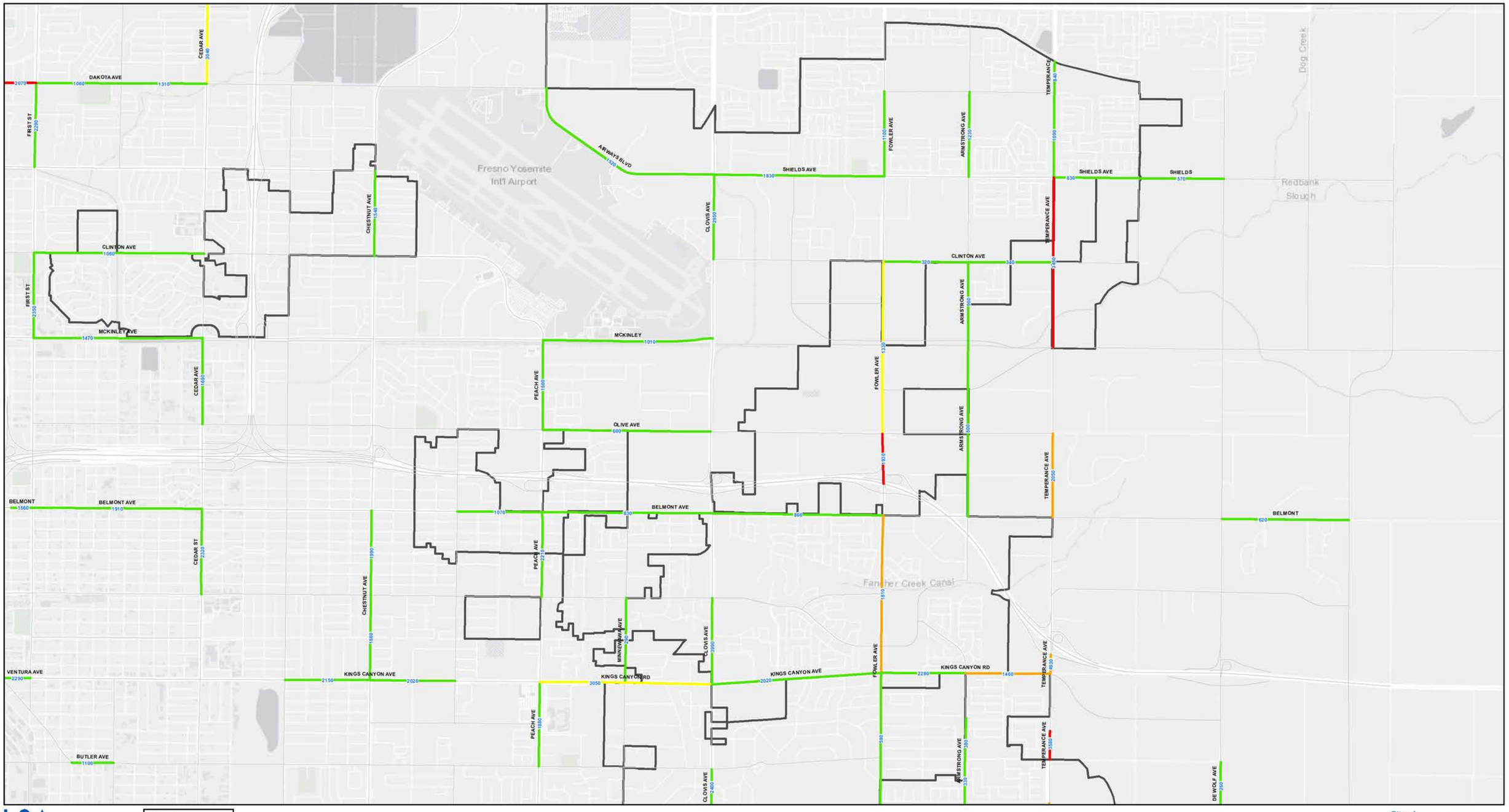

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General Plan (2035) Roadway Segment Levels of Service Using Existing Configurations - PM Peak Hour

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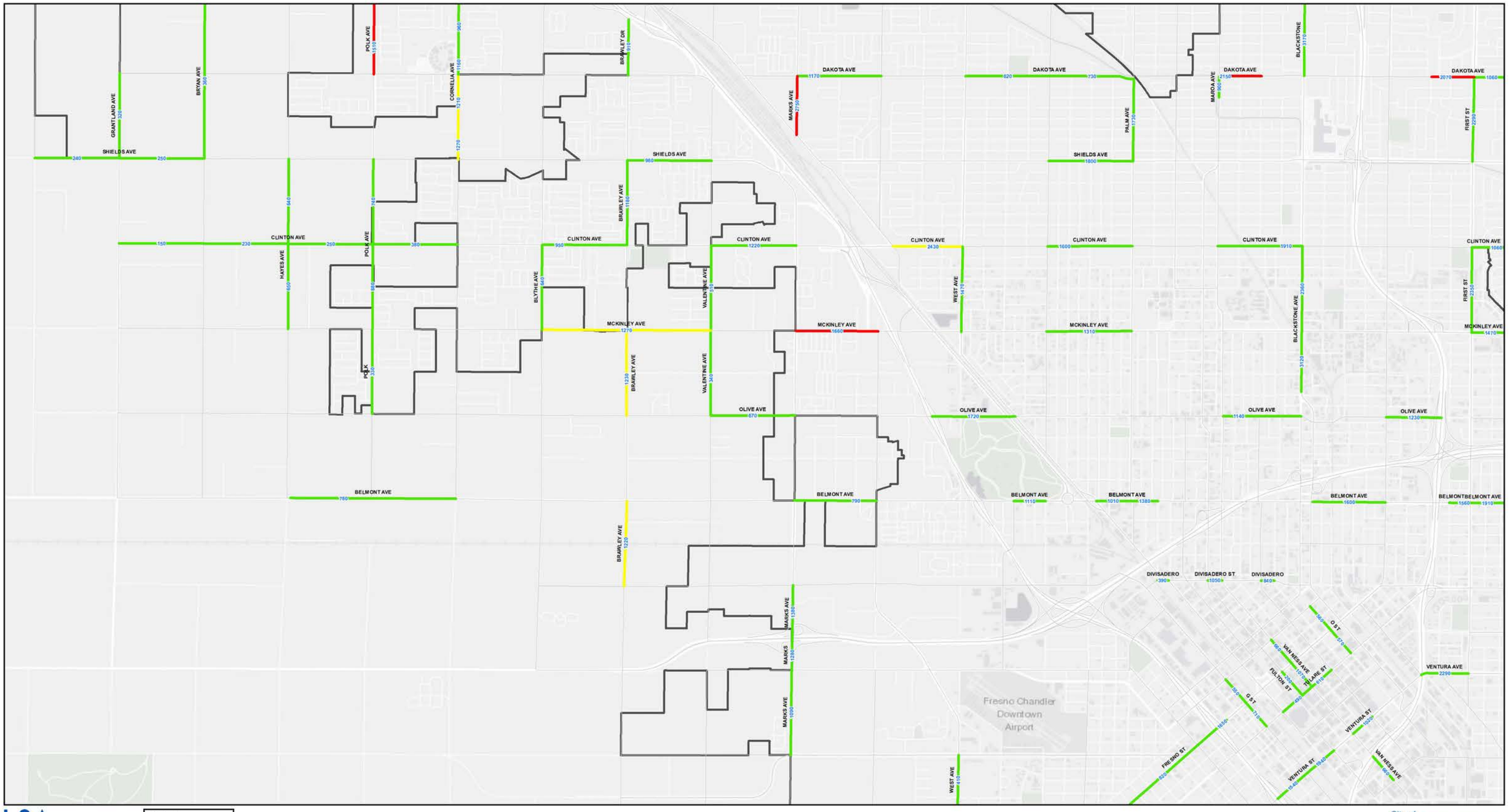

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General Plan (2035) Roadway Segment Levels of Service Using Existing Configurations - PM Peak Hour

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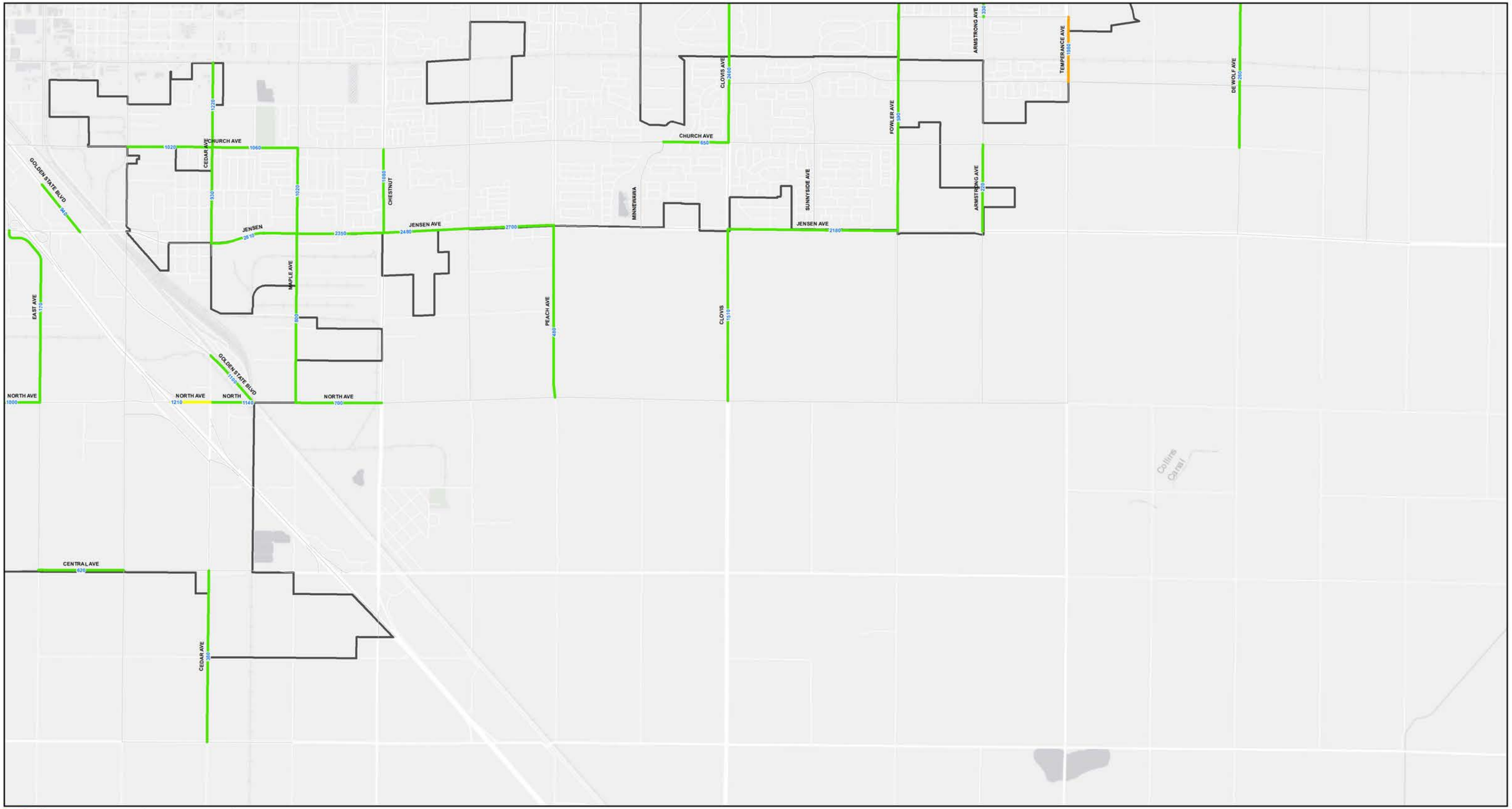

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General Plan (2035) Roadway Segment Levels of Service Using Existing Configurations - PM Peak Hour

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SOURCE: City of Fresno

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General Plan (2035) Roadway Segment Levels of Service Using Existing Configurations - PM Peak Hour

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CHAPTER 4 – General Plan (2035) Conditions with Circulation 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 Circulation 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 Circulation Element configuration implementation and reduction in congestion when the future Land Use Element may be built out.

The General Plan (2035) conditions include implementation of the Circulation Element configuration to the existing roadway network to reflect the City's Mobility goals. The Circulation 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 Circulation 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 Expressway 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 northwest of the City as a six-lane Super Arterial.

CHAPTER 4 – General Plan (2035) Conditions with Circulation Element

As such, the proposed configuration as included in the 2014 MEIR Circulation Element has been considered for all of the 282 analyzed roadway segments in this TIA.

Undeveloped Areas of Fresno

With implementation of the General Plan improvements, several of the deficient roadway segments will operate at satisfactory LOS. Figure 4.1 illustrates the Recommended General Plan Circulation System for the roadway segments analyzed in this TIA. The Circulation Element will provide satisfactory roadway performance, correlating the Land Use and Circulation Elements 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.

Fresno City Boundary

GP Roadway Segment Classification

- 2-Lane Collector
- 2-Lane Arterial
- 2-Lane Super Arterial
- 4-Lane Collector
- 4-Lane Arterial
- 4-Lane Super Arterial
- 4-Lane Expressway
- 5-Lane Collector
- 6-Lane Arterial
- 6-Lane Super Arterial
- 6-Lane Expressway

LSA

City of FRESNO

Fresno General Plan Program EIR
Traffic Impact Analysis

SOURCE: City of Fresno

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Figure 4.1
Study Area Roadway Segments - General Plan Classifications

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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 proposed General Plan Circulation Element. As shown in Table 4.A, with the implementation of the proposed General Plan Circulation 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 illustrates a comparison between the General Plan LOS with the existing roadway configurations and General Plan Circulation Element configurations. As shown in Table 4.B, after implementation of the General Plan Circulation Element, the number of deficient segments will be reduced from 21 segments to 12 segments. These 12 segments are forecast to continue to operate at a deficient LOS under General Plan (2035) conditions with the 2014 MEIR Circulation Element configuration. As such, the City will be overriding the deficiencies at these 12 segments for purposes of this program EIR.

Figure 4.2 (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 Circulation Element. Figure 4.3 (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 Circulation Element.

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Table 4.A: General Plan Build Out Roadway Segment Levels of Service with General Plan Configurations

Roadway	#	Segment	TIZ	LOS Standard	General Plan Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
Garfield Avenue	1	Fairmont Avenue and Shaw Avenue	III	D	2	Collector	Undivided	70	1,270	A	150	1,270	A
	2	Shaw Avenue and Barstow Avenue	III	D	2	Collector	Undivided	170	1,270	A	160	1,270	A
Grantland Avenue	3	Shields Avenue and Dakota Avenue[3]	III	D	4	Super Arterial	Undivided	360	3,170	A	320	3,170	A
	4	Ashlan Avenue and Shaw Avenue[3]	III	D	4	Super Arterial	Undivided	800	3,170	A	720	3,170	A
	5	Barstow Avenue and Bullard Avenue[2]	III	D	2	Super Arterial	Raised	880	1,585	A	980	1,585	A
	6	**Bullard Avenue and Parkway Drive[2]**	**III**	**D**	**2**	**Super Arterial**	**Raised**	**1,880**	**1,585**	**E**	**1,890**	**1,585**	**E**
Bryan Avenue	7	Shields Avenue and Ashlan Avenue	III	D	2	Collector	Undivided	310	1,270	A	360	1,270	A
	8	Ashlan Avenue and Gettysburg Avenue	III	D	2	Collector	Undivided	920	1,270	B	800	1,270	A
	9	Gettysburg Avenue and Shaw Avenue	III	D	2	Collector	Undivided	710	1,270	A	660	1,270	A
Veterans Boulevard	10	Barstow Avenue and Bullard Avenue	III	D	6	Super Arterial	Raised	3,040	4,910	A	3,640	4,910	A
Hayes Avenue	11	McKinley Avenue and Clinton Avenue	III	D	2	Collector	Undivided	740	1,270	A	650	1,270	A
	12	Clinton Avenue and Shields Avenue	III	D	2	Collector	Undivided	710	1,270	A	640	1,270	A
	13	Ashlan Avenue and Gettysburg Avenue	III	D	2	Collector	Undivided	870	1,270	A	920	1,270	B
	14	Gettysburg Avenue and Shaw Avenue	III	D	2	Collector	Undivided	900	1,270	B	920	1,270	B
Polk Avenue	15	Olive Avenue and McKinley Avenue	III	D	4	Arterial	Raised	260	3,470	A	330	3,470	A
	16	McKinley Avenue and Clinton Avenue	III	D	4	Arterial	Undivided	650	3,470	A	880	3,470	A
	17	Clinton Avenue and Shields Avenue	III	D	4	Arterial	Undivided	660	2,740	A	740	2,740	A
	18	Dakota Avenue and Ashlan Avenue	III	D	4	Arterial	Undivided	1,280	2,740	A	1,510	2,740	A
	19	Ashlan Avenue and Gettysburg Avenue	III	D	4	Arterial	Raised	1,020	3,470	A	1,250	3,470	A
Cornelia Avenue	**20**	**Clinton Avenue and Cortland Avenue**	**III**	**D**	**2**	**Collector**	**Undivided**	**1,480**	**1,270**	**E**	1,270	1,270	D
	21	Cortland Avenue and Dakota Avenue	III	D	2	Collector	Undivided	1,320	1,270	D	1,210	1,270	D
	22	Dakota Avenue and Griffith Way	III	D	2	Collector	TWLTL	1,300	1,550	C	1,160	1,550	B
	23	Griffith Way and Ashlan Avenue	III	D	2	Collector	TWLTL	1,270	1,550	C	960	1,550	A
Blythe Avenue	24	McKinley Avenue and Clinton Avenue	III	D	2	Collector	Undivided	480	1,270	A	640	1,270	A
Brawley Avenue	25	Nielson Avenue and Belmont Avenue	III	D	4	Collector	Undivided	1,190	2,740	A	1,220	2,740	A
	26	Olive Avenue and McKinley Avenue	III	D	4	Collector	Undivided	1,090	2,740	A	1,230	2,740	A
	27	Clinton Avenue and Shields Avenue	III	D	2	Collector	Undivided	650	1,270	A	1,180	1,270	C
	28	Dakota Avenue and Parkway Drive	III	D	2	Collector	Undivided	910	1,270	B	910	1,270	B
	29	Shaw Avenue and San Jose Avenue	III	D	4	Arterial	Raised	1,770	3,470	A	2,030	3,470	A
Figarden Drive	**30**	**San Jose Avenue and Bullard Avenue**	**III**	**D**	**4**	**Arterial**	**Raised**	1,910	3,470	A	**3,820**	**3,470**	**F**
Marty Avenue	31	Shaw Avenue and San Jose Avenue	III	D	2	Collector	TWLTL	740	1,550	A	830	1,550	A
Valentine Avenue	32	Olive Avenue and McKinley Avenue	III	D	2	Collector	Undivided	220	1,270	A	340	1,270	A
	33	McKinley Avenue and Clinton Avenue	III	D	2	Collector	Undivided	400	1,270	A	510	1,270	A
Marks Avenue	34	Jensen Avenue and Church Avenue	III	D	4	Arterial	Undivided	250	2,740	A	250	2,740	A
	35	Church Avenue and California Avenue	III	D	4	Arterial	Undivided	230	2,740	A	290	2,740	A
	36	Kearney Avenue and Whitesbridge Avenue	III	D	4	Arterial	Raised	960	3,470	A	1,090	3,470	A

Table 4.A: General Plan Build Out Roadway Segment Levels of Service with General Plan Configurations

Roadway	#	Segment	TIZ	LOS Standard	General Plan Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
	37	Whitesbridge Avenue and SR-180 EB ramps	III	D	4	Arterial	Raised	1,020	3,470	A	1,280	3,470	A
	38	SR-180 WB ramps and Nielson Avenue	III	D	4	Arterial	Raised	1,040	3,470	A	1,380	3,470	A
	39	Weber Avenue and Dakota Avenue	II	E	4	Arterial	Undivided	1,670	2,980	A	2,750	2,980	E
	40	Ashlan Avenue and Emerson Avenue	II	E	4	Arterial	TWLTL	1,420	3,550	A	1,530	3,550	A
	41	Emerson Avenue and Shaw Avenue	II	E	4	Arterial	TWLTL	1,360	3,550	A	1,940	3,550	A
West Avenue	42	California Avenue and Kearney Avenue	II	E	2	Collector	Undivided	320	1,480	A	410	1,480	A
	43	McKinley Avenue and Clinton Avenue	II	E	4	Arterial	Raised	1,400	3,730	A	1,470	3,730	A
	44	Ashlan Avenue and Shaw Avenue	II	E	4	Arterial	Raised	2,060	3,730	A	1,930	3,730	A
Fruit Avenue	45	Barstow Avenue and Bullard Avenue	U	D	4	Collector	Undivided	130	2,740	A	940	2,740	A
Palm Avenue	46	Shields Avenue and Dakota Avenue	II	E	4	Collector	Undivided	1,150	2,980	A	1,730	2,980	A
	47	Ashlan Avenue and Gettysburg Avenue	U	D	4	Collector	Undivided	1,020	2,740	A	1,690	2,740	A
	48	Locust Avenue and Remington Avenue	III	D	4	Arterial	Raised	2,710	3,470	C	2,980	3,470	C
	49	Alluvial Avenue and Nees Avenue	III	D	4	Arterial	Raised	2,500	3,470	B	2,670	3,470	C
Audubon Drive	**50**	**Nees Avenue and Del Mar Avenue**	**III**	**D**	**2**	**Collector**	**TWLTL**	1,300	1,550	C	**1,650**	**1,550**	**E**
Maroa Avenue	51	Fedora Avenue and Dakota Avenue	II	E	2	Collector	Undivided	1,370	1,480	E	900	1,480	B
	52	Holland Avenue and Gettysburg Avenue	II	E	2	Collector	Undivided	1,350	1,480	E	1,080	1,480	C
	53	**Bullard Avenue and Sample Avenue**	**U**	**D**	**2**	**Collector**	**Undivided**	**2,810**	**1,270**	**F**	**1,690**	**1,270**	**F**
Elm Avenue	54	North Avenue and Jensen Avenue	IV	E	4	Arterial	Raised	490	3,730	A	830	3,730	A
	55	Jensen Avenue and Church Avenue	II	E	4	Arterial	Raised	640	3,730	A	910	3,730	A
G Street	56	Tulare Street and Fresno Street	I	F	4	Collector	Undivided	570	2,980	A	710	2,980	A
	57	Fresno Street and Tuolumne Street	I	F	4	Collector	TWLTL	710	3,550	A	550	3,550	A
Fulton Street	58	Tulare Street and Fresno Street	I	F	2	Collector	Undivided	190	1,480	A	200	1,480	A
Van Ness Avenue	59	Los Angeles Street & SR-41 ramps	I	F	4	Collector	Undivided	630	2,980	A	660	2,980	A
	60	Tulare Street and Fresno Street[3]	I	F	2	Collector	Raised	620	1,860	A	1,070	1,860	A
	61	Fresno Street and Tuolumne Street	I	F	2	Collector	Undivided	620	1,480	A	660	1,480	A
O Street	62	Tulare Street and Fresno Street	I	F	2	Collector	Undivided	460	1,480	A	570	1,480	A
	63	Fresno Street and Tuolumne Street	I	F	2	Collector	Undivided	530	1,480	A	560	1,480	A
Blackstone Avenue	64	Olive Avenue and McKinley Avenue	II	E	6	Arterial	Raised	1,810	5,610	A	3,120	5,610	A
	65	McKinley Avenue and Clinton Avenue	II	E	6	Arterial	Raised	1,700	5,610	A	2,360	5,610	A
	66	Dakota Avenue and Ashlan Avenue	II	E	6	Arterial	Raised	1,940	5,610	A	3,170	5,610	A
	67	Gettysburg Avenue and Shaw Avenue	II	E	6	Arterial	Raised	1,500	5,610	A	2,750	5,610	A
	68	Bullard Avenue and Sierra Avenue	II	E	6	Arterial	Raised	2,010	5,610	A	2,750	5,610	A
	69	Alluvial Avenue and Nees Avenue	III	D	6	Arterial	Raised	1,140	5,270	A	2,320	5,270	A
Friant Road	**70**	**SR-41 SB off-ramp and SR-41 NB off-ramp**	**III**	**D**	**6**	**Super Arterial**	**Raised**	5,420	4,910	D	**6,360**	**4,910**	**F**
	71	**SR-41 NB off-ramp and Audubon Drive**	**III**	**D**	**6**	**Super Arterial**	**Raised**	**5,720**	**4,910**	**E**	**6,650**	**4,910**	**F**
	72	**Audubon Drive and Shepherd Avenue**	**III**	**D**	**6**	**Expressway**	**Raised**	**5,880**	**6,170**	**E**	**6,640**	**6,170**	**F**

Table 4.A: General Plan Build Out Roadway Segment Levels of Service with General Plan Configurations

Roadway	#	Segment	TIZ	LOS Standard	General Plan Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
	73	Copper Avenue and Willow Avenue	III	D	4	Expressway	Raised	1,780	4,050	A	1,250	4,050	A
First Street	74	McKinley Avenue and Clinton Avenue	II	E	4	Arterial	Raised	2,120	3,730	A	2,350	3,730	B
	75	Shields Avenue and Dakota Avenue	II	E	4	Arterial	Raised	1,320	3,730	A	2,290	3,730	B
	76	Ashlan Avenue and Gettysburg Avenue	II	E	4	Arterial	Raised	1,310	3,730	A	2,170	3,730	A
	77	Barstow Avenue and Bullard Avenue	II	E	4	Arterial	Raised	1,350	3,730	A	2,330	3,730	B
	78	Bullard Avenue and Herndon Avenue	II	E	4	Arterial	Raised	1,230	3,730	A	2,150	3,730	A
	79	Herndon Avenue and Alluvial Avenue	III	D	4	Arterial	Raised	1,910	3,470	A	2,620	3,470	C
	80	Nees Avenue and Friant Road	III	D	4	Arterial	Raised	1,300	3,470	A	1,760	3,470	A
East Avenue	81	North Avenue and Jensen Avenue	IV	E	2	Collector	Undivided	220	1,480	A	170	1,480	A
Cedar Avenue	82	American Avenue and Central Avenue	IV	E	2	Arterial	Undivided	380	1,480	A	380	1,480	A
	83	Jensen Avenue and Church Avenue	II	E	4	Arterial	Undivided	810	2,980	A	930	2,980	A
	84	Church Avenue and California Avenue	U	D	4	Arterial	Undivided	1,240	2,740	A	1,220	2,740	A
	85	Tulare Avenue and Belmont Avenue	I	F	4	Arterial	Undivided	2,280	2,980	C	2,320	2,980	C
	86	Olive Avenue and McKinley Avenue	II	E	4	Arterial	TWLTL	1,950	3,550	A	1,650	3,550	A
	87	Dakota Avenue and Ashlan Avenue	II	E	4	Arterial	Raised	2,220	3,730	A	3,040	3,730	D
	88	Ashlan Avenue and Gettysburg Avenue	II	E	4	Arterial	Raised	1,830	3,730	A	2,020	3,730	A
	89	Shaw Avenue and Barstow Avenue	II	E	4	Arterial	Raised	2,060	3,730	A	2,330	3,730	B
	90	Nees Avenue and Teague Avenue	III	D	4	Arterial	Raised	1,600	3,470	A	1,920	3,470	A
Maple Avenue	91	North Avenue and Jensen Avenue	IV	E	4	Collector	Undivided	650	2,980	A	800	2,980	A
	92	Jensen Avenue and Church Avenue	III	D	4	Collector	Undivided	840	2,740	A	1,020	2,740	A
Chestnut Avenue	93	Jensen Avenue and Church Avenue	III	D	4	Arterial	Raised	980	3,470	A	1,080	3,470	A
	94	Kings Canyon Road and Tulare Avenue	II	E	4	Arterial	Raised	1,740	3,730	A	1,880	3,730	A
	95	Tulare Avenue and Belmont Avenue	II	E	4	Arterial	Raised	2,030	3,730	A	1,990	3,730	A
	96	Clinton Avenue and Shields Avenue	U	D	4	Arterial	Raised	1,500	3,470	A	1,540	3,470	A
	97	Bullard Avenue and Herndon Avenue	II	E	4	Collector	Undivided	1,290	2,980	A	1,830	2,980	B
	98	Herndon Avenue and Alluvial Avenue	III	D	4	Arterial	Raised	1,500	3,470	A	1,540	3,470	A
	99	Alluvial Avenue and Nees Avenue	III	D	4	Arterial	Raised	1,740	3,470	A	1,770	3,470	A
	100	Nees Avenue and Teague Avenue	III	D	4	Arterial	Raised	910	3,470	A	1,030	3,470	A
	101	Teague Avenue and Shepherd Avenue	III	D	4	Arterial	Raised	1,400	3,470	A	1,860	3,470	A
Willow Avenue	102	Herndon Avenue and Nees Avenue	III	D	6	Super Arterial	Raised	2,480	4,910	A	2,950	4,910	A
	103	Teague Avenue and Shepherd Avenue	III	D	6	Super Arterial	Raised	2,200	4,910	A	2,310	4,910	A
	104	Shepherd Avenue and Behymer Avenue	III	D	6	Super Arterial	Raised	2,220	4,910	A	2,800	4,910	A
	105	Behymer Avenue and Copper Avenue	III	D	6	Super Arterial	Raised	2,040	4,910	A	2,250	4,910	A
	106	Copper Avenue and Friant Road[2,3]	III	D	2	Super Arterial	Undivided	510	1,585	A	1,010	1,585	A
Peach Avenue	107	North Avenue and Jensen Avenue	III	D	2	Arterial	Undivided	470	1,270	A	480	1,270	A
	108	Butler Avenue and Kings Canyon Road	II	E	4	Arterial	Raised	2,020	3,730	A	1,880	3,730	A
	109	Tulare Avenue and Belmont Avenue	II	E	4	Arterial	Raised	2,080	3,730	A	2,210	3,730	A

Table 4.A: General Plan Build Out Roadway Segment Levels of Service with General Plan Configurations

Roadway	#	Segment	TIZ	LOS Standard	General Plan Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
	110	Olive Avenue and McKinley Avenue	II	E	4	Arterial	Raised	1,260	3,730	A	1,500	3,730	A
Minnewawa Avenue	111	Kings Canyon Road and Tulare Avenue	U	D	2	Collector	Undivided	160	1,270	A	290	1,270	A
Clovis Avenue	112	North Avenue and Jensen Avenue	III	D	4	Arterial	Raised	1,570	3,470	A	1,510	3,470	A
	113	Church Avenue and Butler Avenue	U	D	4	Arterial	Raised	2,370	3,470	B	2,400	3,470	B
	114	Kings Canyon Road and Tulare Avenue	II	E	6	Arterial	Raised	3,260	5,610	A	3,990	5,610	C
	115	Clinton Avenue and Shields Avenue	II	E	6	Arterial	Raised	3,010	5,610	A	2,950	5,610	A
Fowler Avenue	116	Jensen Avenue and Kings Canyon Road	III	D	2	Arterial	Undivided	860	1,270	A	590	1,270	A
	117	Kings Canyon Road and Belmont Avenue	III	D	4	Arterial	Raised	2,150	3,470	A	1,810	3,470	A
	118	SR-180 WB ramps and Olive Avenue	III	D	4	Arterial	Undivided	2,250	2,740	C	1,930	2,740	B
	119	Olive Avenue and Clinton Avenue	III	D	4	Arterial	Undivided	1,390	2,740	A	1,330	2,740	A
	120	Shields Avenue and Dakota Avenue	III	D	4	Arterial	TWLTL	1,320	3,290	A	1,100	3,290	A
Armstrong Avenue	121	Jensen Avenue and Church Avenue	III	D	4	Collector	Undivided	330	2,740	A	220	2,740	A
	122	Hamilton Avenue and Butler Avenue	III	D	4	Collector	Undivided	490	2,740	A	330	2,740	A
	123	Butler Avenue and Lane Avenue	III	D	4	Collector	Undivided	550	2,740	A	380	2,740	A
	124	Belmont Avenue and Clinton Avenue	III	D	2	Collector	Undivided	770	1,270	A	500	1,270	A
	125	McKinley Avenue and Clinton Avenue	III	D	2	Collector	Undivided	990	1,270	B	960	1,270	B
	126	Shields Avenue and Dakota Avenue	III	D	2	Collector	Undivided	1,330	1,270	D	1,230	1,270	D
Temperance Avenue	127	California Avenue and Hamilton Avenue[3]	III	D	6	Super Arterial	Undivided	1,910	4,910	A	1,980	4,910	A
	128	Butler Avenue and Lowe Avenue[3]	III	D	6	Super Arterial	Undivided	3,870	4,910	B	3,580	4,910	A
	129	Kings Canyon Road and SR-180 EB ramps	III	D	6	Super Arterial	Raised	3,930	4,910	B	4,930	4,910	C
	130	Belmont Avenue and Olive Avenue[3]	III	D	6	Super Arterial	Undivided	1,950	4,910	A	2,050	4,910	A
	131	McKinley Avenue and Shields Avenue[3]	III	D	6	Super Arterial	Undivided	3,340	4,910	A	3,450	4,910	A
	132	Shields Avenue and Dakota Avenue	III	D	6	Super Arterial	Raised	1,340	4,910	A	1,090	4,910	A
	133	Dakota Avenue and Ashlan Avenue	III	D	6	Super Arterial	Raised	1,530	4,910	A	840	4,910	A
De Wolf Avenue	134	Church Avenue and Butler Avenue	III	D	2	Collector	Undivided	350	1,270	A	260	1,270	A
Copper Avenue	135	Friant Road and Millbrook Avenue	III	D	4	Super Arterial	Raised	1,250	3,170	A	990	3,170	A
	136	Millbrook Avenue and Cedar Avenue	III	D	4	Super Arterial	Raised	2,050	3,170	A	1,630	3,170	A
	137	Cedar Avenue and Maple Avenue	III	D	4	Super Arterial	Raised	1,380	3,170	A	940	3,170	A
	138	Maple Avenue and Chestnut Avenue[2]	III	D	2	Super Arterial	Raised	1,140	1,585	A	920	1,585	A
Shepherd Avenue	139	Millbrook Avenue and Cedar Avenue	III	D	4	Arterial	Raised	1,950	3,470	A	2,460	3,470	B
	140	Cedar Avenue and Maple Avenue	III	D	4	Arterial	Raised	2,460	3,470	B	2,740	3,470	C
	141	Chestnut Avenue and Willow Avenue	III	D	4	Arterial	Raised	2,000	3,470	A	2,040	3,470	A
Nees Avenue	142	Audubon Drive and Millbrook Avenue	III	D	4	Arterial	Raised	1,280	3,470	A	1,510	3,470	A
	143	Cedar Avenue and Maple Avenue	III	D	4	Arterial	Raised	1,620	3,470	A	2,140	3,470	A
	144	Jordan Avenue and Paula Avenue	III	D	4	Arterial	Raised	1,230	3,470	A	2,300	3,470	B
Alluvial Avenue	145	Mansionette Drive and Pinedale Avenue	III	D	2	Collector	TWLTL	730	1,550	A	1,200	1,550	B
	146	Pinedale Avenue and Chestnut Avenue	III	D	2	Collector	TWLTL	710	1,550	A	1,540	1,550	D

Table 4.A: General Plan Build Out Roadway Segment Levels of Service with General Plan Configurations

Roadway	#	Segment	TIZ	LOS Standard	General Plan Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
	147	Chestnut Avenue and Willow Avenue	III	D	2	Collector	TWLTL	690	1,550	A	1,440	1,550	D
Herndon Avenue	148	Polk Avenue and Milburn Avenue	III	D	6	Expressway	Raised	2,840	6,170	A	3,210	6,170	A
	149	West Avenue and Fruit Avenue	III	D	6	Expressway	Raised	5,120	6,170	C	5,450	6,170	D
	150	Fruit Avenue and Palm Avenue	III	D	6	Expressway	Raised	5,170	6,170	C	5,380	6,170	D
	151	Blackstone Avenue and SR-41 SB ramps	III	D	6	Expressway	Raised	4,910	6,170	C	4,700	6,170	C
	152	First Street and Cedar Avenue	III	D	6	Expressway	Raised	4,770	6,170	C	4,930	6,170	C
	153	Cedar Avenue and Maple Avenue	III	D	6	Expressway	Raised	3,530	6,170	A	3,060	6,170	A
Sierra Avenue	154	Marks Avenue and Van Ness Avenue	II	E	2	Collector	Undivided	370	1,480	A	530	1,480	A
	155	West Avenue and Fruit Avenue	U	D	2	Collector	Undivided	690	1,270	A	810	1,270	A
	156	Throne Avenue and Palm Avenue	III	D	2	Collector	Undivided	490	1,270	A	810	1,270	A
Bullard Avenue	157	Garfield Avenue and Grantland Avenue	III	D	2	Collector	Undivided	50	1,270	A	40	1,270	A
	158	Grantland Avenue and Caspian Avenue	III	D	4	Collector	TWLTL	330	3,290	A	250	3,290	A
	159	West Avenue and Fruit Avenue	U	D	4	Arterial	Undivided	2,170	2,740	C	1,990	2,740	B
	160	Fruit Avenue and Palm Avenue	II	E	4	Arterial	Undivided	1,530	2,980	A	1,650	2,980	A
	161	Maroa Avenue and Blackstone Avenue	II	E	4	Arterial	TWLTL	2,140	3,550	B	2,390	3,550	B
	162	SR-41 NB ramps and Fresno Street	II	E	6	Arterial	Raised	2,950	5,610	A	2,810	5,610	A
	163	First Street and Cedar Avenue	II	E	4	Arterial	Raised	2,210	3,730	A	2,470	3,730	B
Barstow Avenue	164	Garfield Avenue and Grantland Avenue	III	D	2	Collector	Undivided	160	1,270	A	120	1,270	A
	165	Van Ness Boulevard and West Avenue	U	D	2	Collector	Undivided	400	1,270	A	750	1,270	A
	166	Fruit Avenue and Palm Avenue	U	D	2	Collector	TWLTL	470	1,550	A	770	1,550	A
Shaw Avenue	167	Garfield Avenue and Grantland Avenue	III	D	2	Arterial	Undivided	1,110	1,270	C	1,260	1,270	D
	168	Bryan Avenue and Hayes Avenue	III	D	4	Arterial	Undivided	1,290	2,740	A	1,310	2,740	A
	169	Hayes Avenue and Polk Avenue	III	D	4	Arterial	Undivided	1,250	2,740	A	1,100	2,740	A
	170	SR-99 NB ramps and Cornelia Avenue	III	D	4	Arterial	TWLTL	2,990	3,290	D	2,920	3,290	D
	171	Cornelia Avenue and Jennifer Avenue	III	D	6	Arterial	Raised	2,990	5,270	A	2,920	5,270	A
	172	Brawley Avenue and Marks Avenue	III	D	6	Arterial	Raised	2,310	5,270	A	3,340	5,270	A
	173	West Avenue and Fruit Avenue	II	E	6	Arterial	Raised	3,710	5,610	B	4,040	5,610	C
	174	Maroa Avenue and Blackstone Avenue	II	E	6	Arterial	Raised	4,710	5,610	D	5,570	5,610	E
	175	Fresno Street and First Street	II	E	6	Arterial	Raised	2,540	5,610	A	3,050	5,610	A
	176	First Street and Cedar Avenue	II	E	6	Arterial	Raised	2,810	5,610	A	3,810	5,610	B
Gettysburg Avenue	**177**	**Maple Avenue and Winery Avenue**	**II**	**E**	**2**	**Collector**	**TWLTL**	**4,030**	**1,760**	**F**	**4,330**	**1,760**	**F**
Ashlan Avenue	178	Bryan Avenue and Hayes Avenue	III	D	4	Arterial	Undivided	790	2,740	A	580	2,740	A
	179	Hayes Avenue and Polk Avenue	III	D	4	Arterial	Undivided	570	2,740	A	720	2,740	A
	180	**Cornelia Avenue and Blythe Avenue**	**III**	**D**	**4**	**Arterial**	**Raised**	2,870	3,470	C	**4,400**	**3,470**	**F**
	181	SR-99 SB ramps and Golden State Boulevard	III	D	4	Arterial	Raised	2,390	3,470	B	2,550	3,470	B
	182	Weber Avenue and Valentine Avenue	II	E	4	Arterial	Raised	2,090	3,730	A	2,540	3,730	B
	183	Fruit Avenue and Palm Avenue	U	D	2	Collector	Undivided	1,280	1,270	D	1,110	1,270	C

Table 4.A: General Plan Build Out Roadway Segment Levels of Service with General Plan Configurations

Roadway	#	Segment	TIZ	LOS Standard	General Plan Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
	184	Palm Avenue and Maroa Avenue	U	D	2	Collector	Undivided	1,120	1,270	C	1,020	1,270	B
	185	Maroa Avenue and Del Mar Avenue	U	D	4	Collector	Undivided	1,250	2,740	A	1,190	2,740	A
	186	Del Mar Avenue and Blackstone Avenue	II	E	4	Collector	Undivided	1,520	2,980	A	1,630	2,980	A
	187	Fresno Street and First Street	II	E	4	Arterial	Undivided	2,160	2,980	C	2,620	2,980	D
	188	Barton Avenue and SR-168 SB ramps	II	E	4	Arterial	Raised	2,530	3,730	B	3,110	3,730	D
	189	SR-168 NB ramps and Chestnut Avenue	II	E	4	Arterial	Raised	2,090	3,730	A	2,400	3,730	B
Dakota Avenue	190	Marks Avenue and Hughes Avenue	II	E	2	Collector	Undivided	170	1,480	A	1,170	1,480	C
	191	West Avenue and Fruit Avenue	II	E	2	Collector	TWLTL	300	1,760	A	620	1,760	A
	192	Fruit Avenue and Palm Avenue	II	E	2	Collector	Undivided	150	1,480	A	730	1,480	A
	193	**Maroa Avenue and Del Mar Avenue**	**II**	**E**	**2**	**Collector**	**Undivided**	340	1,480	A	**2,150**	**1,480**	**F**
	194	**Angus Street and First Street**	**II**	**E**	**2**	**Collector**	**TWLTL**	600	1,760	A	**2,070**	**1,760**	**F**
	195	First Street and Millbrook Avenue	II	E	2	Collector	TWLTL	230	1,760	A	1,060	1,760	B
	196	Millbrook Avenue and Cedar Avenue	II	E	2	Collector	TWLTL	1,720	1,760	E	1,310	1,760	C
Shields Avenue	197	Garfield Avenue and Grantland Avenue	III	D	2	Collector	Undivided	370	1,270	A	240	1,270	A
	198	Grantland Avenue and Bryan Avenue	III	D	2	Collector	Undivided	340	1,270	A	250	1,270	A
	199	Brawley Avenue and Valentine Avenue	III	D	2	Collector	Undivided	1,310	1,270	D	980	1,270	B
	200	Fruit Avenue and Palm Avenue	II	E	4	Arterial	Undivided	1,190	2,980	A	1,800	2,980	B
	201	Peach Avenue and Clovis Avenue	II	E	4	Arterial	Raised	1,640	3,730	A	1,520	3,730	A
	202	Clovis Avenue and Fowler Avenue	II	E	4	Arterial	Raised	1,850	3,730	A	1,830	3,730	A
	203	Temperance Avenue and Locan Avenue	III	D	2	Arterial	Raised	1,150	1,640	B	830	1,640	A
	204	Locan Avenue and De Wolf Avenue	III	D	2	Collector	Undivided	870	1,270	A	570	1,270	A
Clinton Avenue	205	Grantland Avenue and Bryan Avenue	III	D	2	Collector	Undivided	40	1,270	A	150	1,270	A
	206	Bryan Avenue and Hayes Avenue	III	D	2	Collector	Undivided	300	1,270	A	230	1,270	A
	207	Hayes Avenue and Polk Avenue	III	D	2	Collector	Undivided	220	1,270	A	250	1,270	A
	208	Polk Avenue and Cornelia Avenue	III	D	4	Collector	Undivided	390	2,740	A	380	2,740	A
	209	Blythe Avenue and Brawley Avenue	III	D	4	Collector	TWLTL	860	3,290	A	950	3,290	A
	210	Valentine Avenue and Marks Avenue	III	D	4	Collector	TWLTL	1,120	3,290	A	1,220	3,290	A
	211	Weber Avenue and West Avenue	II	E	4	Collector	Undivided	720	2,980	A	2,430	2,980	D
	212	Fruit Avenue and Palm Avenue	II	E	4	Collector	Undivided	490	2,980	A	1,600	2,980	A
	213	Maroa Avenue and Blackstone Avenue	II	E	4	Collector	Undivided	410	2,980	A	1,910	2,980	B
	214	First Street and Cedar Avenue	U	D	4	Collector	Undivided	820	2,740	A	1,060	2,740	A
	215	Fowler Avenue and Armstrong Avenue	III	D	4	Collector	Undivided	460	2,740	A	320	2,740	A
	216	Armstrong Avenue and Temperance Avenue	III	D	4	Collector	Undivided	350	2,740	A	340	2,740	A
McKinley Avenue	217	Blythe Avenue and Valentine Avenue	III	D	4	Arterial	Undivided	1,250	2,740	A	1,270	2,740	A
	218	Marks Avenue and Hughes Avenue	I	F	4	Arterial	Undivided	1,770	2,980	A	1,660	2,980	A
	219	Fruit Avenue and Palm Avenue	II	E	4	Arterial	Undivided	1,580	2,980	A	1,310	2,980	A
	220	First Street and Cedar Avenue	II	E	4	Arterial	Raised	1,540	3,730	A	1,470	3,730	A

Table 4.A: General Plan Build Out Roadway Segment Levels of Service with General Plan Configurations

Roadway	#	Segment	TIZ	LOS Standard	General Plan Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
	221	Peach Avenue and Clovis Avenue	II	E	4	Arterial	Raised	1,130	3,730	A	1,010	3,730	A
Olive Avenue	222	Valentine Avenue and Marks Avenue	III	D	2	Collector	Undivided	480	1,270	A	670	1,270	A
	223	SR-99 NB ramps and West Avenue	I	F	4	Collector	TWLTL	880	3,550	A	1,720	3,550	A
	224	Van Ness Avenue and Blackstone Avenue	II	E	2	Collector	Undivided	930	1,480	B	1,140	1,480	C
	225	Fresno Street and First Street	II	E	4	Collector	Undivided	910	2,980	A	1,230	2,980	A
	226	Peach Avenue and Clovis Avenue	II	E	4	Collector	TWLTL	780	3,550	A	600	3,550	A
Belmont Avenue	227	Hayes Avenue and Cornelia Avenue	III	D	2	Collector	Undivided	540	1,270	A	780	1,270	A
	228	Marks Avenue and Hughes Avenue	III	D	4	Collector	Undivided	650	2,740	A	790	2,740	A
	229	Pacific Avenue and Fruit Avenue	I	F	2	Collector	Undivided	600	1,480	A	1,110	1,480	C
	230	Weber Avenue and Palm Avenue	II	E	2	Collector	Undivided	780	1,480	A	1,010	1,480	B
	231	Palm Avenue and Roosevelt Avenue	II	E	2	Collector	Undivided	1,160	1,480	C	1,380	1,480	E
	232	Abby Street and Fresno Street[3]	I	F	2	Collector	Raised	760	1,860	A	1,600	1,860	D
	233	Orchard Street and First Street[3]	I	F	2	Collector	Raised	1,070	1,860	A	1,560	1,860	D
	234	First Street and Cedar Avenue[3]	I	F	2	Collector	Raised	1,190	1,860	B	1,910	1,860	F
	235	Willow Avenue and Peach Avenue	U	D	4	Arterial	Raised	1,120	3,470	A	1,070	3,470	A
	236	Peach Avenue and Clovis Avenue	U	D	4	Arterial	Raised	750	3,470	A	830	3,470	A
	237	Clovis Avenue and Fowler Avenue	III	D	4	Arterial	Raised	810	3,470	A	860	3,470	A
	238	De Wolf Avenue and Fancher Avenue	III	D	2	Collector	Undivided	650	1,270	A	620	1,270	A
	239	Roosevelt Avenue and H Street	I	F	2	Collector	Undivided	340	1,480	A	390	1,480	A
Divisadero Avenue	240	Fulton Street and Van Ness Avenue	I	F	2	Collector	TWLTL	780	1,760	A	1,050	1,760	A
	241	San Pablo Avenue and Glen Avenue	I	F	2	Collector	TWLTL	860	1,760	A	840	1,760	A
	242	Palo Alto Avenue and Herndon Avenue[2,3]	III	D	5	Collector	Raised	1,080	4,370	A	1,490	4,370	A
Fresno Street	243	California Avenue and SR-99 SB ramps	I	F	4	Arterial	Raised	910	3,730	A	820	3,730	A
	244	SR-99 NB ramps and E Street	I	F	4	Arterial	Raised	1,280	3,730	A	1,650	3,730	A
Tulare Street	245	H Street and Van Ness Avenue	I	F	4	Collector	TWLTL	410	3,550	A	490	3,550	A
	246	Van Ness Avenue and M Street[3]	I	F	4	Collector	Raised	800	3,730	A	610	3,730	A
Ventura Street	247	SR-99 NB ramps and G Street	I	F	4	Arterial	Undivided	1,530	2,980	A	1,540	2,980	A
	248	G Street and Broadway Street	I	F	4	Arterial	Raised	1,720	3,730	A	1,940	3,730	A
	249	Van Ness Avenue and M Street	I	F	4	Arterial	Raised	1,790	3,730	A	1,020	3,730	A
	250	SR-41 and First Street	I	F	4	Arterial	Raised	1,870	3,730	A	2,290	3,730	B
Kings Canyon Road	251	Maple Avenue and Chestnut Avenue	II	E	4	Arterial	Raised	1,530	3,730	A	2,150	3,730	A
	252	Chestnut Avenue and Willow Avenue	II	E	4	Arterial	Raised	1,520	3,730	A	2,020	3,730	A
	253	Peach Avenue and Clovis Avenue	II	E	4	Arterial	Raised	2,000	3,730	A	3,050	3,730	D
	254	Clovis Avenue and Fowler Avenue	III	D	4	Arterial	Raised	1,370	3,470	A	2,020	3,470	A
	255	Fowler Avenue and Armstrong Avenue	III	D	4	Arterial	TWLTL	1,770	3,290	A	2,280	3,290	B
	256	Armstrong Avenue and Temperance Avenue	III	D	4	Arterial	Undivided	1,310	2,740	A	1,460	2,740	A

Table 4.A: General Plan Build Out Roadway Segment Levels of Service with General Plan Configurations

Roadway	#	Segment	TIZ	LOS Standard	General Plan Number of Lanes	Classification[1]	Median	AM			PM		
								General Plan Build Out Traffic Volume	LOS Capacity	Future LOS	General Plan Build Out Traffic Volume	LOS Capacity	Future LOS
Butler Avenue	257	Hazelwood Boulevard and Orange Avenue	I	F	2	Collector	TWLTL	850	1,760	A	1,100	1,760	B
California Avenue	258	Marks Avenue and Hughes Avenue	III	D	2	Collector	Undivided	410	1,270	A	620	1,270	A
	259	Hughes Avenue and West Avenue	III	D	2	Collector	Undivided	630	1,270	A	770	1,270	A
Church Avenue	260	Marks Avenue and Hughes Avenue	III	D	2	Collector	Undivided	210	1,270	A	260	1,270	A
	261	Orange Avenue and Cedar Avenue	U	D	4	Collector	Undivided	890	2,740	A	1,020	2,740	A
	262	Cedar Avenue and Maple Avenue	III	D	4	Collector	Undivided	810	2,740	A	1,060	2,740	A
	263	Minnewawa Avenue and Clovis Avenue	III	D	2	Collector	TWLTL	910	1,550	A	650	1,550	A
Jensen Avenue	264	West Avenue and Fruit Avenue	III	D	4	Arterial	Undivided	770	2,740	A	840	2,740	A
	265	Walnut Avenue and MLK Boulevard	III	D	4	Arterial	Undivided	1,110	2,740	A	1,030	2,740	A
	266	Elm Avenue and SR-41 SB ramps	IV	E	4	Arterial	Raised	2,010	3,730	A	1,910	3,730	A
	267	Cedar Avenue and Maple Avenue	IV	E	6	Super Arterial	Raised	2,870	6,240	A	2,810	6,240	A
	268	Maple Avenue and Chestnut Avenue	IV	E	6	Super Arterial	Raised	2,580	6,240	A	2,350	6,240	A
	269	Chestnut Avenue and Willow Avenue	IV	E	6	Super Arterial	Raised	2,260	6,240	A	2,480	6,240	A
	270	Willow Avenue and Peach Avenue	III	D	6	Super Arterial	Raised	2,510	4,910	A	2,700	4,910	A
	271	Clovis Avenue and Fowler Avenue	III	D	6	Super Arterial	Raised	2,120	4,910	A	2,180	4,910	A
North Avenue	272	MLK Boulevard and Elm Avenue	IV	E	4	Arterial	Undivided	500	2,980	A	560	2,980	A
	273	Elm Avenue and SR-41 SB ramps	IV	E	2	Arterial	TWLTL	1,230	1,760	B	1,320	1,760	C
	274	Cherry Avenue and East Avenue	IV	E	4	Arterial	TWLTL	870	3,550	A	1,000	3,550	A
	275	SR-99 NB ramp and Cedar Avenue	IV	E	4	Arterial	Undivided	1,220	2,980	A	1,210	2,980	A
	276	Cedar Avenue and Golden State Boulevard	IV	E	4	Arterial	Undivided	1,080	2,980	A	1,140	2,980	A
	277	Maple Avenue and Chestnut Avenue	IV	E	4	Arterial	Undivided	830	2,980	A	700	2,980	A
Central Avenue	278	East Avenue and Orange Avenue	IV	E	2	Arterial	Undivided	590	1,480	A	620	1,480	A
Golden State Boulevard	279	North Avenue and Cedar Avenue	IV	E	4	Arterial	Undivided	1,040	2,980	A	1,100	2,980	A
	280	Jensen Avenue and Church Avenue	IV	E	4	Arterial	Raised	1,270	3,730	A	940	3,730	A
	281	Motel Drive and Ashlan Avenue[3]	III	D	4	Collector	Raised	1,310	3,470	A	1,570	3,470	A
	282	Swift Avenue and Shaw Avenue	III	D	4	Collector	Undivided	1,810	2,740	B	1,880	2,740	B

Notes:
[1] Classifications referenced from Fresno General Plan Circulation Diagram (2014)
[2] Table 2.C does not provide the capacity for the segment (based on the number of lanes). The capacity per lane was calculated from dividing the available capacity in Table 2.C by the number of lanes.
[3] Table 2.C does not provide the capacity for the segment (based on the median type). The capacity was assumed to be equal to the available capacity in Table 2.C based on the number of lanes (with different median types).
U: Unincorporated Fresno County
Bold and shading indicate deficient segments.

Table 4.B: General Plan Build Out Levels of Service Comparison (Existing Configuration vs. General Plan Configuration)

Roadway	#	Segment	AM						PM					
			Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)	Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)
Garfield Avenue	1	Fairmont Avenue and Shaw Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	2	Shaw Avenue and Barstow Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Grantland Avenue	3	Shields Avenue and Dakota Avenue	2	Super Arterial	A	4	Super Arterial	A	2	Super Arterial	A	4	Super Arterial	A
	4	Ashlan Avenue and Shaw Avenue	2	Super Arterial	A	4	Super Arterial	A	2	Super Arterial	A	4	Super Arterial	A
	5	Barstow Avenue and Bullard Avenue	2	Super Arterial	A	2	Super Arterial	A	2	Super Arterial	A	2	Super Arterial	A
	6	**Bullard Avenue and Parkway Drive**	**2**	**Super Arterial**	**E**	**2**	**Super Arterial**	**E**	**2**	**Super Arterial**	**E**	**2**	**Super Arterial**	**E**
Bryan Avenue	7	Shields Avenue and Ashlan Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	8	Ashlan Avenue and Gettysburg Avenue	3	Collector	A	2	Collector	B	3	Collector	A	2	Collector	A
	9	Gettysburg Avenue and Shaw Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Veterans Boulevard	10	Barstow Avenue and Bullard Avenue	6	Super Arterial	A	6	Super Arterial	A	6	Super Arterial	A	6	Super Arterial	A
Hayes Avenue	11	McKinley Avenue and Clinton Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	12	Clinton Avenue and Shields Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	13	Ashlan Avenue and Gettysburg Avenue	2	Collector	A	2	Collector	A	2	Collector	B	2	Collector	B
	14	Gettysburg Avenue and Shaw Avenue	2	Collector	B	2	Collector	B	2	Collector	B	2	Collector	B
Polk Avenue	15	Olive Avenue and McKinley Avenue	2	Arterial	A	4	Arterial	A	2	Arterial	A	4	Arterial	A
	16	McKinley Avenue and Clinton Avenue	2	Arterial	A	4	Arterial	A	2	Arterial	A	4	Arterial	A
	17	Clinton Avenue and Shields Avenue	2	Arterial	A	4	Arterial	A	2	Arterial	A	4	Arterial	A
	18	Dakota Avenue and Ashlan Avenue	2	Arterial	D	4	Arterial	A	**2**	**Arterial**	**F**	4	Arterial	A
	19	Ashlan Avenue and Gettysburg Avenue	2	Arterial	A	4	Arterial	A	2	Arterial	B	4	Arterial	A
Cornelia Avenue	**20**	**Clinton Avenue and Cortland Avenue**	**2**	**Collector**	**E**	**2**	**Collector**	**E**	2	Collector	D	2	Collector	D
	21	Cortland Avenue and Dakota Avenue	2	Collector	D	2	Collector	D	2	Collector	D	2	Collector	D
	22	Dakota Avenue and Griffith Way	2	Collector	C	2	Collector	C	2	Collector	B	2	Collector	B

Table 4.B: General Plan Build Out Levels of Service Comparison (Existing Configuration vs. General Plan Configuration)

Roadway	#	Segment	AM						PM					
			Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)	Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)
	23	Griffith Way and Ashlan Avenue	2	Collector	C	2	Collector	C	2	Collector	A	2	Collector	A
Blythe Avenue	24	McKinley Avenue and Clinton Avenue	3	Collector	A	2	Collector	A	3	Collector	A	2	Collector	A
Brawley Avenue	25	Nielson Avenue and Belmont Avenue	2	Collector	D	4	Collector	A	2	Collector	D	4	Collector	A
	26	Olive Avenue and McKinley Avenue	2	Collector	C	4	Collector	A	2	Collector	D	4	Collector	A
	27	Clinton Avenue and Shields Avenue	2	Collector	A	2	Collector	A	2	Collector	C	2	Collector	C
	28	Dakota Avenue and Parkway Drive	2	Collector	B	2	Collector	B	2	Collector	B	2	Collector	B
	29	Shaw Avenue and San Jose Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
Figarden Drive	**30**	**San Jose Avenue and Bullard Avenue**	4	Arterial	A	4	Arterial	A	**4**	**Arterial**	**F**	**4**	**Arterial**	**F**
Marty Avenue	31	Shaw Avenue and San Jose Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Valentine Avenue	32	Olive Avenue and McKinley Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	33	McKinley Avenue and Clinton Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Marks Avenue	34	Jensen Avenue and Church Avenue	2	Arterial	A	4	Arterial	A	2	Arterial	A	4	Arterial	A
	35	Church Avenue and California Avenue	2	Arterial	A	4	Arterial	A	2	Arterial	A	4	Arterial	A
	36	Kearney Avenue and Whitesbridge Avenue	2	Arterial	A	4	Arterial	A	2	Arterial	A	4	Arterial	A
	37	Whitesbridge Avenue and SR-180 EB ramps	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	38	SR-180 WB ramps and Nielson Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	39	Weber Avenue and Dakota Avenue	**2**	**Arterial**	**F**	4	Arterial	A	**2**	**Arterial**	**F**	4	Arterial	E
	40	Ashlan Avenue and Emerson Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	41	Emerson Avenue and Shaw Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
West Avenue	42	California Avenue and Kearney Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	43	McKinley Avenue and Clinton Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	44	Ashlan Avenue and Shaw Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A

Table 4.B: General Plan Build Out Levels of Service Comparison (Existing Configuration vs. General Plan Configuration)

Roadway	#	Segment	AM						PM					
			Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)	Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)
Fruit Avenue	45	Barstow Avenue and Bullard Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
Palm Avenue	46	Shields Avenue and Dakota Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	47	Ashlan Avenue and Gettysburg Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	48	Locust Avenue and Remington Avenue	4	Arterial	C	4	Arterial	C	4	Arterial	C	4	Arterial	C
	49	Alluvial Avenue and Nees Avenue	4	Arterial	B	4	Arterial	B	4	Arterial	C	4	Arterial	C
Audubon Drive	**50**	**Nees Avenue and Del Mar Avenue**	2	Collector	C	2	Collector	C	**2**	**Collector**	**E**	**2**	**Collector**	**E**
Maroa Avenue	51	Fedora Avenue and Dakota Avenue	2	Collector	E	2	Collector	E	2	Collector	B	2	Collector	B
	52	Holland Avenue and Gettysburg Avenue	2	Collector	E	2	Collector	E	2	Collector	C	2	Collector	C
	53	**Bullard Avenue and Sample Avenue**	**4**	**Collector**	**E**	**2**	**Collector**	**F**	**4**	**Collector**	**A**	**2**	**Collector**	**F**
Elm Avenue	54	North Avenue and Jensen Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	55	Jensen Avenue and Church Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
G Street	56	Tulare Street and Fresno Street	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	57	Fresno Street and Tuolumne Street	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
Fulton Street	58	Tulare Street and Fresno Street	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Van Ness Avenue	59	Los Angeles Street & SR-41 ramps	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	60	Tulare Street and Fresno Street	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	61	Fresno Street and Tuolumne Street	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
O Street	62	Tulare Street and Fresno Street	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	63	Fresno Street and Tuolumne Street	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Blackstone Avenue	64	Olive Avenue and McKinley Avenue	6	Arterial	A	6	Arterial	A	6	Arterial	A	6	Arterial	A
	65	McKinley Avenue and Clinton Avenue	6	Arterial	A	6	Arterial	A	6	Arterial	A	6	Arterial	A
	66	Dakota Avenue and Ashlan Avenue	6	Arterial	A	6	Arterial	A	6	Arterial	A	6	Arterial	A

Table 4.B: General Plan Build Out Levels of Service Comparison (Existing Configuration vs. General Plan Configuration)

Roadway	#	Segment	AM						PM					
			Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)	Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)
	67	Gettysburg Avenue and Shaw Avenue	6	Arterial	A	6	Arterial	A	6	Arterial	A	6	Arterial	A
	68	Bullard Avenue and Sierra Avenue	6	Arterial	A	6	Arterial	A	6	Arterial	A	6	Arterial	A
	69	Alluvial Avenue and Nees Avenue	6	Arterial	A	6	Arterial	A	6	Arterial	A	6	Arterial	A
Friant Road	**70**	**SR-41 SB off-ramp and SR-41 NB off-ramp**	**6**	Super Arterial	D	6	Super Arterial	D	**6**	**Super Arterial**	**F**	**6**	**Super Arterial**	**F**
	71	**SR-41 NB off-ramp and Audubon Drive**	**6**	**Super Arterial**	**E**	**6**	**Super Arterial**	**E**	**6**	**Super Arterial**	**F**	**6**	**Super Arterial**	**F**
	72	**Audubon Drive and Shepherd Avenue**	**6**	**Expressway**	**E**	**6**	**Expressway**	**E**	**6**	**Expressway**	**F**	**6**	**Expressway**	**F**
	73	Copper Avenue and Willow Avenue	4	Expressway	A	4	Expressway	A	4	Expressway	A	4	Expressway	A
First Street	74	McKinley Avenue and Clinton Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	B	4	Arterial	B
	75	Shields Avenue and Dakota Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	B	4	Arterial	B
	76	Ashlan Avenue and Gettysburg Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	77	Barstow Avenue and Bullard Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	B	4	Arterial	B
	78	Bullard Avenue and Herndon Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	79	Herndon Avenue and Alluvial Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	C	4	Arterial	C
	80	Nees Avenue and Friant Road	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
East Avenue	81	North Avenue and Jensen Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Cedar Avenue	82	American Avenue and Central Avenue	2	Arterial	A	2	Arterial	A	2	Arterial	A	2	Arterial	A
	83	Jensen Avenue and Church Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	84	Church Avenue and California Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	85	Tulare Avenue and Belmont Avenue	4	Arterial	C	4	Arterial	C	4	Arterial	C	4	Arterial	C
	86	Olive Avenue and McKinley Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	87	Dakota Avenue and Ashlan Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	D	4	Arterial	D
	88	Ashlan Avenue and Gettysburg Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A

Table 4.B: General Plan Build Out Levels of Service Comparison (Existing Configuration vs. General Plan Configuration)

Roadway	#	Segment	AM						PM					
			Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)	Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)
	89	Shaw Avenue and Barstow Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	B	4	Arterial	B
	90	Nees Avenue and Teague Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
Maple Avenue	91	North Avenue and Jensen Avenue	3	Collector	A	4	Collector	A	3	Collector	A	4	Collector	A
	92	Jensen Avenue and Church Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
Chestnut Avenue	93	Jensen Avenue and Church Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	94	Kings Canyon Road and Tulare Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	95	Tulare Avenue and Belmont Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	96	Clinton Avenue and Shields Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	97	Bullard Avenue and Herndon Avenue	4	Collector	A	4	Collector	A	4	Collector	B	4	Collector	B
	98	Herndon Avenue and Alluvial Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	99	Alluvial Avenue and Nees Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	100	Nees Avenue and Teague Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	101	Teague Avenue and Shepherd Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
Willow Avenue	102	Herndon Avenue and Nees Avenue	5	Super Arterial	A	6	Super Arterial	A	5	Super Arterial	A	6	Super Arterial	A
	103	Teague Avenue and Shepherd Avenue	5	Super Arterial	A	6	Super Arterial	A	5	Super Arterial	A	6	Super Arterial	A
	104	Shepherd Avenue and Behymer Avenue	4	Super Arterial	A	6	Super Arterial	A	4	Super Arterial	B	6	Super Arterial	A
	105	Behymer Avenue and Copper Avenue	4	Super Arterial	A	6	Super Arterial	A	4	Super Arterial	A	6	Super Arterial	A
	106	Copper Avenue and Friant Road	2	Super Arterial	A	2	Super Arterial	A	2	Super Arterial	A	2	Super Arterial	A
Peach Avenue	107	North Avenue and Jensen Avenue	2	Arterial	A	2	Arterial	A	2	Arterial	A	2	Arterial	A
	108	Butler Avenue and Kings Canyon Road	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	109	Tulare Avenue and Belmont Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	110	Olive Avenue and McKinley Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A

Table 4.B: General Plan Build Out Levels of Service Comparison (Existing Configuration vs. General Plan Configuration)

Roadway	#	Segment	AM						PM					
			Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)	Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)
Minnewawa Avenue	111	Kings Canyon Road and Tulare Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Clovis Avenue	112	North Avenue and Jensen Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	113	Church Avenue and Butler Avenue	4	Arterial	B	4	Arterial	B	4	Arterial	B	4	Arterial	B
	114	Kings Canyon Road and Tulare Avenue	6	Arterial	A	6	Arterial	A	6	Arterial	C	6	Arterial	C
	115	Clinton Avenue and Shields Avenue	6	Arterial	A	6	Arterial	A	6	Arterial	A	6	Arterial	A
Fowler Avenue	116	Jensen Avenue and Kings Canyon Road	2	Arterial	A	2	Arterial	A	2	Arterial	A	2	Arterial	A
	117	Kings Canyon Road and Belmont Avenue	**2**	**Arterial**	**F**	4	Arterial	A	**2**	**Arterial**	**E**	4	Arterial	A
	118	SR-180 WB ramps and Olive Avenue	**2**	**Arterial**	**F**	4	Arterial	C	**2**	**Arterial**	**F**	4	Arterial	B
	119	Olive Avenue and Clinton Avenue	**2**	**Arterial**	**E**	4	Arterial	A	2	Arterial	D	4	Arterial	A
	120	Shields Avenue and Dakota Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
Armstrong Avenue	121	Jensen Avenue and Church Avenue	2	Collector	A	4	Collector	A	2	Collector	A	4	Collector	A
	122	Hamilton Avenue and Butler Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	123	Butler Avenue and Lane Avenue	3	Collector	A	4	Collector	A	3	Collector	A	4	Collector	A
	124	Belmont Avenue and Clinton Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	125	McKinley Avenue and Clinton Avenue	2	Collector	B	2	Collector	B	2	Collector	B	2	Collector	B
	126	Shields Avenue and Dakota Avenue	3	Collector	A	2	Collector	D	3	Collector	A	2	Collector	D
Temperance Avenue	127	California Avenue and Hamilton Avenue	**2**	**Super Arterial**	**E**	6	Super Arterial	A	**2**	**Super Arterial**	**E**	6	Super Arterial	A
	128	Butler Avenue and Lowe Avenue	**2**	**Super Arterial**	**F**	6	Super Arterial	B	**2**	**Super Arterial**	**F**	6	Super Arterial	A
	129	Kings Canyon Road and SR-180 EB ramps	5	Super Arterial	C	6	Super Arterial	B	**5**	**Super Arterial**	**E**	6	Super Arterial	C
	130	Belmont Avenue and Olive Avenue	**2**	**Super Arterial**	**E**	6	Super Arterial	A	**2**	**Super Arterial**	**E**	6	Super Arterial	A
	131	McKinley Avenue and Shields Avenue	**2**	**Super Arterial**	**F**	6	Super Arterial	A	**2**	**Super Arterial**	**F**	6	Super Arterial	A
	132	Shields Avenue and Dakota Avenue	3	Super Arterial	A	6	Super Arterial	A	3	Super Arterial	A	6	Super Arterial	A

Table 4.B: General Plan Build Out Levels of Service Comparison (Existing Configuration vs. General Plan Configuration)

Roadway	#	Segment	AM						PM					
			Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)	Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)
	133	Dakota Avenue and Ashlan Avenue	3	Super Arterial	A	6	Super Arterial	A	3	Super Arterial	A	6	Super Arterial	A
De Wolf Avenue	134	Church Avenue and Butler Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Copper Avenue	135	Friant Road and Millbrook Avenue	4	Super Arterial	A	4	Super Arterial	A	4	Super Arterial	A	4	Super Arterial	A
	136	Millbrook Avenue and Cedar Avenue	4	Super Arterial	A	4	Super Arterial	A	4	Super Arterial	A	4	Super Arterial	A
	137	Cedar Avenue and Maple Avenue	4	Super Arterial	A	4	Super Arterial	A	4	Super Arterial	A	4	Super Arterial	A
	138	Maple Avenue and Chestnut Avenue	3	Super Arterial	A	2	Super Arterial	A	3	Super Arterial	A	2	Super Arterial	A
Shepherd Avenue	139	Millbrook Avenue and Cedar Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	B	4	Arterial	B
	140	Cedar Avenue and Maple Avenue	3	Arterial	D	4	Arterial	B	**3**	**Arterial**	**E**	4	Arterial	C
	141	Chestnut Avenue and Willow Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
Nees Avenue	142	Audubon Drive and Millbrook Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	143	Cedar Avenue and Maple Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	144	Jordan Avenue and Paula Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	B	4	Arterial	B
Alluvial Avenue	145	Mansionette Drive and Pinedale Avenue	2	Collector	A	2	Collector	A	2	Collector	B	2	Collector	B
	146	Pinedale Avenue and Chestnut Avenue	2	Collector	A	2	Collector	A	2	Collector	D	2	Collector	D
	147	Chestnut Avenue and Willow Avenue	2	Collector	A	2	Collector	A	2	Collector	D	2	Collector	D
Herndon Avenue	148	Polk Avenue and Milburn Avenue	4	Expressway	B	6	Expressway	A	4	Expressway	C	6	Expressway	A
	149	West Avenue and Fruit Avenue	6	Expressway	C	6	Expressway	C	6	Expressway	D	6	Expressway	D
	150	Fruit Avenue and Palm Avenue	6	Expressway	C	6	Expressway	C	6	Expressway	D	6	Expressway	D
	151	Blackstone Avenue and SR-41 SB ramps	6	Expressway	C	6	Expressway	C	6	Expressway	C	6	Expressway	C
	152	First Street and Cedar Avenue	6	Expressway	C	6	Expressway	C	6	Expressway	C	6	Expressway	C
	153	Cedar Avenue and Maple Avenue	6	Expressway	A	6	Expressway	A	6	Expressway	A	6	Expressway	A
Sierra Avenue	154	Marks Avenue and Van Ness Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A

Table 4.B: General Plan Build Out Levels of Service Comparison (Existing Configuration vs. General Plan Configuration)

Roadway	#	Segment	AM						PM					
			Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)	Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)
	155	West Avenue and Fruit Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	156	Throne Avenue and Palm Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Bullard Avenue	157	Garfield Avenue and Grantland Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	158	Grantland Avenue and Caspian Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	159	West Avenue and Fruit Avenue	4	Arterial	C	4	Arterial	C	4	Arterial	B	4	Arterial	B
	160	Fruit Avenue and Palm Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	161	Maroa Avenue and Blackstone Avenue	4	Arterial	B	4	Arterial	B	4	Arterial	B	4	Arterial	B
	162	SR-41 NB ramps and Fresno Street	5	Arterial	B	6	Arterial	A	5	Arterial	B	6	Arterial	A
	163	First Street and Cedar Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	B	4	Arterial	B
Barstow Avenue	164	Garfield Avenue and Grantland Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	165	Van Ness Boulevard and West Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	166	Fruit Avenue and Palm Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Shaw Avenue	167	Garfield Avenue and Grantland Avenue	2	Arterial	C	2	Arterial	C	2	Arterial	D	2	Arterial	D
	168	Bryan Avenue and Hayes Avenue	2	Arterial	D	4	Arterial	A	2	Arterial	D	4	Arterial	A
	169	Hayes Avenue and Polk Avenue	2	Arterial	D	4	Arterial	A	2	Arterial	C	4	Arterial	A
	170	SR-99 NB ramps and Cornelia Avenue	4	Arterial	D	4	Arterial	D	4	Arterial	D	4	Arterial	D
	171	Cornelia Avenue and Jennifer Avenue	4	Arterial	D	6	Arterial	A	4	Arterial	C	6	Arterial	A
	172	Brawley Avenue and Marks Avenue	6	Arterial	A	6	Arterial	A	6	Arterial	A	6	Arterial	A
	173	West Avenue and Fruit Avenue	6	Arterial	B	6	Arterial	B	6	Arterial	C	6	Arterial	C
	174	Maroa Avenue and Blackstone Avenue	6	Arterial	D	6	Arterial	D	6	Arterial	E	6	Arterial	E
	175	Fresno Street and First Street	6	Arterial	A	6	Arterial	A	6	Arterial	A	6	Arterial	A
	176	First Street and Cedar Avenue	6	Arterial	A	6	Arterial	A	6	Arterial	B	6	Arterial	B

Table 4.B: General Plan Build Out Levels of Service Comparison (Existing Configuration vs. General Plan Configuration)

Roadway	#	Segment	AM						PM					
			Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)	Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)
Gettysburg Avenue	**177**	**Maple Avenue and Winery Avenue**	**2**	**Collector**	**F**	**2**	**Collector**	**F**	**2**	**Collector**	**F**	**2**	**Collector**	**F**
Ashlan Avenue	178	Bryan Avenue and Hayes Avenue	2	Arterial	A	4	Arterial	A	2	Arterial	A	4	Arterial	A
	179	Hayes Avenue and Polk Avenue	2	Arterial	A	4	Arterial	A	2	Arterial	A	4	Arterial	A
	180	**Cornelia Avenue and Blythe Avenue**	4	Arterial	C	4	Arterial	C	**4**	**Arterial**	**F**	**4**	**Arterial**	**F**
	181	SR-99 SB ramps and Golden State Boulevard	4	Arterial	B	4	Arterial	B	4	Arterial	B	4	Arterial	B
	182	Weber Avenue and Valentine Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	B	4	Arterial	B
	183	Fruit Avenue and Palm Avenue	2	Collector	D	2	Collector	D	2	Collector	C	2	Collector	C
	184	Palm Avenue and Maroa Avenue	2	Collector	C	2	Collector	C	2	Collector	B	2	Collector	B
	185	Maroa Avenue and Del Mar Avenue	2	Collector	D	4	Collector	A	2	Collector	D	4	Collector	A
	186	Del Mar Avenue and Blackstone Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	187	Fresno Street and First Street	4	Arterial	C	4	Arterial	C	4	Arterial	D	4	Arterial	D
	188	Barton Avenue and SR-168 SB ramps	4	Arterial	B	4	Arterial	B	4	Arterial	D	4	Arterial	D
	189	SR-168 NB ramps and Chestnut Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	B	4	Arterial	B
Dakota Avenue	190	Marks Avenue and Hughes Avenue	2	Collector	A	2	Collector	A	2	Collector	C	2	Collector	C
	191	West Avenue and Fruit Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	192	Fruit Avenue and Palm Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	193	**Maroa Avenue and Del Mar Avenue**	2	Collector	A	2	Collector	A	**2**	**Collector**	**F**	**2**	**Collector**	**F**
	194	**Angus Street and First Street**	2	Collector	A	2	Collector	A	**2**	**Collector**	**F**	**2**	**Collector**	**F**
	195	First Street and Millbrook Avenue	2	Collector	A	2	Collector	A	2	Collector	B	2	Collector	B
	196	Millbrook Avenue and Cedar Avenue	2	Collector	E	2	Collector	E	2	Collector	C	2	Collector	C
Shields Avenue	197	Garfield Avenue and Grantland Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	198	Grantland Avenue and Bryan Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A

Table 4.B: General Plan Build Out Levels of Service Comparison (Existing Configuration vs. General Plan Configuration)

Roadway	#	Segment	AM						PM					
			Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)	Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)
	199	Brawley Avenue and Valentine Avenue	2	Collector	D	2	Collector	D	2	Collector	B	2	Collector	B
	200	Fruit Avenue and Palm Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	B	4	Arterial	B
	201	Peach Avenue and Clovis Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	202	Clovis Avenue and Fowler Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	203	Temperance Avenue and Locan Avenue	3	Arterial	A	2	Arterial	B	3	Arterial	A	2	Arterial	A
	204	Locan Avenue and De Wolf Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Clinton Avenue	205	Grantland Avenue and Bryan Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	206	Bryan Avenue and Hayes Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	207	Hayes Avenue and Polk Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	208	Polk Avenue and Cornelia Avenue	2	Collector	A	4	Collector	A	2	Collector	A	4	Collector	A
	209	Blythe Avenue and Brawley Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	210	Valentine Avenue and Marks Avenue	2	Collector	B	4	Collector	A	2	Collector	B	4	Collector	A
	211	Weber Avenue and West Avenue	4	Collector	A	4	Collector	A	4	Collector	D	4	Collector	D
	212	Fruit Avenue and Palm Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	213	Maroa Avenue and Blackstone Avenue	4	Collector	A	4	Collector	A	4	Collector	B	4	Collector	B
	214	First Street and Cedar Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	215	Fowler Avenue and Armstrong Avenue	2	Collector	A	4	Collector	A	2	Collector	A	4	Collector	A
	216	Armstrong Avenue and Temperance Avenue	2	Collector	A	4	Collector	A	2	Collector	A	4	Collector	A
McKinley Avenue	217	Blythe Avenue and Valentine Avenue	2	Arterial	D	4	Arterial	A	2	Arterial	D	4	Arterial	A
	218	Marks Avenue and Hughes Avenue	2	Arterial	F	4	Arterial	A	2	Arterial	F	4	Arterial	A
	219	Fruit Avenue and Palm Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	220	First Street and Cedar Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A

Table 4.B: General Plan Build Out Levels of Service Comparison (Existing Configuration vs. General Plan Configuration)

Roadway	#	Segment	AM						PM					
			Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)	Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)
	221	Peach Avenue and Clovis Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
Olive Avenue	222	Valentine Avenue and Marks Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	223	SR-99 NB ramps and West Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	224	Van Ness Avenue and Blackstone Avenue	2	Collector	B	2	Collector	B	2	Collector	C	2	Collector	C
	225	Fresno Street and First Street	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	226	Peach Avenue and Clovis Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
Belmont Avenue	227	Hayes Avenue and Cornelia Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	228	Marks Avenue and Hughes Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	229	Pacific Avenue and Fruit Avenue	4	Collector	A	2	Collector	A	4	Collector	A	2	Collector	C
	230	Weber Avenue and Palm Avenue	4	Collector	A	2	Collector	A	4	Collector	A	2	Collector	B
	231	Palm Avenue and Roosevelt Avenue	4	Collector	A	2	Collector	C	4	Collector	A	2	Collector	E
	232	Abby Street and Fresno Street	4	Collector	A	2	Collector	A	4	Collector	A	2	Collector	D
	233	Orchard Street and First Street	4	Collector	A	2	Collector	A	4	Collector	A	2	Collector	D
	234	First Street and Cedar Avenue	4	Collector	A	2	Collector	B	4	Collector	A	2	Collector	F
	235	Willow Avenue and Peach Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	236	Peach Avenue and Clovis Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	237	Clovis Avenue and Fowler Avenue	2	Arterial	A	4	Arterial	A	2	Arterial	A	4	Arterial	A
	238	De Wolf Avenue and Fancher Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Divisadero Avenue	239	Roosevelt Avenue and H Street	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	240	Fulton Street and Van Ness Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	241	San Pablo Avenue and Glen Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Fresno Street	242	Palo Alto Avenue and Herndon Avenue	4	Collector	A	5	Collector	A	4	Collector	A	5	Collector	A

Table 4.B: General Plan Build Out Levels of Service Comparison (Existing Configuration vs. General Plan Configuration)

Roadway	#	Segment	AM						PM					
			Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)	Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)
	243	California Avenue and SR-99 SB ramps	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	244	SR-99 NB ramps and E Street	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
Tulare Street	245	H Street and Van Ness Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	246	Van Ness Avenue and M Street	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
Ventura Street	247	SR-99 NB ramps and G Street	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	248	G Street and Broadway Street	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	249	Van Ness Avenue and M Street	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	250	SR-41 and First Street	4	Arterial	A	4	Arterial	A	4	Arterial	B	4	Arterial	B
Kings Canyon Road	251	Maple Avenue and Chestnut Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	252	Chestnut Avenue and Willow Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	253	Peach Avenue and Clovis Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	D	4	Arterial	D
	254	Clovis Avenue and Fowler Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	255	Fowler Avenue and Armstrong Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	B	4	Arterial	B
	256	Armstrong Avenue and Temperance Avenue	2	Arterial	D	4	Arterial	A	**2**	**Arterial**	**E**	4	Arterial	A
Butler Avenue	257	Hazelwood Boulevard and Orange Avenue	2	Collector	A	2	Collector	A	2	Collector	B	2	Collector	B
California Avenue	258	Marks Avenue and Hughes Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	259	Hughes Avenue and West Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
Church Avenue	260	Marks Avenue and Hughes Avenue	2	Collector	A	2	Collector	A	2	Collector	A	2	Collector	A
	261	Orange Avenue and Cedar Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	262	Cedar Avenue and Maple Avenue	3	Collector	A	4	Collector	A	3	Collector	A	4	Collector	A
	263	Minnewawa Avenue and Clovis Avenue	4	Collector	A	2	Collector	A	4	Collector	A	2	Collector	A
Jensen Avenue	264	West Avenue and Fruit Avenue	2	Arterial	A	4	Arterial	A	2	Arterial	A	4	Arterial	A
	265	Walnut Avenue and MLK Boulevard	2	Arterial	C	4	Arterial	A	2	Arterial	B	4	Arterial	A

Table 4.B: General Plan Build Out Levels of Service Comparison (Existing Configuration vs. General Plan Configuration)

Roadway	#	Segment	AM						PM					
			Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)	Existing Number of Lanes	Classification[1]	Future LOS (With Existing Configuration)	General Plan Number of Lanes	Classification[1]	Future LOS (With General Plan Configuration)
	266	Elm Avenue and SR-41 SB ramps	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	267	Cedar Avenue and Maple Avenue	4	Super Arterial	B	6	Super Arterial	A	4	Super Arterial	B	6	Super Arterial	A
	268	Maple Avenue and Chestnut Avenue	4	Super Arterial	B	6	Super Arterial	A	4	Super Arterial	A	6	Super Arterial	A
	269	Chestnut Avenue and Willow Avenue	4	Super Arterial	A	6	Super Arterial	A	4	Super Arterial	A	6	Super Arterial	A
	270	Willow Avenue and Peach Avenue	4	Super Arterial	B	6	Super Arterial	A	4	Super Arterial	B	6	Super Arterial	A
	271	Clovis Avenue and Fowler Avenue	4	Super Arterial	A	6	Super Arterial	A	4	Super Arterial	A	6	Super Arterial	A
North Avenue	272	MLK Boulevard and Elm Avenue	2	Arterial	A	4	Arterial	A	2	Arterial	A	4	Arterial	A
	273	Elm Avenue and SR-41 SB ramps	2	Arterial	D	2	Arterial	D	2	Arterial	D	2	Arterial	D
	274	Cherry Avenue and East Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	275	SR-99 NB ramp and Cedar Avenue	2	Arterial	D	4	Arterial	A	2	Arterial	D	4	Arterial	A
	276	Cedar Avenue and Golden State Boulevard	2	Arterial	C	4	Arterial	A	2	Arterial	C	4	Arterial	A
	277	Maple Avenue and Chestnut Avenue	2	Arterial	A	4	Arterial	A	2	Arterial	A	4	Arterial	A
Central Avenue	278	East Avenue and Orange Avenue	2	Arterial	A	2	Arterial	A	2	Arterial	A	2	Arterial	A
Golden State Boulevard	279	North Avenue and Cedar Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	280	Jensen Avenue and Church Avenue	4	Arterial	A	4	Arterial	A	4	Arterial	A	4	Arterial	A
	281	Motel Drive and Ashlan Avenue	4	Collector	A	4	Collector	A	4	Collector	A	4	Collector	A
	282	Swift Avenue and Shaw Avenue	**2**	**Collector**	**F**	4	Collector	B	**2**	**Collector**	**F**	4	Collector	B

Notes:
[1] Classifications referenced from Fresno General Plan Circulation Diagram (2014)
Bold and shading indicate deficient segments.

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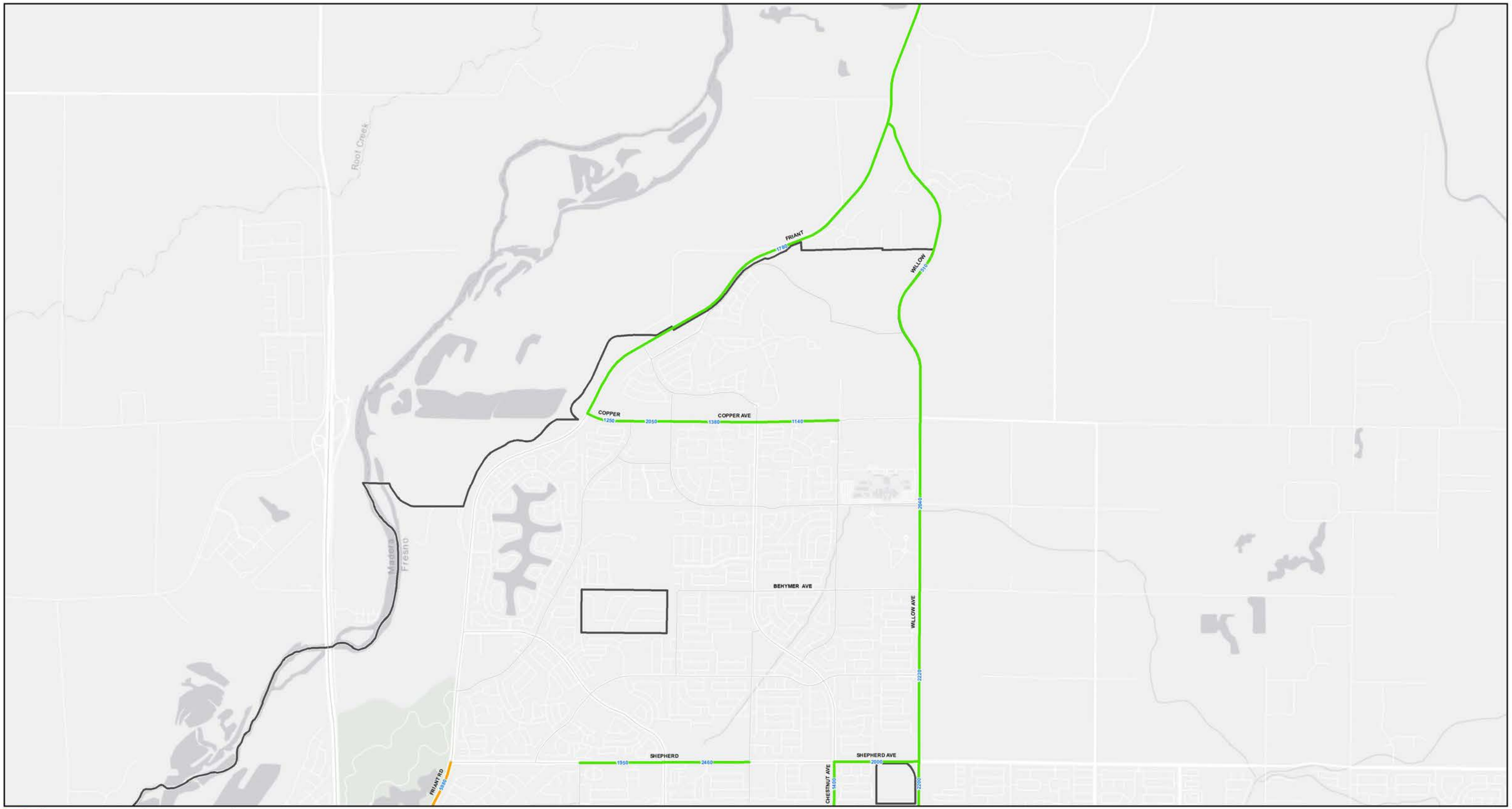

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Fresno City Boundary

XXX A.M. Peak Hour Volumes

LOS A-C

LOS D

LOS E

LOS F

SOURCE: City of Fresno

0 1500 3000
FEET

City of FRESNO

Fresno General Plan Program EIR
Traffic Impact Analysis

Figure 4.2 (Page 1 of 7)

General Plan (2035) Roadway Segment Levels of Service Using General Plan Configurations - AM Peak Hour

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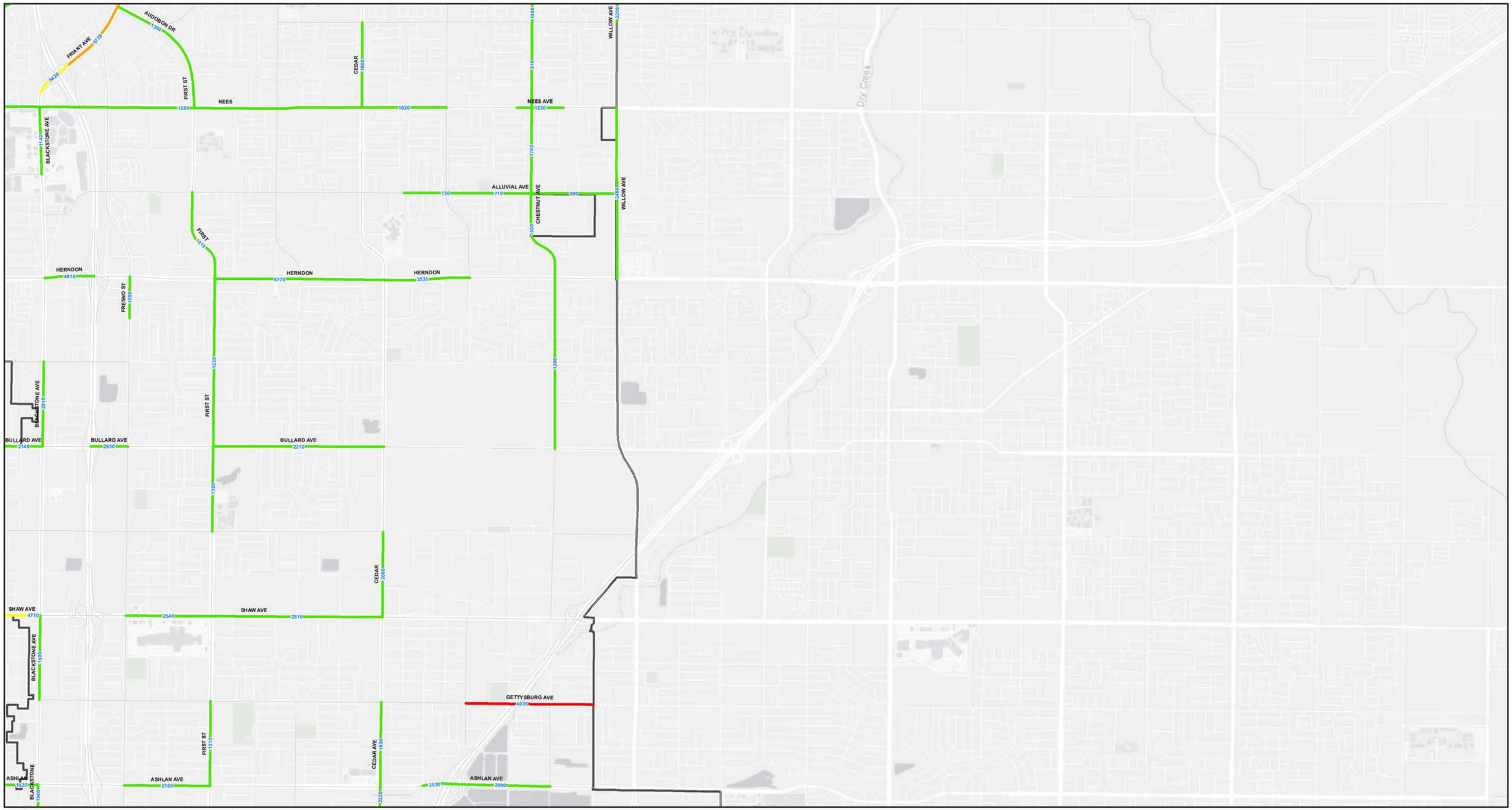

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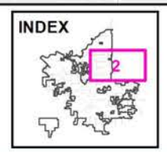

Fresno City Boundary

XXX A.M. Peak Hour Volumes

LOS A-C

LOS D

LOS E

LOS F

City of FRESNO

SOURCE: City of Fresno

Fresno General Plan Program EIR
Traffic Impact Analysis

0 1500 3000
FEET

Figure 4.2 (Page 2 of 7)

General Plan (2035) Roadway Segment Levels of Service Using General Plan Configurations - AM Peak Hour

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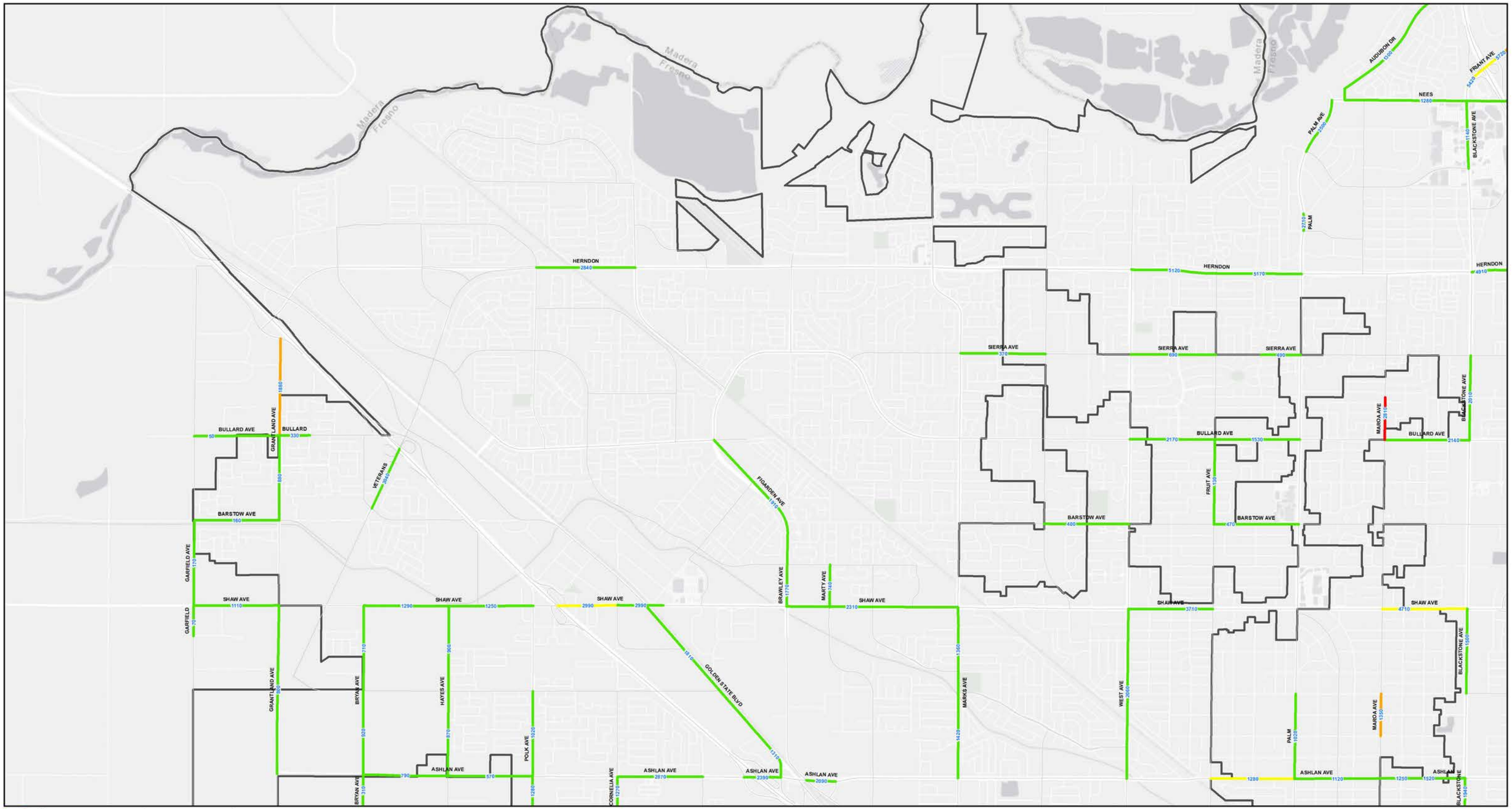

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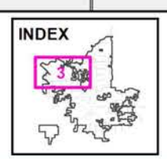

Fresno City Boundary

XXX A.M. Peak Hour Volumes

LOS A-C

LOS D

LOS E

LOS F

City of FRESNO

SOURCE: City of Fresno

Fresno General Plan Program EIR
Traffic Impact Analysis

0 1500 3000
FEET

Figure 4.2 (Page 3 of 7)

General Plan (2035) Roadway Segment Levels of Service Using General Plan Configurations - AM Peak Hour

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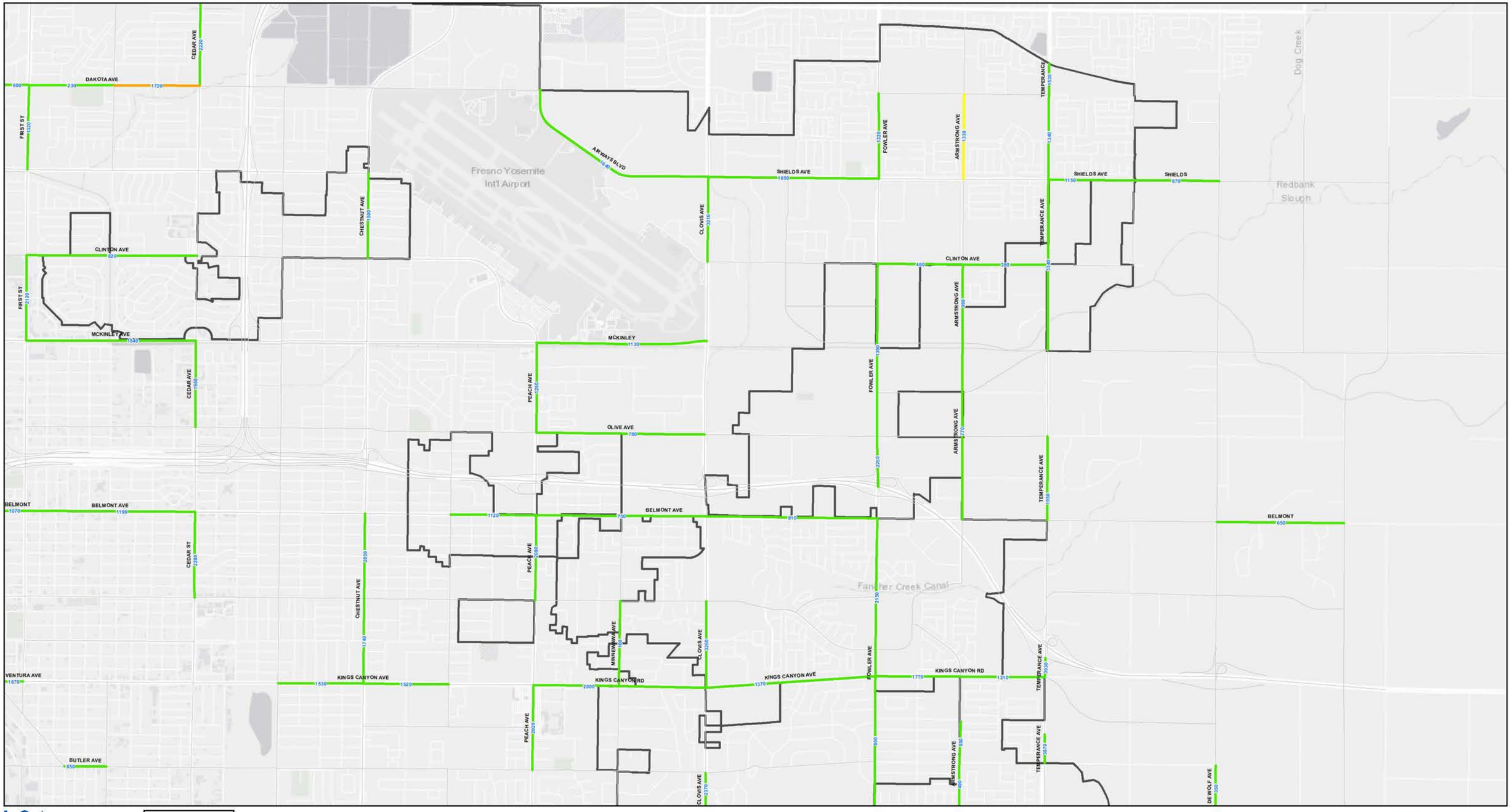

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Fresno City Boundary

XXX A.M. Peak Hour Volumes

LOS A-C

LOS D

LOS E

LOS F

City of FRESNO

SOURCE: City of Fresno

0 1500 3000
FEET

Fresno General Plan Program EIR
Traffic Impact Analysis

Figure 4.2 (Page 4 of 7)

General Plan (2035) Roadway Segment Levels of Service Using General Plan Configurations - AM Peak Hour

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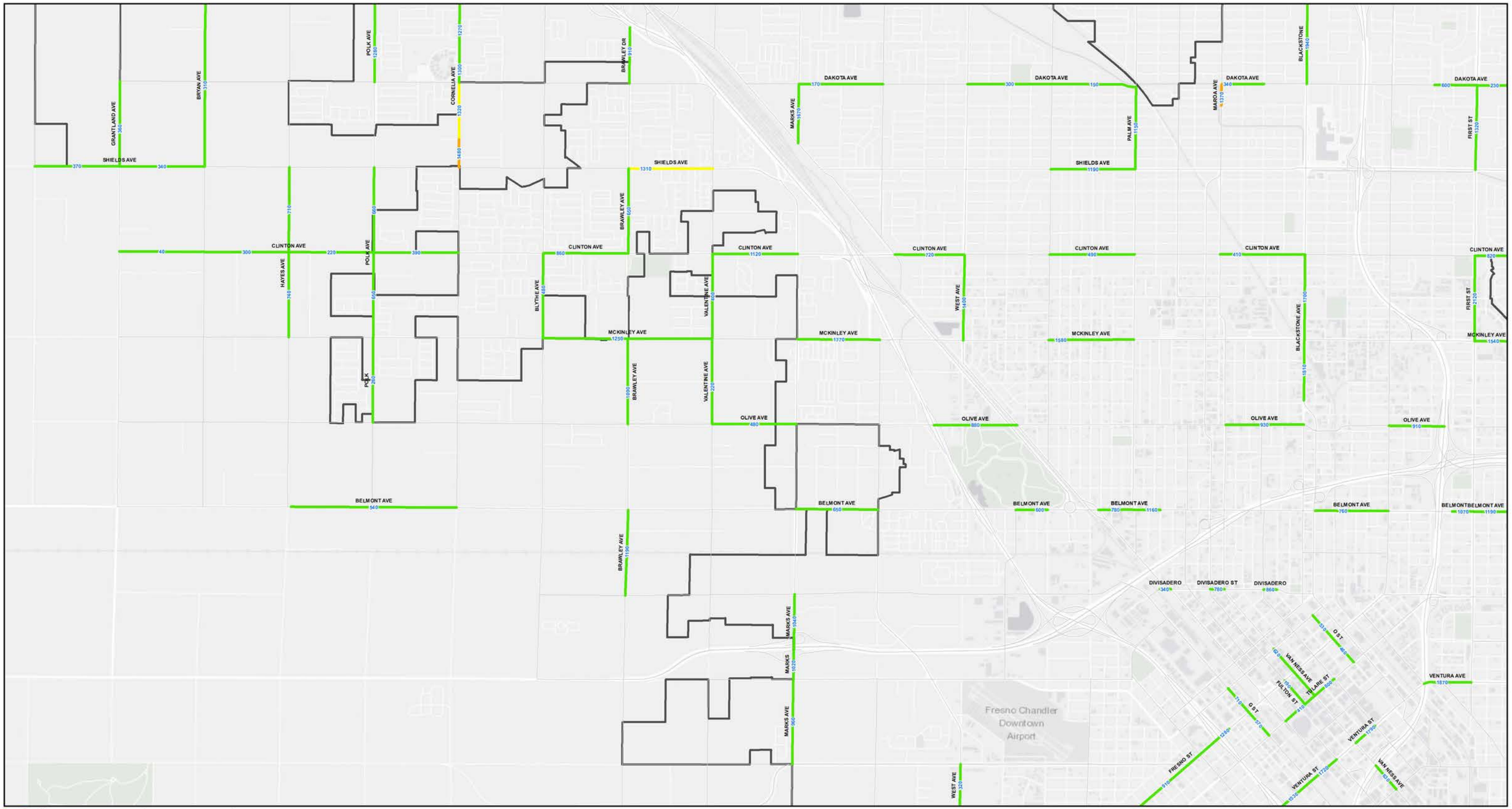

LSA

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SOURCE: City of Fresno

Fresno City Boundary

A.M. Peak Hour Volumes

LOS A-C

LOS D

LOS E

LOS F

0 1500 3000
FEET

City of FRESNO

Fresno General Plan Program EIR
Traffic Impact Analysis

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General Plan (2035) Roadway Segment Levels of Service Using General Plan Configurations - AM Peak Hour

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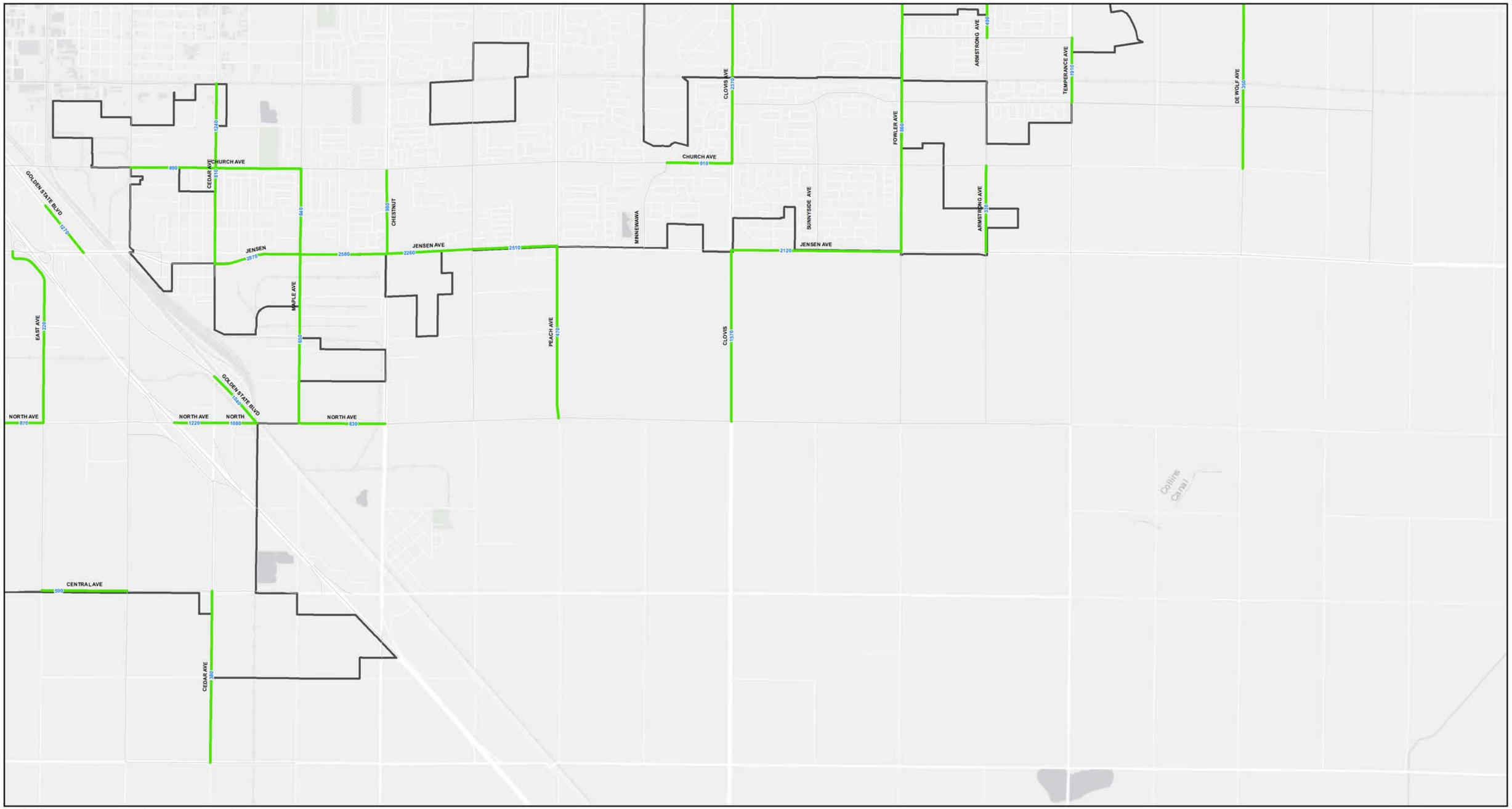

Fresno General Plan Program EIR
Traffic Impact Analysis

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General Plan (2035) Roadway Segment Levels of Service Using General Plan Configurations - AM Peak Hour

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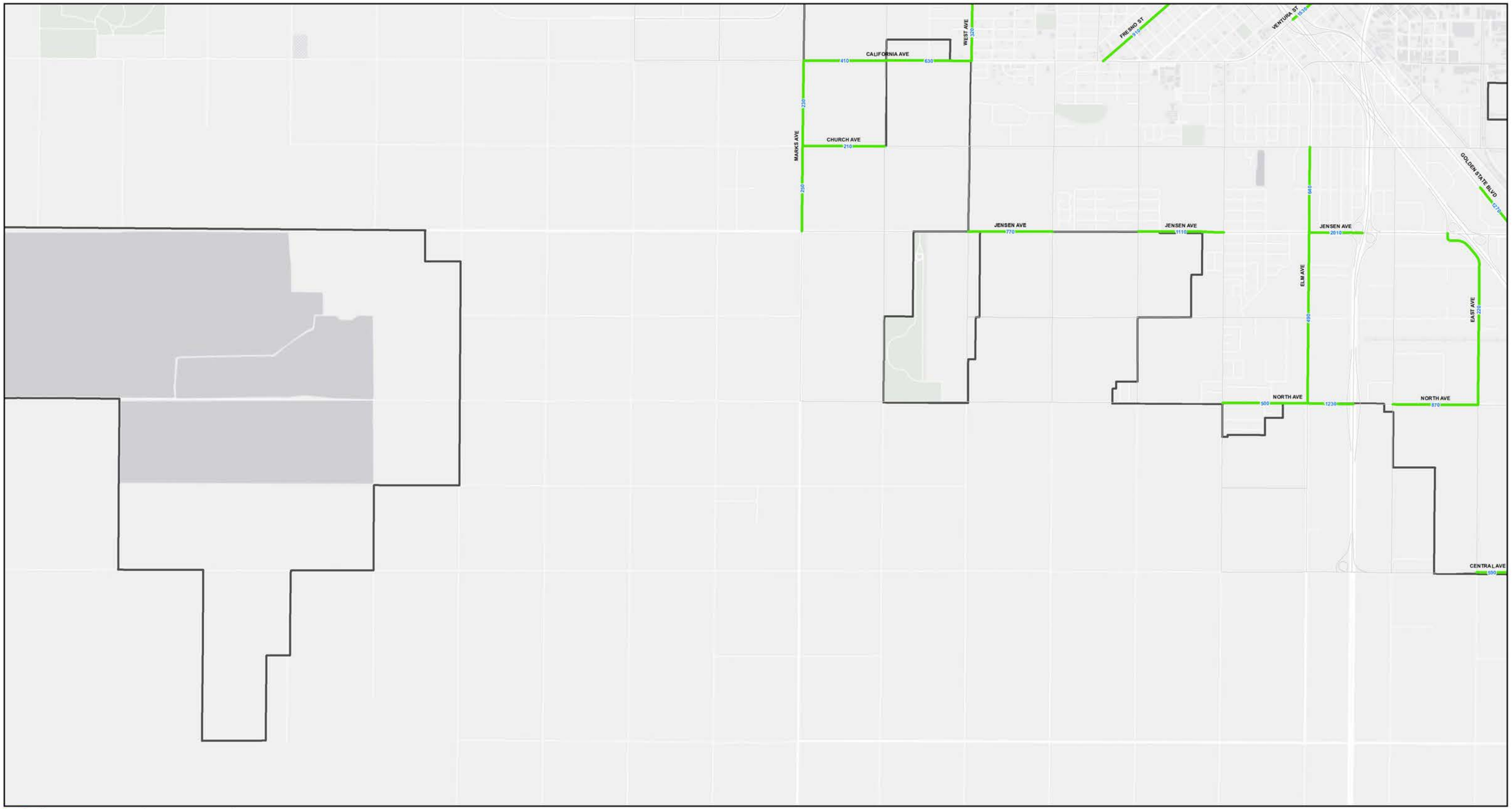

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SOURCE: City of Fresno

City of FRESNO

Fresno General Plan Program EIR
Traffic Impact Analysis

Figure 4.2 (Page 7 of 7)

General Plan (2035) Roadway Segment Levels of Service Using General Plan Configurations - AM Peak Hour

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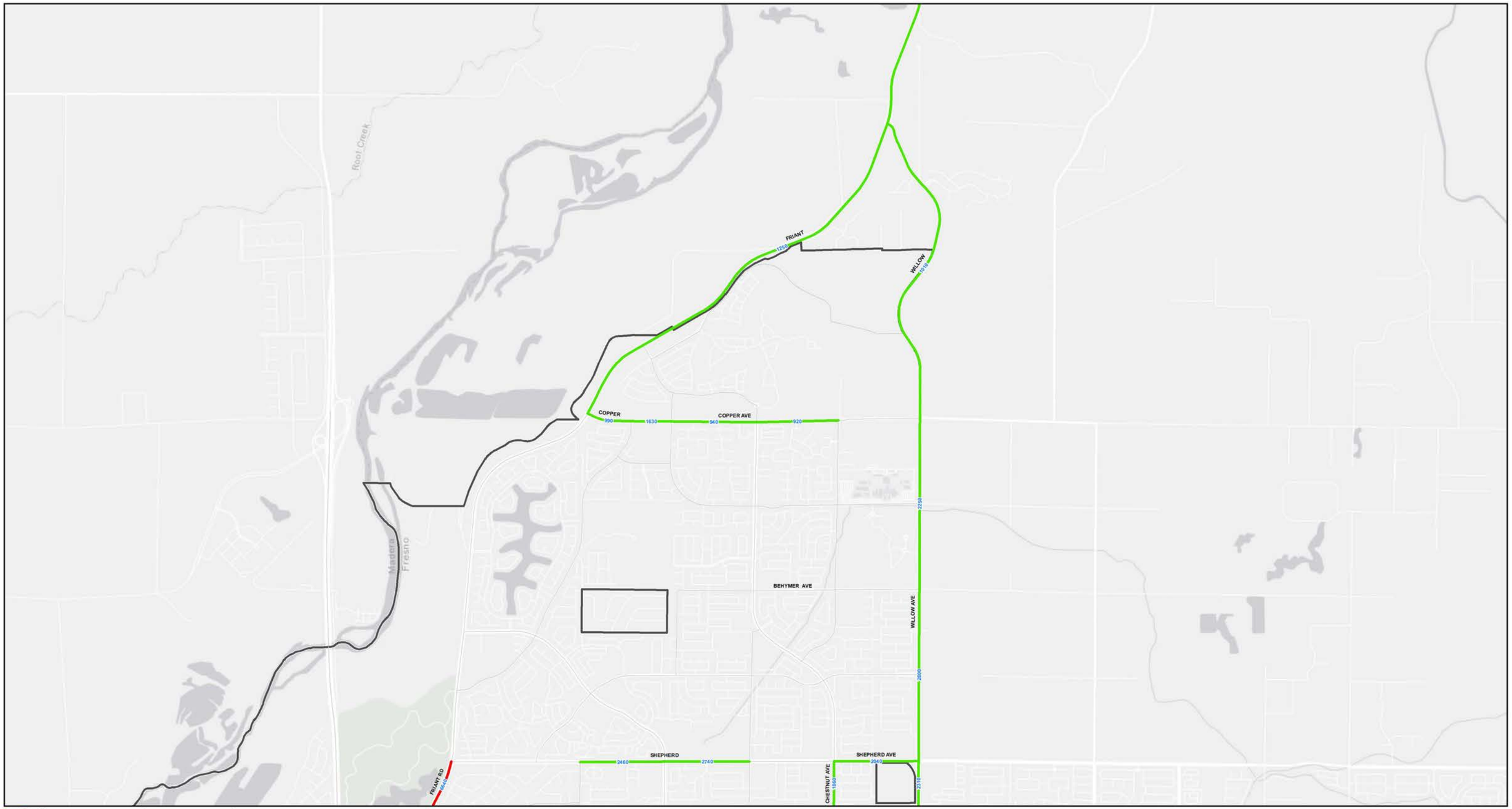

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SOURCE: City of Fresno

City of FRESNO

Fresno General Plan Program EIR
Traffic Impact Analysis

Figure 4.3 (Page 1 of 7)

General Plan (2035) Roadway Segment Levels of Service Using General Plan Configurations - PM Peak Hour

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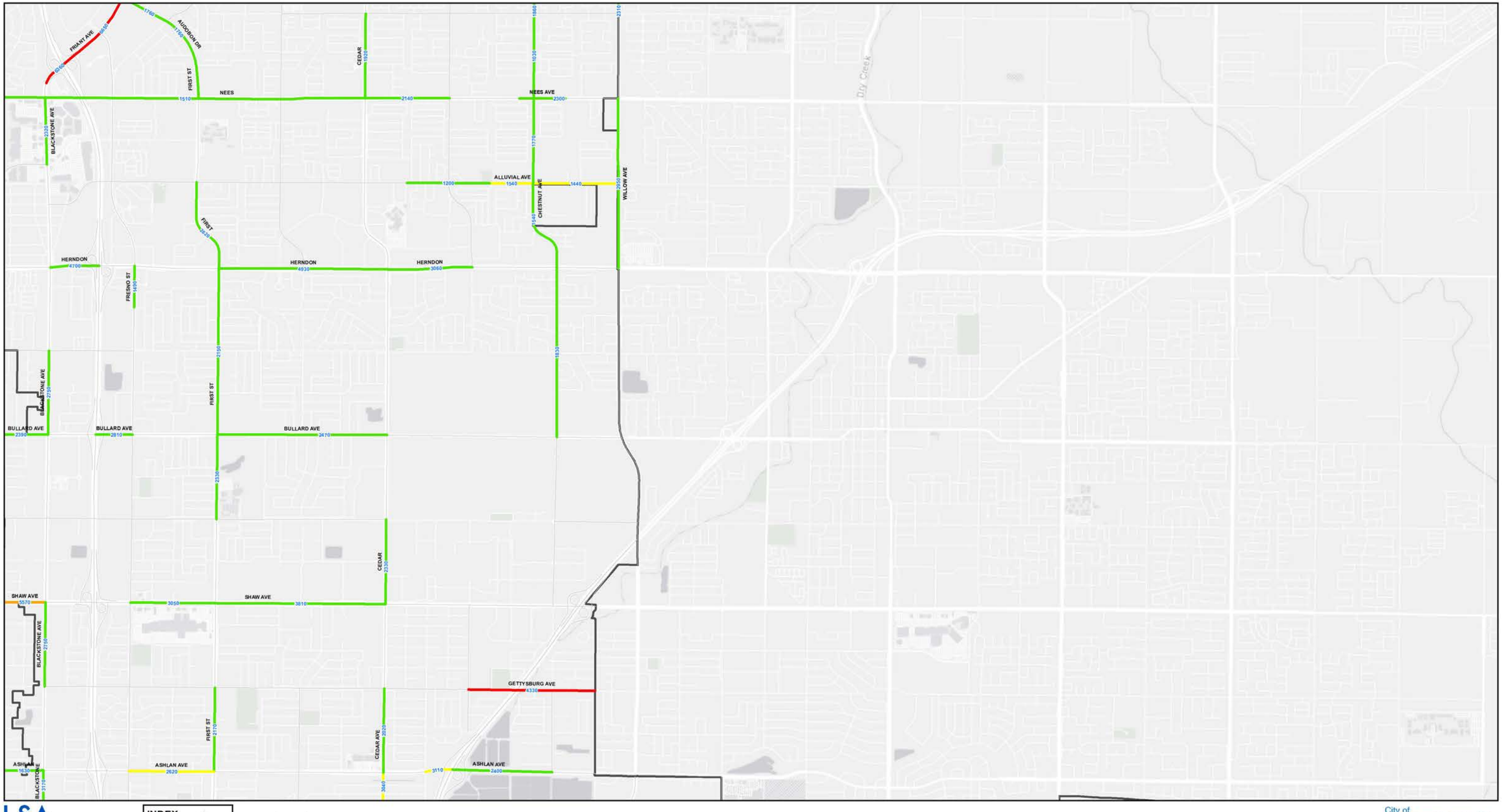

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SOURCE: City of Fresno

City of FRESNO

Fresno General Plan Program EIR
Traffic Impact Analysis

Figure 4.3 (Page 2 of 7)

General Plan (2035) Roadway Segment Levels of Service Using General Plan Configurations - PM Peak Hour

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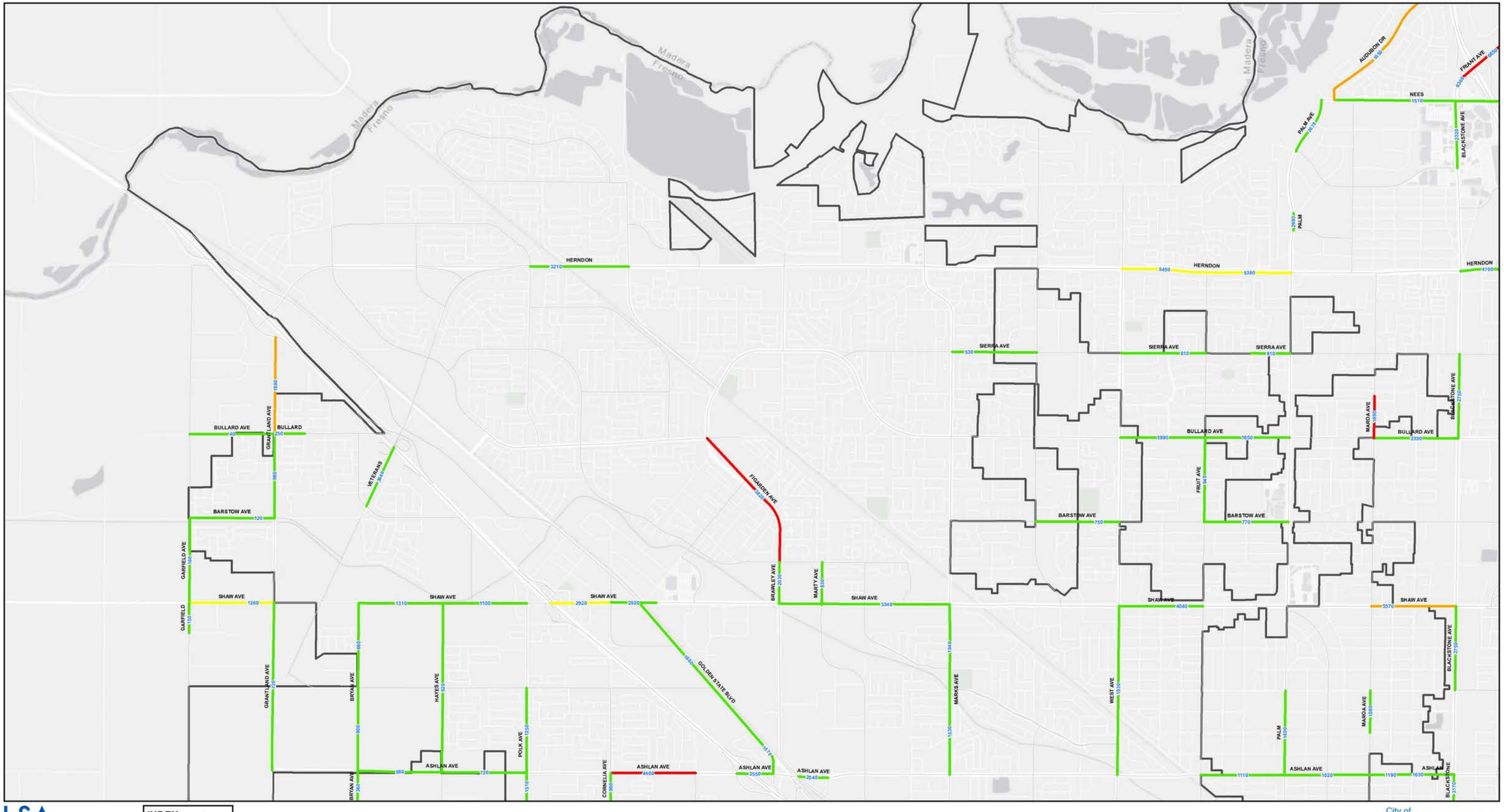

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Fresno City Boundary

XXX P.M. Peak Hour Volumes

LOS A-C

LOS D

LOS E

LOS F

City of FRESNO

SOURCE: City of Fresno

Fresno General Plan Program EIR
Traffic Impact Analysis

0 1500 3000
FEET

Figure 4.3 (Page 3 of 7)

General Plan (2035) Roadway Segment Levels of Service Using General Plan Configurations - PM Peak Hour

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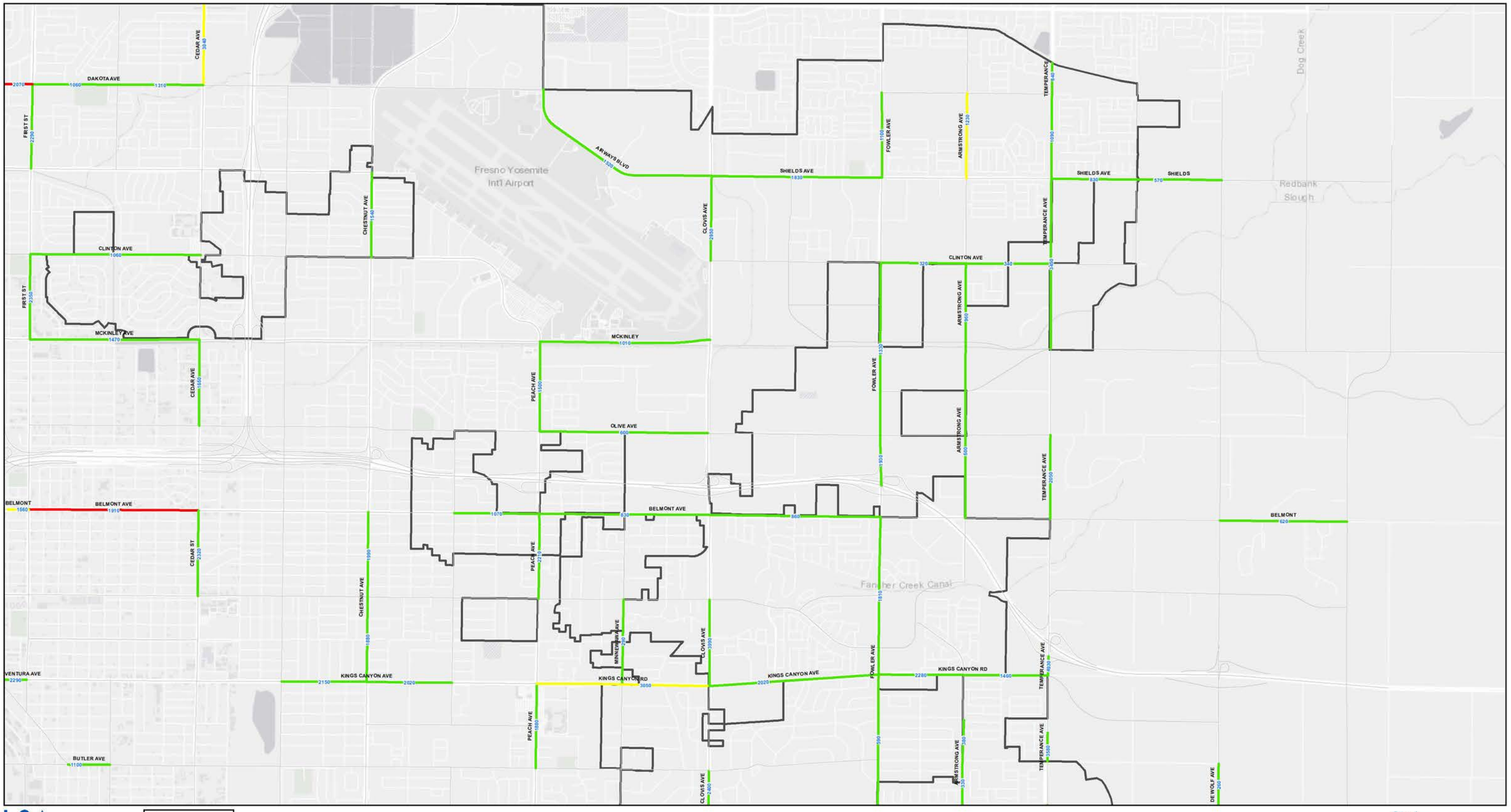

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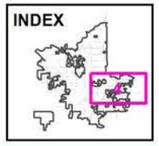

SOURCE: City of Fresno

Fresno City Boundary

P.M. Peak Hour Volumes

LOS A-C

LOS D

LOS E

LOS F

0 1500 3000

FEET

City of FRESNO

Fresno General Plan Program EIR
Traffic Impact Analysis

Figure 4.3 (Page 4 of 7)

General Plan (2035) Roadway Segment Levels of Service Using General Plan Configurations - PM Peak Hour

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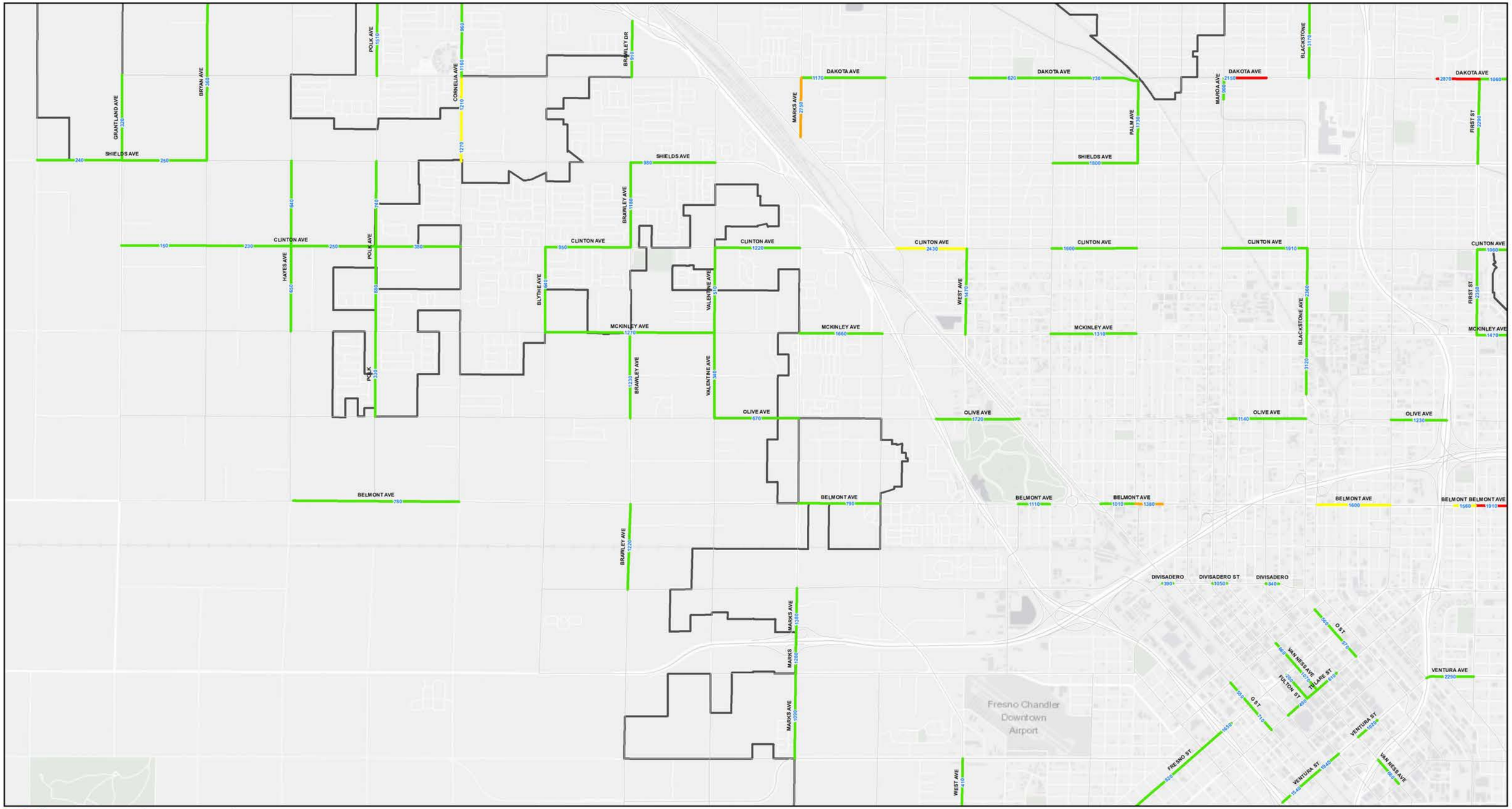

LSA

INDEX

SOURCE: City of Fresno

Fresno City Boundary

P.M. Peak Hour Volumes

LOS A-C

LOS D

LOS E

LOS F

0 1500 3000
FEET

City of FRESNO

Fresno General Plan Program EIR
Traffic Impact Analysis

Figure 4.3 (Page 5 of 7)

General Plan (2035) Roadway Segment Levels of Service Using General Plan Configurations - PM Peak Hour

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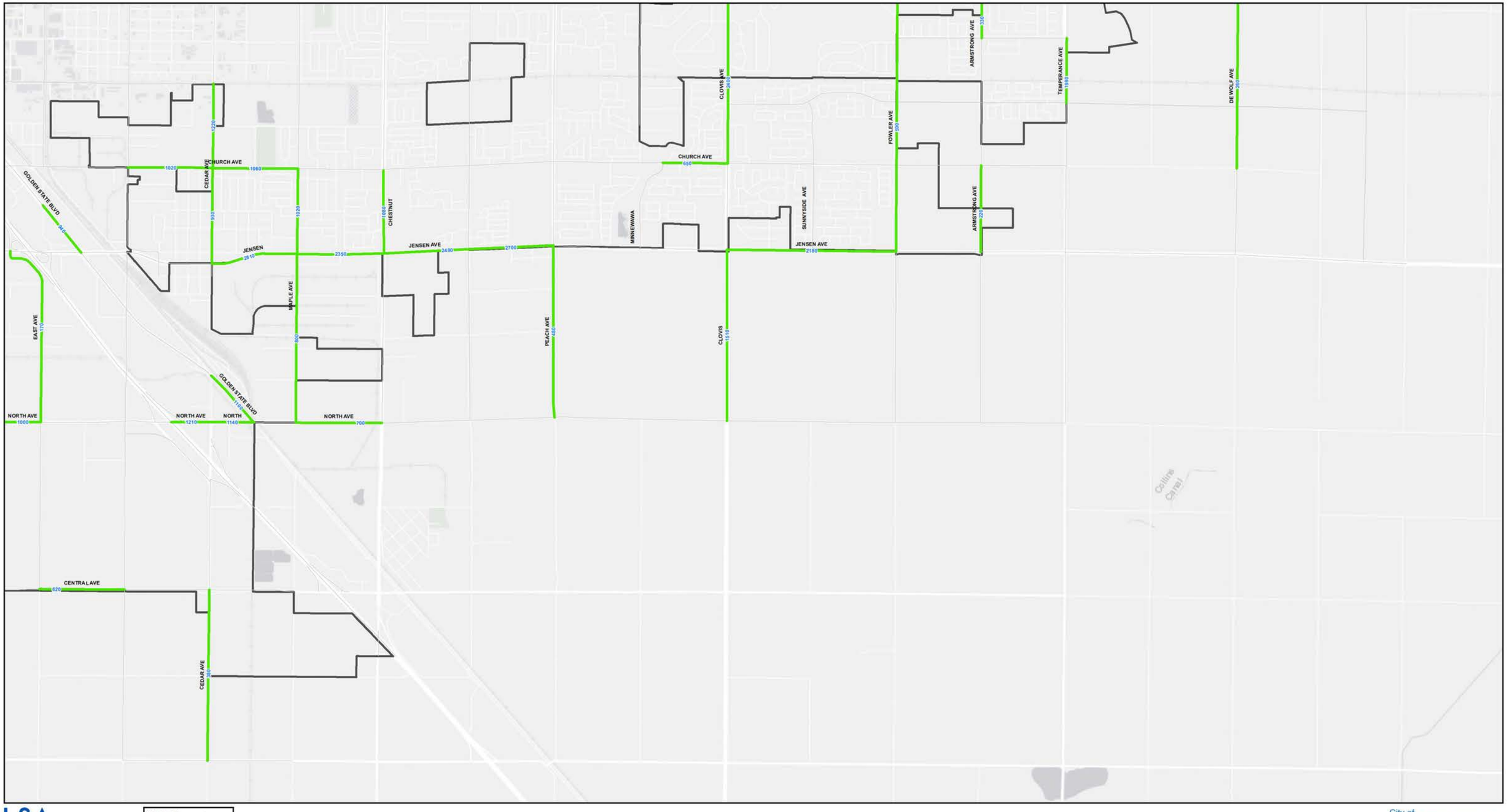
GOLDEN STATE BLVD
CHURCH AVE
CEDAR AVE
CHESTNUT
MINNEWAWA
CLOVIS AVE
SUNNYSIDE AVE
FOWLER AVE
ARMSTRONG AVE
TEMPERANCE AVE
DE WOLF AVE
JENSEN
JENSEN AVE
MAPLE AVE
PEACH AVE
CLOVIS
EAST AVE
NORTH AVE
NORTH
CENTRAL AVE
Collins Canal
INDEX
6
Fresno City Boundary
P.M. Peak Hour Volumes
LOS A-C
LOS D
LOS E
LOS F
SOURCE: City of Fresno
0
1500
3000
FEET
LSA
City of FRESNO
Fresno General Plan Program EIR
Traffic Impact Analysis
Figure 4.3 (Page 6 of 7)
General Plan (2035) Roadway Segment Levels of Service Using General Plan Configurations - PM Peak Hour
I:\CFO1802\Reports\Traffic\fig_4.3_GP_GP_LOS_PM.mxd (1/23/2020)

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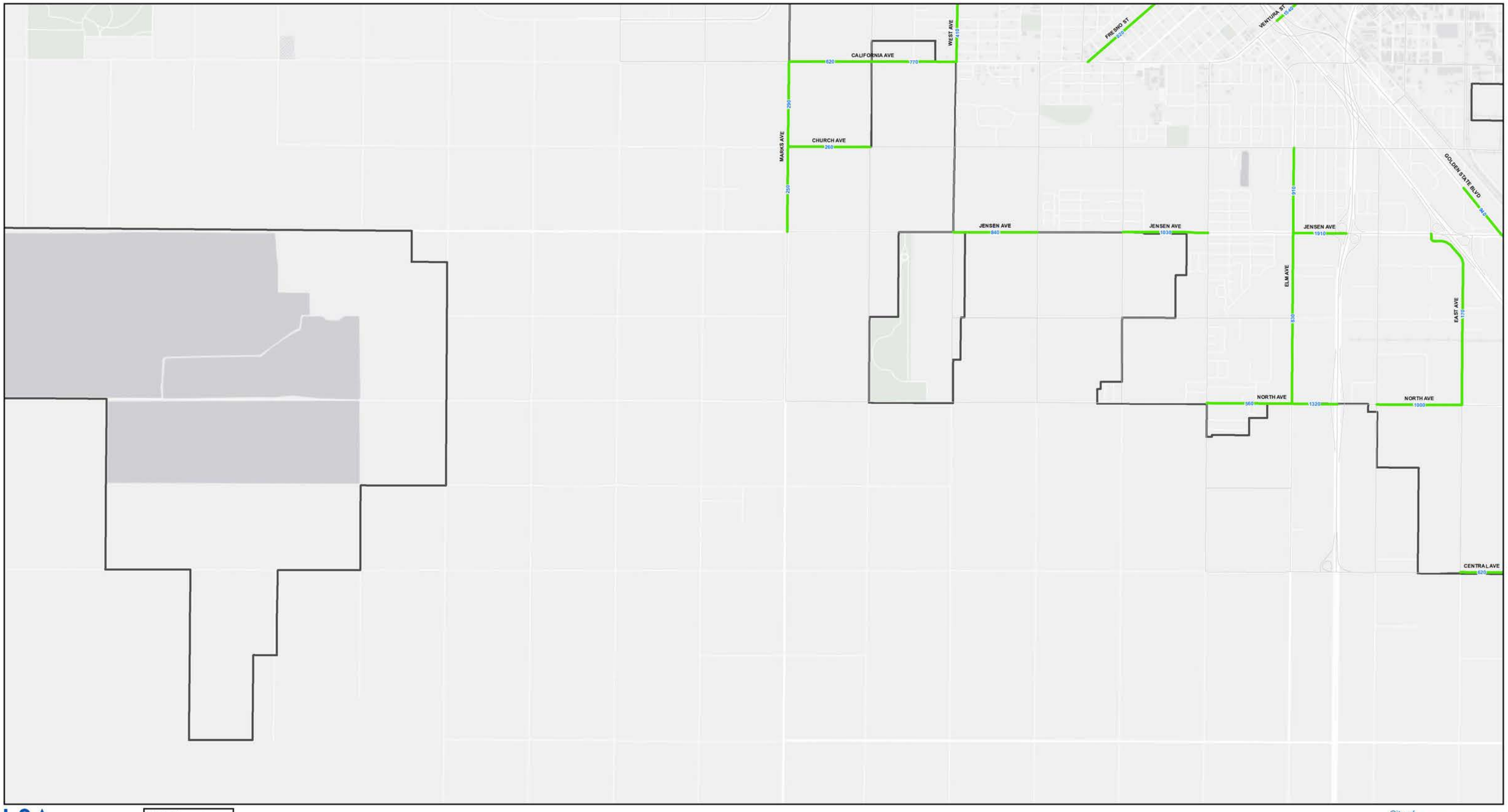
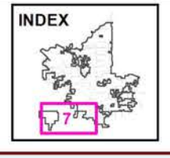


LSA

INDEX



Fresno City Boundary

XXX P.M. Peak Hour Volumes

LOS A-C

LOS D

LOS E

LOS F

SOURCE: City of Fresno

0 1500 3000
FEET

City of FRESNO

Fresno General Plan Program EIR
Traffic Impact Analysis

Figure 4.3 (Page 7 of 7)

General Plan (2035) Roadway Segment Levels of Service Using General Plan Configurations - PM Peak Hour

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CHAPTER 5 – Vehicle Miles Traveled

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 impact under VMT will 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 to updated guidelines, the City of Fresno Mobility and Transportation Element began a departure from considering LOS as the only measure of a transportation system's effectiveness. However, the City has not yet established thresholds related to vehicle miles of travel. Once VMT thresholds are established by the City, the project impacts will 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 by the City in coming days.

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 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 the 2019 Fresno General Plan EIR update 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 5.A summarizes this VMT data.

Table 5.A: 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 COG ABM
VMT = vehicle miles traveled

As shown in Table 5.A, 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% less than the County average). In 2035, the VMT per capita for the City is forecast to be 16.5 miles (approximately 2% 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% lower), and is forecast to increase to 31.4 miles (approximately 12% 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 the proposed project would have a significant impact related to *State CEQA Guidelines* Section 15064.3 subdivision (b), analyzing transportation impacts consistent with SB 743.

CHAPTER 6 – Recommendations

LOS is a qualitative measure that describes the operating condition of a roadway. It is utilized to improve the mobility of a circulation system, reduce congestion, and evaluate traffic operations. VMT is a measure of number of trips times the trip lengths generated by an individual land use. VMT reduction strategies ensure that the General Plan goals of reducing greenhouse gas emissions, developing multimodal transportation network, and integrating diverse land uses are achieved. Following are the findings of each of these analyses.

LOS Analysis Findings and Recommendations

Full buildout of the General Plan Land Use Element will create as many as 21 deficiencies (i.e., LOS E or F) for the 282 analyzed segments under existing roadway configurations. Implementation of the 2014 MEIR Circulation Element designation to the roadway system will result in 9 deficient roadways receiving additional capacity and operating at acceptable LOS. However, 12 roadway segments are forecast to exceed the General Plan LOS standard even when the Circulation Element is completed. In order for the segments that are forecast to operate at a satisfactory LOS, the City may:

1. Redesignate these arterials at a higher classification and ultimately widen them;
2. Create a new General Plan LOS goal for these links, acknowledging the potential lack of feasibility in acquiring right-of-way or implementing the roadway widening; or
3. Leave both the roadway classification and LOS goal as it is and create findings supporting a CEQA statement of overriding considerations.

VMT Analysis Findings and Recommendations

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% less than the County average). In 2035, the VMT per capita for the City is forecast to be 16.5 miles (approximately 2% 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% lower), and is forecast to increase to 31.4 miles (approximately 12% 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.

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 the proposed project would have a significant impact related to *State CEQA Guidelines* Section 15064.3 subdivision (b), analyzing transportation impacts consistent with SB 743.

It is recommended that when the City plans to update its General Plan Mobility 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 Land Use Element, including promotion of transit-oriented development, infill development, and high density mixed-use development. In conjunction, implementation of the Active Transportation Plan, Complete Streets Policy, Transportation Demand Management strategies, and multimodal transportation will also help in reducing the City's General Plan (2035) VMT.

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APPENDIX A
EXISTING TRAFFIC COUNTS

Prepared by NDS/ATD

VOLUME

Garfield Ave Bet. Barstow Ave & Shaw Ave

Day: Tuesday
Date: 8/21/2018

City: Fresno
Project #: CA18_2090_003

DAILY TOTALS	NB	SB	EB	WB	Total
	687	760	0	0	1,447

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	2		1				3		12:00	11		8				19	
00:15	0		0				0		12:15	6		13				19	
00:30	2		1				3		12:30	10		14				24	
00:45	0	4	1	3			1	7	12:45	4	31	11	46			15	77
01:00	0		1				1		13:00	9		8				17	
01:15	2		1				3		13:15	17		5				22	
01:30	1		2				3		13:30	8		4				12	
01:45	0	3	1	5			1	8	13:45	8	42	8	25			16	67
02:00	0		0				0		14:00	6		7				13	
02:15	0		1				1		14:15	6		15				21	
02:30	0		1				1		14:30	20		10				30	
02:45	1	1	0	2			1	3	14:45	16	48	8	40			24	88
03:00	0		2				2		15:00	14		6				20	
03:15	2		2				4		15:15	14		16				30	
03:30	1		1				2		15:30	16		12				28	
03:45	0	3	2	7			2	10	15:45	13	57	13	47			26	104
04:00	0		0				0		16:00	18		18				36	
04:15	1		2				3		16:15	18		13				31	
04:30	1		5				6		16:30	16		8				24	
04:45	2	4	4	11			6	15	16:45	18	70	13	52			31	122
05:00	2		1				3		17:00	20		17				37	
05:15	1		6				7		17:15	13		21				34	
05:30	1		3				4		17:30	22		15				37	
05:45	5	9	6	16			11	25	17:45	15	70	19	72			34	142
06:00	3		5				8		18:00	12		11				23	
06:15	4		10				14		18:15	17		10				27	
06:30	7		20				27		18:30	12		10				22	
06:45	8	22	36	71			44	93	18:45	7	48	8	39			15	87
07:00	21		37				58		19:00	7		11				18	
07:15	24		19				43		19:15	11		12				23	
07:30	17		15				32		19:30	10		5				15	
07:45	18	80	13	84			31	164	19:45	5	33	6	34			11	67
08:00	17		17				34		20:00	4		11				15	
08:15	9		13				22		20:15	5		10				15	
08:30	6		12				18		20:30	6		9				15	
08:45	5	37	8	50			13	87	20:45	5	20	10	40			15	60
09:00	8		6				14		21:00	5		8				13	
09:15	11		4				15		21:15	3		3				6	
09:30	5		7				12		21:30	4		3				7	
09:45	5	29	7	24			12	53	21:45	1	13	4	18			5	31
10:00	7		8				15		22:00	2		2				4	
10:15	6		10				16		22:15	3		8				11	
10:30	5		8				13		22:30	2		0				2	
10:45	7	25	7	33			14	58	22:45	1	8	1	11			2	19
11:00	5		3				8		23:00	2		0				2	
11:15	4		10				14		23:15	2		0				2	
11:30	6		3				9		23:30	1		1				2	
11:45	9	24	10	26			19	50	23:45	1	6	3	4			4	10
TOTALS		241		332				573	TOTALS		446		428				874
SPLIT %		42.1%		57.9%				39.6%	SPLIT %		51.0%		49.0%				60.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	687	760	0	0	1,447

AM Peak Hour	07:00	06:30	06:45	PM Peak Hour	16:45	17:00	17:00
AM Pk Volume	80	112	177	PM Pk Volume	73	72	142
Pk Hr Factor	0.833	0.757	0.763	Pk Hr Factor	0.830	0.857	0.959
7 - 9 Volume	117	134	251	4 - 6 Volume	140	124	264
7 - 9 Peak Hour	07:00	07:00	07:00	4 - 6 Peak Hour	16:45	17:00	17:00
7 - 9 Pk Volume	80	84	164	4 - 6 Pk Volume	73	72	142
Pk Hr Factor	0.833	0.568	0.707	Pk Hr Factor	0.830	0.857	0.959

Prepared by NDS/ATD

VOLUME

Garfield Ave S/O Shaw Ave

Day: Tuesday
Date: 8/21/2018

City: Fresno
Project #: CA18_2090_004

DAILY TOTALS	NB	SB	EB	WB	Total
	73	86	0	0	159

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0			0	12:00	1	1			2
00:15	0	0			0	12:15	1	2			3
00:30	0	0			0	12:30	2	1			3
00:45	0	0			0	12:45	2	1			3
01:00	0	0			0	13:00	1	2			3
01:15	0	0			0	13:15	2	0			2
01:30	0	0			0	13:30	2	0			2
01:45	0	0			0	13:45	0	1			1
02:00	0	0			0	14:00	0	2			2
02:15	0	0			0	14:15	0	3			3
02:30	0	0			0	14:30	0	3			3
02:45	0	0			0	14:45	2	1			3
03:00	0	0			0	15:00	3	1			4
03:15	0	0			0	15:15	0	2			2
03:30	0	0			0	15:30	3	3			6
03:45	0	0			0	15:45	0	1			1
04:00	0	0			0	16:00	0	2			2
04:15	0	0			0	16:15	0	1			1
04:30	0	0			0	16:30	1	1			2
04:45	0	0			0	16:45	0	2			2
05:00	0	0			0	17:00	3	3			6
05:15	0	0			0	17:15	1	2			3
05:30	0	0			0	17:30	0	1			1
05:45	0	1	1		1 1	17:45	2	3	9		5 15
06:00	1	0			1	18:00	1	1			2
06:15	0	1			1	18:15	5	1			6
06:30	1	0			1	18:30	1	1			2
06:45	5	0	1		5 8	18:45	1	3	6		4 14
07:00	3	2			5	19:00	0	1			1
07:15	0	2			2	19:15	0	2			2
07:30	1	0			1	19:30	1	0			1
07:45	1	1	5		2 10	19:45	2	0	3		2 6
08:00	2	0			2	20:00	0	0			0
08:15	2	1			3	20:15	0	2			2
08:30	2	1			3	20:30	0	2			2
08:45	1	0	2		1 9	20:45	0	2	6		2 6
09:00	1	2			3	21:00	0	1			1
09:15	2	1			3	21:15	0	0			0
09:30	0	0			0	21:30	0	2			2
09:45	2	1	4		3 9	21:45	0	1	4		1 4
10:00	2	2			4	22:00	0	2			2
10:15	1	3			4	22:15	1	0			1
10:30	1	1			2	22:30	0	0			0
10:45	2	2	8		4 14	22:45	0	0	2		0 3
11:00	1	2			3	23:00	1	0			1
11:15	2	1			3	23:15	0	0			0
11:30	0	0			0	23:30	0	0			0
11:45	1	2	5		3 9	23:45	0	0			0 1
TOTALS	34	26			60	TOTALS	39	60			99
SPLIT %	56.7%	43.3%			37.7%	SPLIT %	39.4%	60.6%			62.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	73	86	0	0	159

AM Peak Hour	06:15	10:00	10:00	PM Peak Hour	17:45	13:45	14:45
AM Pk Volume	9	8	14	PM Pk Volume	9	9	15
Pk Hr Factor	0.450	0.667	0.875	Pk Hr Factor	0.450	0.750	0.625
7 - 9 Volume	12	7	19	4 - 6 Volume	7	15	22
7 - 9 Peak Hour	07:45	07:00	07:00	4 - 6 Peak Hour	17:00	17:00	17:00
7 - 9 Pk Volume	7	5	10	4 - 6 Pk Volume	6	9	15
Pk Hr Factor	0.875	0.625	0.500	Pk Hr Factor	0.500	0.750	0.625

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Fresno
Grandland Avenue
N/ Shields Avenue
24 Hour Directional Volume Count

FSO001
Site Code: 003-19024

Start Time	1/23/2019 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		1	27			1	28				
12:15		2	21			1	26				
12:30		0	18			4	21				
12:45		3	28	6	94	2	22	8	97	14	191
01:00		1	30			1	38				
01:15		0	25			3	38				
01:30		1	21			2	30				
01:45		1	33	3	109	1	30	7	136	10	245
02:00		1	26			0	30				
02:15		0	30			1	24				
02:30		1	27			0	29				
02:45		0	34	2	117	0	28	1	111	3	228
03:00		1	34			0	30				
03:15		1	27			1	26				
03:30		1	27			0	39				
03:45		3	25	6	113	1	29	2	124	8	237
04:00		2	24			0	36				
04:15		4	42			0	34				
04:30		1	28			3	40				
04:45		2	**42**	9	136	2	**37**	5	147	14	283
05:00		3	**38**			2	**32**				
05:15		12	**40**			2	**36**				
05:30		12	**42**			6	**46**				
05:45		19	40	46	160	10	24	20	138	66	298
06:00		16	28			10	34				
06:15		10	30			18	26				
06:30		12	16			14	17				
06:45		15	10	53	84	28	28	70	105	123	189
07:00		**18**	12			**32**	18				
07:15		**50**	8			**49**	14				
07:30		**39**	13			**55**	23				
07:45		**30**	8	137	41	**68**	17	204	72	341	113
08:00		18	13			26	10				
08:15		38	5			31	10				
08:30		22	10			24	9				
08:45		28	8	106	36	19	20	100	49	206	85
09:00		29	7			23	9				
09:15		16	4			19	7				
09:30		13	1			11	14				
09:45		16	8	74	20	12	11	65	41	139	61
10:00		26	3			26	8				
10:15		16	4			16	6				
10:30		14	2			12	10				
10:45		15	0	71	9	16	3	70	27	141	36
11:00		16	1			22	4				
11:15		20	3			18	3				
11:30		20	0			20	4				
11:45		20	1	76	5	30	5	90	16	166	21
Total		589	924	589	924	642	1063	642	1063	1231	1987
Combined Total		1513		1513		1705		1705		3218	
AM Peak	-	07:00	-	-	-	07:00	-	-	-	-	-
Vol.	-	137	-	-	-	204	-	-	-	-	-
P.H.F.		0.685				0.750					
PM Peak	-	-	04:45	-	-	-	04:45	-	-	-	-
Vol.	-	-	162	-	-	-	151	-	-	-	-
P.H.F.			0.964				0.821				
Percentage		38.9%	61.1%			37.7%	62.3%				
ADT/AADT		ADT 3,218		AADT 3,218							

Prepared by NDS/ATD

VOLUME

Bryan Ave 400' N/O Ashlan Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_016

DAILY TOTALS	NB	SB	EB	WB	Total
	1,214	1,330	0	0	2,544

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	1		0				1		12:00	11		11				22	
00:15	0		0				0		12:15	8		8				16	
00:30	0		1				1		12:30	8		12				20	
00:45	0	1	0	1			0	2	12:45	10	37	23	54			33	91
01:00	0		0				0		13:00	22		23				45	
01:15	0		0				0		13:15	11		11				22	
01:30	0		0				0		13:30	10		17				27	
01:45	0		0				0		13:45	8	51	9	60			17	111
02:00	0		0				0		14:00	13		17				30	
02:15	0		0				0		14:15	17		14				31	
02:30	1		0				1		14:30	28		12				40	
02:45	0	1	1	1			1	2	14:45	46	104	9	52			55	156
03:00	1		0				1		15:00	76		61				137	
03:15	0		0				0		15:15	26		88				114	
03:30	0		0				0		15:30	14		15				29	
03:45	1	2	1	1			2	3	15:45	13	129	7	171			20	300
04:00	0		1				1		16:00	13		12				25	
04:15	0		2				2		16:15	26		16				42	
04:30	0		0				0		16:30	33		52				85	
04:45	1	1	0	3			1	4	16:45	25	97	29	109			54	206
05:00	2		1				3		17:00	18		28				46	
05:15	2		3				5		17:15	27		36				63	
05:30	3		4				7		17:30	25		30				55	
05:45	1	8	1	9			2	17	17:45	14	84	36	130			50	214
06:00	2		4				6		18:00	24		44				68	
06:15	2		2				4		18:15	18		29				47	
06:30	11		14				25		18:30	24		38				62	
06:45	13	28	12	32			25	60	18:45	12	78	15	126			27	204
07:00	22		27				49		19:00	13		13				26	
07:15	35		53				88		19:15	10		16				26	
07:30	57		76				133		19:30	19		13				32	
07:45	52	166	36	192			88	358	19:45	25	67	15	57			40	124
08:00	89		73				162		20:00	10		12				22	
08:15	90		75				165		20:15	14		4				18	
08:30	16		39				55		20:30	7		1				8	
08:45	9	204	15	202			24	406	20:45	2	33	2	19			4	52
09:00	11		10				21		21:00	2		0				2	
09:15	6		6				12		21:15	4		2				6	
09:30	8		10				18		21:30	4		0				4	
09:45	12	37	8	34			20	71	21:45	5	15	0	2			5	17
10:00	7		7				14		22:00	4		4				8	
10:15	6		7				13		22:15	2		0				2	
10:30	5		6				11		22:30	2		0				2	
10:45	8	26	11	31			19	57	22:45	2	10	3	7			5	17
11:00	4		4				8		23:00	0		1				1	
11:15	9		14				23		23:15	2		1				3	
11:30	8		9				17		23:30	0		1				1	
11:45	11	32	5	32			16	64	23:45	1	3	2	5			3	8
TOTALS		506		538				1044	TOTALS		708		792				1500
SPLIT %		48.5%		51.5%				41.0%	SPLIT %		47.2%		52.8%				59.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,214	1,330	0	0	2,544

AM Peak Hour	07:30	07:30	07:30	PM Peak Hour	14:30	14:45	14:30
AM Pk Volume	288	260	548	PM Pk Volume	176	173	346
Pk Hr Factor	0.800	0.855	0.830	Pk Hr Factor	0.579	0.491	0.631
7 - 9 Volume	370	394	764	4 - 6 Volume	181	239	420
7 - 9 Peak Hour	07:30	07:30	07:30	4 - 6 Peak Hour	16:30	16:30	16:30
7 - 9 Pk Volume	288	260	548	4 - 6 Pk Volume	103	145	248
Pk Hr Factor	0.800	0.855	0.830	Pk Hr Factor	0.780	0.697	0.729

Prepared by NDS/ATD

VOLUME

Bryan Ave Bet. Ashlan & Shields Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_017

DAILY TOTALS	NB	SB	EB	WB	Total
	506	477	0	0	983

AM Period	NB		SB		EB		WB		TOTAL	
00:00	0		0						0	
00:15	0		0						0	
00:30	0		0						0	
00:45	0		0						0	
01:00	1		1						2	
01:15	0		0						0	
01:30	0		0						0	
01:45	0	1	0	1					0	2
02:00	1		0						1	
02:15	0		0						0	
02:30	0		0						0	
02:45	0	1	0						0	1
03:00	0		1						1	
03:15	1		0						1	
03:30	0		0						0	
03:45	0	1	0	1					0	2
04:00	0		0						0	
04:15	2		1						3	
04:30	1		0						1	
04:45	3	6	0	1					3	7
05:00	1		0						1	
05:15	2		1						3	
05:30	6		3						9	
05:45	2	11	1	5					3	16
06:00	1		4						5	
06:15	4		3						7	
06:30	5		5						10	
06:45	2	12	5	17					7	29
07:00	12		12						24	
07:15	42		14						56	
07:30	57		43						100	
07:45	13	124	16	85					29	209
08:00	12		11						23	
08:15	12		15						27	
08:30	4		4						8	
08:45	4	32	2	32					6	64
09:00	2		3						5	
09:15	3		2						5	
09:30	2		2						4	
09:45	7	14	2	9					9	23
10:00	2		3						5	
10:15	2		4						6	
10:30	4		2						6	
10:45	5	13	8	17					13	30
11:00	2		2						4	
11:15	2		8						10	
11:30	7		5						12	
11:45	4	15	4	19					8	34
TOTALS	230		187							417
SPLIT %	55.2%		44.8%							42.4%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	8		2						10	
12:15	4		2						6	
12:30	3		3						6	
12:45	16	31	5	12					21	43
13:00	15		13						28	
13:15	13		11						24	
13:30	8		8						16	
13:45	6	42	5	37					11	79
14:00	2		4						6	
14:15	2		8						10	
14:30	10		4						14	
14:45	14	28	5	21					19	49
15:00	23		12						35	
15:15	7		23						30	
15:30	8		4						12	
15:45	10	48	9	48					19	96
16:00	3		12						15	
16:15	11		7						18	
16:30	5		11						16	
16:45	6	25	8	38					14	63
17:00	12		6						18	
17:15	8		14						22	
17:30	8		5						13	
17:45	9	37	5	30					14	67
18:00	6		11						17	
18:15	9		8						17	
18:30	9		16						25	
18:45	4	28	12	47					16	75
19:00	2		6						8	
19:15	4		7						11	
19:30	3		4						7	
19:45	3	12	8	25					11	37
20:00	3		12						15	
20:15	4		6						10	
20:30	5		2						7	
20:45	2	14	0	20					2	34
21:00	1		0						1	
21:15	2		3						5	
21:30	1		3						4	
21:45	0	4	0	6					0	10
22:00	1		1						2	
22:15	3		1						4	
22:30	1		0						1	
22:45	0	5	1	3					1	8
23:00	0		1						1	
23:15	2		0						2	
23:30	0		2						2	
23:45	0	2	0	3					0	5
TOTALS	276		290							566
SPLIT %	48.8%		51.2%							57.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	506	477	0	0	983

AM Peak Hour	07:00	07:00	07:00
AM Pk Volume	124	85	209
Pk Hr Factor	0.544	0.494	0.523
7 - 9 Volume	156	117	273
7 - 9 Peak Hour	07:00	07:00	07:00
7 - 9 Pk Volume	124	85	209
Pk Hr Factor	0.544	0.494	0.523

PM Peak Hour	14:30	15:00	14:30
PM Pk Volume	54	48	98
Pk Hr Factor	0.587	0.522	0.700
4 - 6 Volume	62	68	130
4 - 6 Peak Hour	17:00	16:30	16:30
4 - 6 Pk Volume	37	39	70
Pk Hr Factor	0.771	0.696	0.795

Prepared by NDS/ATD

VOLUME

N Bryan Ave Bet. W Shaw Ave & W Gettysburg Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_014

DAILY TOTALS	NB	SB	EB	WB	Total
	954	1,101	0	0	2,055

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	1		0						1		12:00	9		7						16	
00:15	0		1						1		12:15	8		11						19	
00:30	0		1						1		12:30	16		9						25	
00:45	0	1	0	2					0	3	12:45	12	45	23	50					35	95
01:00	1		0						1		13:00	33		33						66	
01:15	0		0						0		13:15	12		52						64	
01:30	0		0						0		13:30	56		44						100	
01:45	0	1	0						0	1	13:45	20	121	11	140					31	261
02:00	0		0						0		14:00	11		10						21	
02:15	1		1						2		14:15	12		7						19	
02:30	1		0						1		14:30	10		7						17	
02:45	0	2	0	1					0	3	14:45	15	48	11	35					26	83
03:00	0		3						3		15:00	20		12						32	
03:15	1		1						2		15:15	12		12						24	
03:30	0		0						0		15:30	22		12						34	
03:45	3	4	1	5					4	9	15:45	17	71	15	51					32	122
04:00	0		0						0		16:00	11		12						23	
04:15	3		1						4		16:15	8		14						22	
04:30	0		0						0		16:30	9		21						30	
04:45	1	4	1	2					2	6	16:45	10	38	26	73					36	111
05:00	1		4						5		17:00	13		34						47	
05:15	3		6						9		17:15	15		32						47	
05:30	5		2						7		17:30	13		22						35	
05:45	1	10	1	13					2	23	17:45	40	81	31	119					71	200
06:00	3		8						11		18:00	45		56						101	
06:15	3		9						12		18:15	40		31						71	
06:30	4		3						7		18:30	21		11						32	
06:45	6	16	24	44					30	60	18:45	12	118	8	106					20	224
07:00	14		30						44		19:00	14		13						27	
07:15	18		53						71		19:15	10		12						22	
07:30	35		60						95		19:30	9		10						19	
07:45	14	81	33	176					47	257	19:45	18	51	13	48					31	99
08:00	27		42						69		20:00	18		6						24	
08:15	47		60						107		20:15	18		4						22	
08:30	24		11						35		20:30	4		1						5	
08:45	9	107	8	121					17	228	20:45	3	43	2	13					5	56
09:00	9		9						18		21:00	3		0						3	
09:15	8		4						12		21:15	8		9						17	
09:30	6		7						13		21:30	2		3						5	
09:45	10	33	5	25					15	58	21:45	2	15	3	15					5	30
10:00	8		9						17		22:00	3		1						4	
10:15	8		7						15		22:15	2		1						3	
10:30	3		5						8		22:30	3		0						3	
10:45	4	23	6	27					10	50	22:45	0	8	0	2					0	10
11:00	6		6						12		23:00	3		0						3	
11:15	7		7						14		23:15	3		1						4	
11:30	8		9						17		23:30	1		1						2	
11:45	3	24	9	31					12	55	23:45	2	9	0	2					2	11
TOTALS	306		447						753		TOTALS	648		654						1302	
SPLIT %	40.6%		59.4%						36.6%		SPLIT %	49.8%		50.2%						63.4%	

DAILY TOTALS	NB	SB	EB	WB	Total
	954	1,101	0	0	2,055

AM Peak Hour	07:30	07:30	07:30	PM Peak Hour	17:45	12:45	17:30
AM Pk Volume	123	195	318	PM Pk Volume	146	152	278
Pk Hr Factor	0.654	0.813	0.743	Pk Hr Factor	0.811	0.731	0.688
7 - 9 Volume	188	297	485	4 - 6 Volume	119	192	311
7 - 9 Peak Hour	07:30	07:30	07:30	4 - 6 Peak Hour	17:00	17:00	17:00
7 - 9 Pk Volume	123	195	318	4 - 6 Pk Volume	81	119	200
Pk Hr Factor	0.654	0.813	0.743	Pk Hr Factor	0.506	0.875	0.704

Prepared by NDS/ATD

VOLUME

Hayes Ave Bet. Shields Ave & Clinton Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_020

DAILY TOTALS	NB	SB	EB	WB	Total
	797	767	0	0	1,564

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	2		0						2		12:00	7		8						15	
00:15	0		2						2		12:15	13		6						19	
00:30	1		1						2		12:30	12		12						24	
00:45	1	4	0	3					1	7	12:45	9	41	8	34					17	75
01:00	2		1						3		13:00	9		11						20	
01:15	2		0						2		13:15	13		16						29	
01:30	2		1						3		13:30	7		12						19	
01:45	0	6	1	3					1	9	13:45	14	43	13	52					27	95
02:00	1		2						3		14:00	12		12						24	
02:15	0		2						2		14:15	10		8						18	
02:30	0		0						0		14:30	22		15						37	
02:45	1	2	1	5					2	7	14:45	15	59	15	50					30	109
03:00	2		1						3		15:00	17		9						26	
03:15	1		0						1		15:15	18		19						37	
03:30	1		1						2		15:30	16		10						26	
03:45	1	5	0	2					1	7	15:45	12	63	18	56					30	119
04:00	0		1						1		16:00	15		10						25	
04:15	1		0						1		16:15	19		17						36	
04:30	3		5						8		16:30	18		27						45	
04:45	3	7	4	10					7	17	16:45	20	72	11	65					31	137
05:00	3		4						7		17:00	18		12						30	
05:15	3		2						5		17:15	31		10						41	
05:30	0		2						2		17:30	26		17						43	
05:45	2	8	1	9					3	17	17:45	23	98	13	52					36	150
06:00	4		3						7		18:00	15		10						25	
06:15	1		8						9		18:15	14		8						22	
06:30	5		17						22		18:30	17		13						30	
06:45	9	19	16	44					25	63	18:45	14	60	8	39					22	99
07:00	14		13						27		19:00	11		7						18	
07:15	12		32						44		19:15	9		9						18	
07:30	18		32						50		19:30	11		8						19	
07:45	11	55	14	91					25	146	19:45	6	37	7	31					13	68
08:00	14		21						35		20:00	8		7						15	
08:15	10		10						20		20:15	8		6						14	
08:30	9		13						22		20:30	6		11						17	
08:45	8	41	5	49					13	90	20:45	3	25	4	28					7	53
09:00	8		8						16		21:00	6		5						11	
09:15	11		8						19		21:15	6		4						10	
09:30	10		9						19		21:30	6		8						14	
09:45	9	38	7	32					16	70	21:45	5	23	4	21					9	44
10:00	8		7						15		22:00	6		4						10	
10:15	13		11						24		22:15	4		2						6	
10:30	12		15						27		22:30	6		1						7	
10:45	6	39	5	38					11	77	22:45	2	18	2	9					4	27
11:00	6		9						15		23:00	1		2						3	
11:15	9		8						17		23:15	1		1						2	
11:30	7		9						16		23:30	0		2						2	
11:45	10	32	11	37					21	69	23:45	0	2	2	7					2	9
TOTALS		256		323						579	TOTALS		541		444						985
SPLIT %		44.2%		55.8%						37.0%	SPLIT %		54.9%		45.1%						63.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	797	767	0	0	1,564

AM Peak Hour	07:00	07:15			07:15	PM Peak Hour	17:00	15:45			17:00
AM Pk Volume	55	99			154	PM Pk Volume	98	72			150
Pk Hr Factor	0.764	0.773			0.770	Pk Hr Factor	0.790	0.667			0.872
7 - 9 Volume	96	140	0	0	236	4 - 6 Volume	170	117	0	0	287
7 - 9 Peak Hour	07:00	07:15			07:15	4 - 6 Peak Hour	17:00	16:15			17:00
7 - 9 Pk Volume	55	99	0	0	154	4 - 6 Pk Volume	98	67	0	0	150
Pk Hr Factor	0.764	0.773	0.000	0.000	0.770	Pk Hr Factor	0.790	0.620	0.000	0.000	0.872

Prepared by NDS/ATD

VOLUME

Hayes Ave Bet. Clinton Ave & McKinley Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_021

DAILY TOTALS	NB	SB	EB	WB	Total
	770	824	0	0	1,594

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	1		0						1		12:00	10		9						19	
00:15	0		1						1		12:15	10		10						20	
00:30	1		2						3		12:30	11		14						25	
00:45	0	2	0	3					0	5	12:45	8	39	8	41					16	80
01:00	1		0						1		13:00	8		10						18	
01:15	1		0						1		13:15	10		15						25	
01:30	0		0						0		13:30	11		11						22	
01:45	0	2	1	1					1	3	13:45	15	44	14	50					29	94
02:00	0		0						0		14:00	11		10						21	
02:15	0		1						1		14:15	13		14						27	
02:30	3		0						3		14:30	18		13						31	
02:45	1	4	1	2					2	6	14:45	16	58	16	53					32	111
03:00	1		0						1		15:00	11		15						26	
03:15	1		2						3		15:15	18		20						38	
03:30	0		2						2		15:30	13		12						25	
03:45	1	3	0	4					1	7	15:45	14	56	10	57					24	113
04:00	0		3						3		16:00	15		12						27	
04:15	0		1						1		16:15	17		12						29	
04:30	1		3						4		16:30	17		25						42	
04:45	3	4	4	11					7	15	16:45	19	68	17	66					36	134
05:00	1		4						5		17:00	15		16						31	
05:15	3		2						5		17:15	35		11						46	
05:30	3		4						7		17:30	26		13						39	
05:45	2	9	4	14					6	23	17:45	23	99	16	56					39	155
06:00	4		5						9		18:00	12		11						23	
06:15	8		11						19		18:15	17		10						27	
06:30	5		10						15		18:30	13		13						26	
06:45	8	25	24	50					32	75	18:45	10	52	13	47					23	99
07:00	12		13						25		19:00	12		12						24	
07:15	10		31						41		19:15	15		13						28	
07:30	19		31						50		19:30	9		10						19	
07:45	10	51	17	92					27	143	19:45	7	43	6	41					13	84
08:00	11		19						30		20:00	7		9						16	
08:15	14		10						24		20:15	7		4						11	
08:30	8		14						22		20:30	5		13						18	
08:45	10	43	6	49					16	92	20:45	4	23	7	33					11	56
09:00	7		9						16		21:00	6		5						11	
09:15	10		8						18		21:15	4		5						9	
09:30	12		9						21		21:30	7		6						13	
09:45	8	37	5	31					13	68	21:45	4	21	5	21					9	42
10:00	7		9						16		22:00	4		4						8	
10:15	12		8						20		22:15	4		2						6	
10:30	10		14						24		22:30	6		2						8	
10:45	6	35	10	41					16	76	22:45	3	17	3	11					6	28
11:00	6		13						19		23:00	2		1						3	
11:15	9		6						15		23:15	1		2						3	
11:30	7		8						15		23:30	0		1						1	
11:45	9	31	17	44					26	75	23:45	1	4	2	6					3	10
TOTALS		246		342						588	TOTALS		524		482						1006
SPLIT %		41.8%		58.2%						36.9%	SPLIT %		52.1%		47.9%						63.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	770	824	0	0	1,594

AM Peak Hour	07:30	06:45			06:45	PM Peak Hour	17:00	16:15			16:30
AM Pk Volume	54	99			148	PM Pk Volume	99	70			155
Pk Hr Factor	0.711	0.798			0.740	Pk Hr Factor	0.707	0.700			0.842
7 - 9 Volume	94	141	0	0	235	4 - 6 Volume	167	122	0	0	289
7 - 9 Peak Hour	07:30	07:15			07:15	4 - 6 Peak Hour	17:00	16:15			16:30
7 - 9 Pk Volume	54	98	0	0	148	4 - 6 Pk Volume	99	70	0	0	155
Pk Hr Factor	0.711	0.790	0.000	0.000	0.740	Pk Hr Factor	0.707	0.700	0.000	0.000	0.842

Prepared by NDS/ATD

VOLUME

N Hayes Ave Bet. W Gettysburg Ave & W Ashlan Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_016

DAILY TOTALS	NB	SB	EB	WB	Total
	1,025	1,063	0	0	2,088

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	7		2				9		12:00	13		7				20	
00:15	3		7				10		12:15	8		13				21	
00:30	2		1				3		12:30	10		11				21	
00:45	3	15	2	12			5	27	12:45	15	46	17	48			32	94
01:00	1		3				4		13:00	14		17				31	
01:15	2		4				6		13:15	14		22				36	
01:30	2		1				3		13:30	19		12				31	
01:45	0	5	1	9			1	14	13:45	22	69	17	68			39	137
02:00	1		1				2		14:00	29		14				43	
02:15	1		1				2		14:15	18		11				29	
02:30	0		0				0		14:30	15		14				29	
02:45	2	4	0	2			2	6	14:45	13	75	12	51			25	126
03:00	1		2				3		15:00	18		14				32	
03:15	0		2				2		15:15	11		10				21	
03:30	3		1				4		15:30	12		10				22	
03:45	1	5	1	6			2	11	15:45	12	53	16	50			28	103
04:00	2		4				6		16:00	20		23				43	
04:15	1		1				2		16:15	16		18				34	
04:30	5		3				8		16:30	25		18				43	
04:45	4	12	2	10			6	22	16:45	14	75	26	85			40	160
05:00	3		2				5		17:00	21		33				54	
05:15	3		5				8		17:15	20		29				49	
05:30	6		2				8		17:30	15		22				37	
05:45	1	13	1	10			2	23	17:45	19	75	20	104			39	179
06:00	4		9				13		18:00	12		32				44	
06:15	8		5				13		18:15	26		20				46	
06:30	11		4				15		18:30	18		16				34	
06:45	17	40	9	27			26	67	18:45	11	67	16	84			27	151
07:00	20		53				73		19:00	14		18				32	
07:15	32		33				65		19:15	22		13				35	
07:30	36		31				67		19:30	14		25				39	
07:45	19	107	23	140			42	247	19:45	15	65	13	69			28	134
08:00	22		24				46		20:00	6		20				26	
08:15	32		14				46		20:15	9		9				18	
08:30	20		12				32		20:30	4		4				8	
08:45	10	84	7	57			17	141	20:45	9	28	10	43			19	71
09:00	6		8				14		21:00	16		9				25	
09:15	9		9				18		21:15	9		8				17	
09:30	9		6				15		21:30	6		9				15	
09:45	5	29	11	34			16	63	21:45	8	39	5	31			13	70
10:00	8		19				27		22:00	7		8				15	
10:15	11		9				20		22:15	3		7				10	
10:30	14		9				23		22:30	7		3				10	
10:45	8	41	7	44			15	85	22:45	3	20	8	26			11	46
11:00	8		3				11		23:00	3		4				7	
11:15	9		6				15		23:15	6		7				13	
11:30	8		16				24		23:30	1		5				6	
11:45	21	46	9	34			30	80	23:45	2	12	3	19			5	31
TOTALS		401		385				786	TOTALS		624		678				1302
SPLIT %		51.0%		49.0%				37.6%	SPLIT %		47.9%		52.1%				62.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,025	1,063	0	0	2,088

AM Peak Hour	07:15	07:00	07:00	PM Peak Hour	13:30	16:45	16:30
AM Pk Volume	109	140	247	PM Pk Volume	88	110	186
Pk Hr Factor	0.757	0.660	0.846	Pk Hr Factor	0.759	0.833	0.861
7 - 9 Volume	191	197	388	4 - 6 Volume	150	189	339
7 - 9 Peak Hour	07:15	07:00	07:00	4 - 6 Peak Hour	16:30	16:45	16:30
7 - 9 Pk Volume	109	140	247	4 - 6 Pk Volume	80	110	186
Pk Hr Factor	0.757	0.660	0.846	Pk Hr Factor	0.800	0.833	0.861

Prepared by NDS/ATD

VOLUME

N Hayes Ave Bet. W Shaw Ave & W Gettysburg Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_015

DAILY TOTALS	NB	SB	EB	WB	Total
	1,381	1,523	0	0	2,904

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	5		2				7		12:00	17		17				34	
00:15	5		5				10		12:15	14		24				38	
00:30	3		5				8		12:30	19		17				36	
00:45	3	16	3	15			6	31	12:45	18	68	19	77			37	145
01:00	1		2				3		13:00	10		21				31	
01:15	1		5				6		13:15	17		27				44	
01:30	1		2				3		13:30	33		27				60	
01:45	0	3	6	15			6	18	13:45	20	80	30	105			50	185
02:00	2		0				2		14:00	25		18				43	
02:15	2		2				4		14:15	21		29				50	
02:30	1		0				1		14:30	20		13				33	
02:45	2	7	1	3			3	10	14:45	18	84	19	79			37	163
03:00	1		1				2		15:00	20		27				47	
03:15	3		2				5		15:15	20		18				38	
03:30	3		0				3		15:30	15		25				40	
03:45	3	10	1	4			4	14	15:45	13	68	25	95			38	163
04:00	2		2				4		16:00	27		27				54	
04:15	4		2				6		16:15	15		27				42	
04:30	13		3				16		16:30	18		29				47	
04:45	6	25	2	9			8	34	16:45	16	76	39	122			55	198
05:00	9		2				11		17:00	22		42				64	
05:15	6		2				8		17:15	19		38				57	
05:30	9		2				11		17:30	13		40				53	
05:45	6	30	4	10			10	40	17:45	21	75	38	158			59	233
06:00	9		9				18		18:00	15		52				67	
06:15	16		5				21		18:15	14		29				43	
06:30	21		5				26		18:30	30		30				60	
06:45	24	70	9	28			33	98	18:45	23	82	31	142			54	224
07:00	37		35				72		19:00	17		25				42	
07:15	52		20				72		19:15	22		26				48	
07:30	52		16				68		19:30	19		31				50	
07:45	30	171	27	98			57	269	19:45	23	81	26	108			49	189
08:00	35		20				55		20:00	10		37				47	
08:15	46		11				57		20:15	10		19				29	
08:30	21		20				41		20:30	10		15				25	
08:45	14	116	10	61			24	177	20:45	10	40	24	95			34	135
09:00	24		12				36		21:00	11		22				33	
09:15	14		14				28		21:15	6		13				19	
09:30	13		10				23		21:30	8		15				23	
09:45	15	66	14	50			29	116	21:45	13	38	9	59			22	97
10:00	13		22				35		22:00	4		11				15	
10:15	13		12				25		22:15	3		5				8	
10:30	23		13				36		22:30	9		8				17	
10:45	24	73	17	64			41	137	22:45	6	22	18	42			24	64
11:00	10		12				22		23:00	7		10				17	
11:15	14		14				28		23:15	3		8				11	
11:30	13		17				30		23:30	3		2				5	
11:45	27	64	15	58			42	122	23:45	3	16	6	26			9	42
TOTALS		651		415				1066	**TOTALS**		730		1108				1838
SPLIT %		61.1%		38.9%				36.7%	**SPLIT %**		39.7%		60.3%				63.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,381	1,523	0	0	2,904

AM Peak Hour	07:00	07:00	07:00	**PM Peak Hour**	13:30	17:15	17:15
AM Pk Volume	171	98	269	**PM Pk Volume**	99	168	236
Pk Hr Factor	0.822	0.700	0.934	**Pk Hr Factor**	0.750	0.808	0.881
7 - 9 Volume	287	159	446	**4 - 6 Volume**	151	280	431
7 - 9 Peak Hour	07:00	07:00	07:00	**4 - 6 Peak Hour**	16:00	16:45	17:00
7 - 9 Pk Volume	171	98	269	**4 - 6 Pk Volume**	76	159	233
Pk Hr Factor	0.822	0.700	0.934	**Pk Hr Factor**	0.704	0.946	0.910

Prepared by NDS/ATD

VOLUME

Polk Ave 400' S/O Clinton Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_023

DAILY TOTALS	NB	SB	EB	WB	Total
	1,922	2,165	0	0	4,087

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	4		7				11		12:00	21		30				51	
00:15	5		6				11		12:15	23		20				43	
00:30	1		6				7		12:30	20		16				36	
00:45	0	10	6	25			6	35	12:45	22	86	19	85			41	171
01:00	1		2				3		13:00	24		20				44	
01:15	3		3				6		13:15	23		23				46	
01:30	0		1				1		13:30	24		18				42	
01:45	0	4	7	13			7	17	13:45	26	97	21	82			47	179
02:00	1		2				3		14:00	20		20				40	
02:15	0		2				2		14:15	28		25				53	
02:30	2		0				2		14:30	26		67				93	
02:45	2	5	0	4			2	9	14:45	53	127	60	172			113	299
03:00	2		2				4		15:00	78		71				149	
03:15	0		3				3		15:15	96		60				156	
03:30	1		0				1		15:30	37		29				66	
03:45	3	6	1	6			4	12	15:45	23	234	34	194			57	428
04:00	1		1				2		16:00	26		33				59	
04:15	3		1				4		16:15	22		36				58	
04:30	2		2				4		16:30	41		56				97	
04:45	5	11	4	8			9	19	16:45	57	146	42	167			99	313
05:00	4		2				6		17:00	48		45				93	
05:15	2		7				9		17:15	46		24				70	
05:30	9		8				17		17:30	38		39				77	
05:45	9	24	6	23			15	47	17:45	40	172	37	145			77	317
06:00	7		8				15		18:00	23		44				67	
06:15	8		10				18		18:15	23		43				66	
06:30	16		8				24		18:30	21		32				53	
06:45	22	53	17	43			39	96	18:45	29	96	42	161			71	257
07:00	65		38				103		19:00	24		25				49	
07:15	44		71				115		19:15	30		26				56	
07:30	44		71				115		19:30	27		27				54	
07:45	67	220	88	268			155	488	19:45	36	117	21	99			57	216
08:00	53		73				126		20:00	22		19				41	
08:15	74		94				168		20:15	17		21				38	
08:30	71		48				119		20:30	9		27				36	
08:45	21	219	24	239			45	458	20:45	13	61	28	95			41	156
09:00	10		10				20		21:00	7		15				22	
09:15	10		9				19		21:15	8		16				24	
09:30	14		9				23		21:30	7		27				34	
09:45	12	46	6	34			18	80	21:45	8	30	18	76			26	106
10:00	17		21				38		22:00	7		22				29	
10:15	9		18				27		22:15	8		12				20	
10:30	19		24				43		22:30	7		10				17	
10:45	17	62	22	85			39	147	22:45	3	25	7	51			10	76
11:00	10		19				29		23:00	7		17				24	
11:15	19		14				33		23:15	6		3				9	
11:30	14		14				28		23:30	1		6				7	
11:45	11	54	12	59			23	113	23:45	3	17	5	31			8	48
TOTALS		714		807				1521	TOTALS		1208		1358				2566
SPLIT %		46.9%		53.1%				37.2%	SPLIT %		47.1%		52.9%				62.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	1,922	2,165	0	0	4,087

AM Peak Hour	07:45	07:30			07:45	PM Peak Hour	14:45	14:30			14:30
AM Pk Volume	265	326			568	PM Pk Volume	264	258			511
Pk Hr Factor	0.895	0.867			0.845	Pk Hr Factor	0.688	0.908			0.819
7 - 9 Volume	439	507	0	0	946	4 - 6 Volume	318	312	0	0	630
7 - 9 Peak Hour	07:45	07:30			07:45	4 - 6 Peak Hour	16:30	16:15			16:30
7 - 9 Pk Volume	265	326	0	0	568	4 - 6 Pk Volume	192	179	0	0	359
Pk Hr Factor	0.895	0.867	0.000	0.000	0.845	Pk Hr Factor	0.842	0.799	0.000	0.000	0.907

Prepared by NDS/ATD

VOLUME

Polk Ave 400' N/O Clinton Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_022

DAILY TOTALS	NB	SB	EB	WB	Total
	2,092	2,294	0	0	4,386

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	6		8				14		12:00	27		35				62	
00:15	5		8				13		12:15	39		25				64	
00:30	7		7				14		12:30	17		18				35	
00:45	0	18	3	26			3	44	12:45	25	108	23	101			48	209
01:00	3		1				4		13:00	22		16				38	
01:15	3		4				7		13:15	29		28				57	
01:30	4		2				6		13:30	29		28				57	
01:45	1	11	4	11			5	22	13:45	27	107	22	94			49	201
02:00	4		4				8		14:00	20		19				39	
02:15	2		3				5		14:15	26		30				56	
02:30	2		1				3		14:30	36		76				112	
02:45	1	9	0	8			1	17	14:45	48	130	53	178			101	308
03:00	3		1				4		15:00	63		59				122	
03:15	1		2				3		15:15	75		47				122	
03:30	0		0				0		15:30	45		36				81	
03:45	2	6	1	4			3	10	15:45	30	213	34	176			64	389
04:00	2		0				2		16:00	26		44				70	
04:15	2		0				2		16:15	33		46				79	
04:30	1		3				4		16:30	53		68				121	
04:45	5	10	4	7			9	17	16:45	51	163	42	200			93	363
05:00	6		3				9		17:00	48		54				102	
05:15	4		7				11		17:15	47		40				87	
05:30	13		12				25		17:30	41		37				78	
05:45	10	33	10	32			20	65	17:45	46	182	35	166			81	348
06:00	13		11				24		18:00	37		56				93	
06:15	11		18				29		18:15	27		45				72	
06:30	22		17				39		18:30	29		36				65	
06:45	33	79	29	75			62	154	18:45	30	123	38	175			68	298
07:00	75		45				120		19:00	25		22				47	
07:15	63		80				143		19:15	32		31				63	
07:30	36		63				99		19:30	28		26				54	
07:45	60	234	63	251			123	485	19:45	35	120	19	98			54	218
08:00	40		48				88		20:00	20		18				38	
08:15	41		56				97		20:15	22		27				49	
08:30	48		34				82		20:30	11		31				42	
08:45	25	154	25	163			50	317	20:45	17	70	35	111			52	181
09:00	17		17				34		21:00	13		19				32	
09:15	12		14				26		21:15	16		22				38	
09:30	17		11				28		21:30	14		29				43	
09:45	11	57	11	53			22	110	21:45	10	53	24	94			34	147
10:00	22		14				36		22:00	8		22				30	
10:15	11		17				28		22:15	10		16				26	
10:30	22		29				51		22:30	9		14				23	
10:45	19	74	15	75			34	149	22:45	5	32	10	62			15	94
11:00	21		29				50		23:00	6		17				23	
11:15	20		19				39		23:15	10		11				21	
11:30	13		30				43		23:30	8		7				15	
11:45	22	76	16	94			38	170	23:45	6	30	5	40			11	70
TOTALS		761		799				1560	TOTALS		1331		1495				2826
SPLIT %		48.8%		51.2%				35.6%	SPLIT %		47.1%		52.9%				64.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	2,092	2,294	0	0	4,386

AM Peak Hour	07:00	07:15				07:00	PM Peak Hour	14:45	14:30				14:30
AM Pk Volume	234	254				485	PM Pk Volume	231	235				457
Pk Hr Factor	0.780	0.794				0.848	Pk Hr Factor	0.770	0.773				0.936
7 - 9 Volume	388	414	0	0		802	4 - 6 Volume	345	366	0	0		711
7 - 9 Peak Hour	07:00	07:15				07:00	4 - 6 Peak Hour	16:30	16:15				16:30
7 - 9 Pk Volume	234	254	0	0		485	4 - 6 Pk Volume	199	210	0	0		403
Pk Hr Factor	0.780	0.794	0.000	0.000		0.848	Pk Hr Factor	0.939	0.772	0.000	0.000		0.833

Prepared by NDS/ATD

VOLUME

N Polk Ave 300' S/O W Gettysburg Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_019

DAILY TOTALS	NB	SB	EB	WB	Total
	3,693	4,111	0	0	7,804

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	8		17				25		12:00	47		53				100	
00:15	9		15				24		12:15	53		40				93	
00:30	4		6				10		12:30	56		55				111	
00:45	7	28	5	43			12	71	12:45	48	204	50	198			98	402
01:00	3		10				13		13:00	54		62				116	
01:15	1		5				6		13:15	73		56				129	
01:30	5		4				9		13:30	80		87				167	
01:45	3	12	5	24			8	36	13:45	74	281	82	287			156	568
02:00	4		4				8		14:00	89		63				152	
02:15	1		3				4		14:15	63		92				155	
02:30	4		6				10		14:30	49		64				113	
02:45	1	10	5	18			6	28	14:45	58	259	61	280			119	539
03:00	5		4				9		15:00	52		80				132	
03:15	3		3				6		15:15	49		63				112	
03:30	6		2				8		15:30	61		75				136	
03:45	9	23	4	13			13	36	15:45	59	221	77	295			136	516
04:00	5		2				7		16:00	51		69				120	
04:15	4		1				5		16:15	63		69				132	
04:30	8		4				12		16:30	57		79				136	
04:45	15	32	4	11			19	43	16:45	57	228	84	301			141	529
05:00	9		6				15		17:00	54		82				136	
05:15	11		9				20		17:15	53		71				124	
05:30	15		5				20		17:30	72		63				135	
05:45	20	55	16	36			36	91	17:45	68	247	79	295			147	542
06:00	20		29				49		18:00	70		98				168	
06:15	32		15				47		18:15	63		84				147	
06:30	23		26				49		18:30	70		78				148	
06:45	40	115	54	124			94	239	18:45	47	250	73	333			120	583
07:00	59		110				169		19:00	57		64				121	
07:15	96		85				181		19:15	82		60				142	
07:30	66		49				115		19:30	62		63				125	
07:45	95	316	69	313			164	629	19:45	46	247	65	252			111	499
08:00	90		81				171		20:00	45		72				117	
08:15	90		87				177		20:15	38		47				85	
08:30	67		65				132		20:30	29		53				82	
08:45	60	307	44	277			104	584	20:45	39	151	48	220			87	371
09:00	31		34				65		21:00	25		43				68	
09:15	38		24				62		21:15	35		51				86	
09:30	52		34				86		21:30	17		47				64	
09:45	42	163	32	124			74	287	21:45	22	99	37	178			59	277
10:00	38		35				73		22:00	17		39				56	
10:15	30		38				68		22:15	16		19				35	
10:30	38		38				76		22:30	22		19				41	
10:45	36	142	30	141			66	283	22:45	15	70	18	95			33	165
11:00	47		60				107		23:00	10		21				31	
11:15	54		28				82		23:15	12		21				33	
11:30	41		44				85		23:30	7		15				22	
11:45	54	196	46	178			100	374	23:45	8	37	18	75			26	112
TOTALS		1399		1302				2701	TOTALS		2294		2809				5103
SPLIT %		51.8%		48.2%				34.6%	SPLIT %		45.0%		55.0%				65.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	3,693	4,111	0	0	7,804

AM Peak Hour	07:15	07:00	07:45	PM Peak Hour	13:15	17:45	13:30
AM Pk Volume	347	313	644	PM Pk Volume	316	339	630
Pk Hr Factor	0.904	0.711	0.910	Pk Hr Factor	0.888	0.865	0.943
7 - 9 Volume	623	590	1213	4 - 6 Volume	475	596	1071
7 - 9 Peak Hour	07:15	07:00	07:45	4 - 6 Peak Hour	17:00	16:30	16:15
7 - 9 Pk Volume	347	313	644	4 - 6 Pk Volume	247	316	545
Pk Hr Factor	0.904	0.711	0.910	Pk Hr Factor	0.858	0.940	0.966

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Fresno
Polk Avenue
N/ Olive Avenue
24 Hour Directional Volume Count

FSO002
Site Code: 003-19024

Start Time	1/23/2019 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		6	10			2	10				
12:15		2	11			0	16				
12:30		0	10			0	8				
12:45		1	14	9	45	1	10	3	44	12	89
01:00		2	12			1	11				
01:15		1	12			1	**16**				
01:30		0	10			0	**21**				
01:45		0	9	3	43	0	**23**	2	71	5	114
02:00		3	20			0	**19**				
02:15		0	13			2	15				
02:30		0	12			2	21				
02:45		0	13	3	58	2	11	6	66	9	124
03:00		1	12			2	13				
03:15		0	24			3	12				
03:30		0	19			1	10				
03:45		1	22	2	77	1	23	7	58	9	135
04:00		1	18			4	17				
04:15		1	14			2	20				
04:30		0	**25**			3	16				
04:45		1	**21**	3	78	2	14	11	67	14	145
05:00		2	**30**			9	9				
05:15		1	**23**			8	14				
05:30		2	20			8	11				
05:45		2	16	7	89	3	5	28	39	35	128
06:00		5	14			12	9				
06:15		5	18			18	9				
06:30		15	15			15	10				
06:45		12	9	37	56	**27**	8	72	36	109	92
07:00		9	17			**33**	9				
07:15		**12**	9			**53**	12				
07:30		**14**	12			**40**	9				
07:45		**13**	5	48	43	26	4	152	34	200	77
08:00		**14**	10			25	5				
08:15		9	8			27	9				
08:30		12	9			9	4				
08:45		5	3	40	30	9	2	70	20	110	50
09:00		5	6			8	7				
09:15		6	3			7	3				
09:30		9	6			15	5				
09:45		3	6	23	21	11	8	41	23	64	44
10:00		13	6			10	3				
10:15		3	3			10	4				
10:30		11	2			14	3				
10:45		5	5	32	16	13	0	47	10	79	26
11:00		9	2			6	1				
11:15		4	2			10	3				
11:30		11	5			11	1				
11:45		7	2	31	11	6	2	33	7	64	18
Total		238	567	238	567	472	475	472	475	710	1042
Combined Total		805		805		947		947		1752	
AM Peak	-	07:15	-	-	-	06:45	-	-	-	-	-
Vol.	-	53	-	-	-	153	-	-	-	-	-
P.H.F.		0.946				0.722					
PM Peak	-	-	04:30	-	-	-	01:15	-	-	-	-
Vol.	-	-	99	-	-	-	79	-	-	-	-
P.H.F.			0.825				0.859				
Percentage		29.6%	70.4%			49.8%	50.2%				
ADT/AADT		ADT 1,752		AADT 1,752							

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Station ID: Mini-Tubes: 7-day
Marks S/O Church
SIN#: 5161
Date Start: 29-Jan-18
Date End: 04-Feb-18

Volume Report

Start Time	29-Jan-18		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
	North Bound	South Bound	North Bound	South Bound	North Bound	South Bound	North Bound	South Bound	North Bound	South Bound	North Bound	South Bound	North Bound	South Bound	North Bound	South Bound
12:00 AM	4	7	4	5	4	1	6	6	5	7	5	5	10	9	19	12
01:00	5	5	6	0	6	2	5	5	6	2	6	3	5	5	7	13
02:00	1	1	1	4	2	1	7	9	1	3	2	4	6	6	3	6
03:00	11	4	5	4	5	5	9	4	4	3	7	4	7	6	5	7
04:00	4	9	6	6	4	6	5	7	6	7	5	7	3	4	3	5
05:00	15	21	22	26	21	18	16	27	12	20	17	22	6	10	5	5
06:00	35	**87**	31	92	35	79	28	90	35	62	33	82	18	44	6	10
07:00	**87**	83	**76**	**97**	**76**	**88**	**86**	**91**	**90**	**83**	**83**	**88**	22	28	15	15
08:00	70	68	66	59	54	52	67	60	82	58	68	59	40	39	32	25
09:00	47	67	41	43	52	50	46	65	57	66	49	58	36	47	36	41
10:00	52	53	48	65	40	46	54	45	63	63	51	54	**65**	42	47	55
11:00	53	57	49	49	35	46	52	53	57	50	49	51	64	**67**	**56**	**58**
12:00 PM	48	63	52	57	61	48	47	76	57	72	53	63	64	47	65	55
01:00	68	63	57	56	52	65	61	56	61	61	60	60	65	**87**	**76**	48
02:00	65	68	55	66	68	64	85	60	81	80	71	68	67	58	55	**59**
03:00	**117**	71	108	69	68	80	83	69	106	**89**	96	76	84	65	50	57
04:00	111	**76**	**123**	85	**124**	84	**124**	82	**115**	75	**119**	**80**	86	65	40	45
05:00	115	56	106	**91**	116	**86**	116	**84**	110	73	113	78	**90**	65	44	33
06:00	49	58	56	50	53	48	48	49	65	58	54	53	56	46	30	34
07:00	30	27	30	30	28	47	31	36	37	57	31	39	43	41	35	26
08:00	29	18	20	39	19	32	19	27	33	44	24	32	24	27	33	29
09:00	15	21	18	26	20	20	20	23	24	22	19	22	28	25	14	24
10:00	9	12	6	9	2	14	10	17	20	16	9	14	16	18	16	17
11:00	11	10	4	5	7	6	6	16	15	14	9	10	16	16	8	13
Total	1051	1005	990	1033	952	988	1031	1057	1142	1085	1033	1032	921	867	700	692
Day	2056		2023		1940		2088		2227		2065		1788		1392	
AM Peak	07:00	06:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	07:00	10:00	11:00	11:00	11:00
Vol.	87	87	76	97	76	88	86	91	90	83	83	88	65	67	56	58
PM Peak	15:00	16:00	16:00	17:00	16:00	17:00	16:00	17:00	16:00	15:00	16:00	16:00	17:00	13:00	13:00	14:00
Vol.	117	76	123	91	124	86	124	84	115	89	119	80	90	87	76	59

Comb. Total	2056	2023	1940	2088	2227	2065	1788	1392

ADT ADT 1,931 AADT 1,931

Counts Unlimited, Inc.

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City of Fresno
Marks Avenue
N/ Ashlan Avenue
24 Hour Directional Volume Count

FSO003
Site Code: 003-19024

Start	1/24/2019	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		8	166			20	139				
12:15		23	137			11	198				
12:30		6	127			16	164				
12:45		4	112	41	542	13	155	60	656	101	1198
01:00		16	124			7	147				
01:15		4	126			8	168				
01:30		11	149			10	164				
01:45		4	152	35	551	6	180	31	659	66	1210
02:00		2	139			10	192				
02:15		6	150			15	189				
02:30		3	151			11	182				
02:45		9	183	20	623	12	196	48	759	68	1382
03:00		6	186			3	203				
03:15		4	177			7	176				
03:30		2	188			17	174				
03:45		10	161	22	712	7	196	34	749	56	1461
04:00		14	163			13	193				
04:15		14	**191**			22	187				
04:30		10	**213**			25	182				
04:45		15	**209**	53	776	24	**223**	84	785	137	1561
05:00		8	**195**			25	**212**				
05:15		28	180			53	**237**				
05:30		27	174			71	**192**				
05:45		44	168	107	717	67	162	216	803	323	1520
06:00		50	150			58	164				
06:15		72	136			112	163				
06:30		69	109			105	113				
06:45		97	123	288	518	120	118	395	558	683	1076
07:00		**150**	89			**164**	136				
07:15		**172**	91			**197**	117				
07:30		**202**	82			**181**	120				
07:45		**190**	68	714	330	**151**	95	693	468	1407	798
08:00		145	80			149	89				
08:15		157	79			103	94				
08:30		124	63			107	78				
08:45		109	63	535	285	128	78	487	339	1022	624
09:00		111	63			99	86				
09:15		96	52			125	62				
09:30		111	48			115	60				
09:45		136	37	454	200	119	56	458	264	912	464
10:00		129	41			127	53				
10:15		110	24			128	39				
10:30		106	31			110	38				
10:45		123	27	468	123	117	27	482	157	950	280
11:00		127	22			139	34				
11:15		118	14			125	17				
11:30		118	18			157	30				
11:45		139	17	502	71	164	22	585	103	1087	174
Total		3239	5448	3239	5448	3573	6300	3573	6300	6812	11748
Combined Total		8687		8687		9873		9873		18560	
AM Peak	-	07:00	-	-	-	07:00	-	-	-	-	-
Vol.	-	714	-	-	-	693	-	-	-	-	-
P.H.F.		0.884				0.879					
PM Peak	-	-	04:15	-	-	-	04:45	-	-	-	-
Vol.	-	-	808	-	-	-	864	-	-	-	-
P.H.F.			0.948				0.911				
Percentage		37.3%	62.7%			36.2%	63.8%				

ADT/AADT	ADT 18,560	AADT 18,560

Counts Unlimited, Inc.

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email: counts@countsunlimited.com

City of Fresno
West Avenue
N/ McKinley Avenue
24 Hour Directional Volume Count

FSO004
Site Code: 003-19024

Start Time	1/24/2019 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		10	87			10	113				
12:15		8	108			10	99				
12:30		12	91			12	78				
12:45		4	90	34	376	5	81	37	371	71	747
01:00		8	77			3	101				
01:15		6	82			6	102				
01:30		7	90			8	122				
01:45		6	96	27	345	8	77	25	402	52	747
02:00		7	112			4	120				
02:15		10	117			7	111				
02:30		5	104			9	128				
02:45		6	138	28	471	3	102	23	461	51	932
03:00		4	134			7	122				
03:15		4	143			13	120				
03:30		5	136			10	102				
03:45		8	132	21	545	8	106	38	450	59	995
04:00		2	149			7	110				
04:15		7	**169**			20	107				
04:30		13	**191**			27	117				
04:45		8	**219**	30	728	31	**124**	85	458	115	1186
05:00		9	**216**			34	**132**				
05:15		22	168			51	**134**				
05:30		16	128			54	**121**				
05:45		22	127	69	639	51	85	190	472	259	1111
06:00		21	114			54	88				
06:15		31	76			105	69				
06:30		47	90			115	85				
06:45		38	81	137	361	120	65	394	307	531	668
07:00		63	52			**197**	65				
07:15		**96**	65			**234**	54				
07:30		**82**	61			**194**	45				
07:45		**104**	50	345	228	**171**	37	796	201	1141	429
08:00		**87**	60			144	34				
08:15		78	53			106	33				
08:30		63	51			100	34				
08:45		64	48	292	212	85	49	435	150	727	362
09:00		60	50			76	47				
09:15		76	37			103	31				
09:30		77	40			77	37				
09:45		62	27	275	154	66	31	322	146	597	300
10:00		53	29			77	27				
10:15		74	17			81	20				
10:30		81	27			76	14				
10:45		85	15	293	88	73	23	307	84	600	172
11:00		76	14			84	20				
11:15		85	19			90	10				
11:30		73	20			81	12				
11:45		90	14	324	67	93	9	348	51	672	118
Total		1875	4214	1875	4214	3000	3553	3000	3553	4875	7767
Combined Total		6089		6089		6553		6553		12642	
AM Peak	-	07:15	-	-	-	07:00	-	-	-	-	-
Vol.	-	369	-	-	-	796	-	-	-	-	-
P.H.F.		0.887				0.850					
PM Peak	-	-	04:15	-	-	-	04:45	-	-	-	-
Vol.	-	-	795	-	-	-	511	-	-	-	-
P.H.F.			0.908				0.953				
Percentage		30.8%	69.2%			45.8%	54.2%				
ADT/AADT		ADT 12,642		AADT 12,642							

Counts Unlimited, Inc.

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City of Fresno
West Avenue
S/ Shaw Avenue
24 Hour Directional Volume Count

FSO005
Site Code: 003-19024

Start	1/24/2019	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		6	170			14	149				
12:15		8	148			12	140				
12:30		8	133			19	119				
12:45		10	146	32	597	11	125	56	533	88	1130
01:00		9	147			9	152				
01:15		5	151			11	149				
01:30		3	161			9	127				
01:45		7	152	24	611	8	158	37	586	61	1197
02:00		9	148			6	159				
02:15		7	177			15	185				
02:30		11	178			8	181				
02:45		7	193	34	696	3	202	32	727	66	1423
03:00		5	194			7	185				
03:15		5	187			5	185				
03:30		20	196			9	169				
03:45		10	180	40	757	3	189	24	728	64	1485
04:00		11	179			10	177				
04:15		9	182			8	205				
04:30		24	**240**			12	182				
04:45		15	**226**	59	827	9	**264**	39	828	98	1655
05:00		21	**217**			7	**233**				
05:15		30	**212**			21	**232**				
05:30		63	176			17	**194**				
05:45		39	157	153	762	29	178	74	837	227	1599
06:00		45	144			24	169				
06:15		86	107			48	133				
06:30		109	90			58	109				
06:45		130	93	370	434	92	126	222	537	592	971
07:00		205	76			**121**	105				
07:15		**302**	79			**139**	88				
07:30		**298**	76			**157**	87				
07:45		**251**	75	1056	306	**162**	97	579	377	1635	683
08:00		**207**	63			121	88				
08:15		154	66			109	90				
08:30		169	67			89	80				
08:45		143	55	673	251	106	80	425	338	1098	589
09:00		138	48			70	81				
09:15		126	63			109	78				
09:30		138	39			77	58				
09:45		97	36	499	186	82	63	338	280	837	466
10:00		131	36			112	60				
10:15		139	23			118	39				
10:30		121	24			92	25				
10:45		132	17	523	100	115	39	437	163	960	263
11:00		126	17			121	30				
11:15		140	15			117	15				
11:30		135	17			131	32				
11:45		134	11	535	60	162	25	531	102	1066	162
Total		3998	5587	3998	5587	2794	6036	2794	6036	6792	11623
Combined Total		9585		9585		8830		8830		18415	
AM Peak	-	07:15	-	-	-	07:00	-	-	-	-	-
Vol.	-	1058	-	-	-	579	-	-	-	-	-
P.H.F.		0.876				0.894					
PM Peak	-	-	04:30	-	-	-	04:45	-	-	-	-
Vol.	-	-	895	-	-	-	923	-	-	-	-
P.H.F.			0.932				0.874				
Percentage		41.7%	58.3%			31.6%	68.4%				
ADT/AADT		ADT 18,415		AADT 18,415							

Counts Unlimited, Inc.

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City of Fresno
Fruit Avenue
B/ Bullard Avenue - Barstow Avenue
24 Hour Directional Volume Count

FSO007
Site Code: 003-19185

Start Time	19-Mar-19 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		11	61			17	73				
12:15		7	61			14	59				
12:30		7	53			15	50				
12:45		9	41	34	216	13	57	59	239	93	455
01:00		4	38			8	38				
01:15		3	38			8	46				
01:30		7	53			6	69				
01:45		5	63	19	192	1	49	23	202	42	394
02:00		3	69			6	69				
02:15		7	56			4	73				
02:30		2	74			5	65				
02:45		4	66	16	265	1	60	16	267	32	532
03:00		3	64			3	71				
03:15		2	84			5	68				
03:30		0	60			2	75				
03:45		2	62	7	270	0	64	10	278	17	548
04:00		2	85			1	78				
04:15		0	71			2	90				
04:30		1	90			1	79				
04:45		2	**146**	5	392	1	78	5	325	10	717
05:00		2	**135**			0	153				
05:15		1	**91**			2	111				
05:30		0	**97**			3	125				
05:45		1	104	4	427	1	78	6	467	10	894
06:00		3	101			2	82				
06:15		2	81			1	102				
06:30		4	101			4	**124**				
06:45		0	103	9	386	3	**129**	10	437	19	823
07:00		3	95			2	**111**				
07:15		5	151			5	**105**				
07:30		4	114			8	110				
07:45		3	97	15	457	11	105	26	431	41	888
08:00		6	90			9	83				
08:15		19	67			12	67				
08:30		15	61			14	71				
08:45		51	107	91	325	21	46	56	267	147	592
09:00		57	93			39	45				
09:15		56	65			55	47				
09:30		75	80			89	43				
09:45		**177**	54	365	292	**110**	34	293	169	658	461
10:00		**182**	43			**160**	51				
10:15		**127**	31			**126**	30				
10:30		**129**	38			**92**	30				
10:45		81	24	519	136	79	29	457	140	976	276
11:00		77	35			92	20				
11:15		66	17			61	25				
11:30		55	26			53	11				
11:45		58	14	256	92	51	14	257	70	513	162
Total		1340	3450	1340	3450	1218	3292	1218	3292	2558	6742
Combined Total		4790		4790		4510		4510		9300	
AM Peak	-	09:45	-	-	-	09:45	-	-	-	-	-
Vol.	-	615	-	-	-	488	-	-	-	-	-
P.H.F.		0.845				0.763					
PM Peak	-	-	04:45	-	-	-	06:30	-	-	-	-
Vol.	-	-	469	-	-	-	469	-	-	-	-
P.H.F.			0.803				0.766				
Percentage		28.0%	72.0%			27.0%	73.0%				
ADT/AADT		ADT 9,300		AADT 9,300							

Counts Unlimited, Inc.

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City of Fresno
Palm Avenue
B/ Alluvial Avenue - Nees Avenue
24 Hour Directional Volume Count

FSO010
Site Code: 003-19185

Start Time	19-Mar-19 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		6	251			21	265				
12:15		6	240			16	238				
12:30		10	207			10	229				
12:45		4	229	26	927	14	262	61	994	87	1921
01:00		9	212			17	293				
01:15		5	211			7	288				
01:30		2	203			6	219				
01:45		1	229	17	855	9	244	39	1044	56	1899
02:00		1	222			2	227				
02:15		3	212			6	230				
02:30		6	234			4	253				
02:45		3	232	13	900	6	216	18	926	31	1826
03:00		2	280			6	284				
03:15		0	230			8	268				
03:30		6	246			9	306				
03:45		12	252	20	1008	7	305	30	1163	50	2171
04:00		13	284			7	248				
04:15		13	244			7	279				
04:30		15	**346**			7	267				
04:45		23	**306**	64	1180	16	**295**	37	1089	101	2269
05:00		32	**366**			20	**311**				
05:15		47	**356**			24	**325**				
05:30		34	311			25	**275**				
05:45		68	298	181	1331	64	247	133	1158	314	2489
06:00		49	258			75	223				
06:15		64	252			91	258				
06:30		93	226			136	236				
06:45		120	167	326	903	160	210	462	927	788	1830
07:00		118	162			171	199				
07:15		190	160			247	239				
07:30		**242**	141			**307**	204				
07:45		**245**	125	795	588	**383**	199	1108	841	1903	1429
08:00		**231**	129			**340**	182				
08:15		**237**	117			**287**	173				
08:30		211	127			278	168				
08:45		193	99	872	472	254	120	1159	643	2031	1115
09:00		163	84			219	142				
09:15		161	76			165	137				
09:30		138	60			176	92				
09:45		172	47	634	267	202	83	762	454	1396	721
10:00		182	51			190	82				
10:15		175	31			186	49				
10:30		201	25			160	58				
10:45		200	27	758	134	189	38	725	227	1483	361
11:00		195	19			182	44				
11:15		218	21			183	23				
11:30		249	16			193	23				
11:45		255	7	917	63	209	14	767	104	1684	167
Total		4623	8628	4623	8628	5301	9570	5301	9570	9924	18198
Combined Total		13251		13251		14871		14871		28122	
AM Peak	-	07:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	955	-	-	-	1317	-	-	-	-	-
P.H.F.		0.974				0.860					
PM Peak	-	-	04:30	-	-	-	04:45	-	-	-	-
Vol.	-	-	1374	-	-	-	1206	-	-	-	-
P.H.F.			0.939				0.928				
Percentage		34.9%	65.1%			35.6%	64.4%				
ADT/AADT		ADT 28,122		AADT 28,122							

Counts Unlimited, Inc.

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City of Fresno
Palm Avenue
B/ Locust Avenue - Remington Avenue
24 Hour Directional Volume Count

FSO009
Site Code: 003-19185

Start Time	19-Mar-19 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		5	261			22	328				
12:15		5	260			19	303				
12:30		6	249			11	277				
12:45		4	318	20	1088	18	285	70	1193	90	2281
01:00		9	293			19	314				
01:15		7	265			8	303				
01:30		6	293			6	280				
01:45		4	271	26	1122	9	294	42	1191	68	2313
02:00		1	291			3	266				
02:15		7	287			6	277				
02:30		5	257			5	309				
02:45		3	265	16	1100	6	283	20	1135	36	2235
03:00		2	316			5	331				
03:15		3	281			7	302				
03:30		8	283			9	360				
03:45		15	309	28	1189	10	339	31	1332	59	2521
04:00		15	262			8	360				
04:15		16	325			8	323				
04:30		20	316			7	358				
04:45		25	**328**	76	1231	15	**382**	38	1423	114	2654
05:00		37	**331**			18	**408**				
05:15		44	**320**			30	**422**				
05:30		45	**326**			54	**367**				
05:45		78	295	204	1272	49	356	151	1553	355	2825
06:00		63	247			76	288				
06:15		99	242			84	276				
06:30		122	210			118	283				
06:45		190	187	474	886	156	242	434	1089	908	1975
07:00		192	160			139	236				
07:15		277	187			212	241				
07:30		**341**	134			**258**	234				
07:45		**404**	133	1214	614	**319**	248	928	959	2142	1573
08:00		**355**	117			**278**	208				
08:15		**327**	118			**262**	211				
08:30		331	97			235	189				
08:45		292	99	1305	431	248	150	1023	758	2328	1189
09:00		258	73			204	158				
09:15		244	67			170	128				
09:30		228	51			178	94				
09:45		256	40	986	231	206	101	758	481	1744	712
10:00		250	50			236	91				
10:15		241	24			238	52				
10:30		245	22			204	58				
10:45		250	21	986	117	214	41	892	242	1878	359
11:00		241	16			206	37				
11:15		265	22			248	30				
11:30		278	13			237	23				
11:45		281	7	1065	58	316	17	1007	107	2072	165
Total		6400	9339	6400	9339	5394	11463	5394	11463	11794	20802
Combined Total		15739		15739		16857		16857		32596	
AM Peak	-	07:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	1427	-	-	-	1117	-	-	-	-	-
P.H.F.		0.883				0.875					
PM Peak	-	-	04:45	-	-	-	04:45	-	-	-	-
Vol.	-	-	1305	-	-	-	1579	-	-	-	-
P.H.F.			0.986				0.935				
Percentage		40.7%	59.3%			32.0%	68.0%				
ADT/AADT		ADT 32,596		AADT 32,596							

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Site Code: UID#: CO74
Station ID: Mini-Tubes: 48-hour
Palm N-O Ashlan
SIN#: 6167
Date Start: 1/29/2019
Date End: 1/30/2019

Volume Report

Start	1/28/2019		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	North Bou	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo	North Bo	South Bo
12:00 AM	*	*	25	33	21	30	*	*	*	*	*	*	*	*	23	32
01:00	*	*	13	15	14	15	*	*	*	*	*	*	*	*	14	15
02:00	*	*	6	16	13	6	*	*	*	*	*	*	*	*	10	11
03:00	*	*	18	12	14	8	*	*	*	*	*	*	*	*	16	10
04:00	*	*	24	21	23	16	*	*	*	*	*	*	*	*	24	18
05:00	*	*	60	35	65	46	*	*	*	*	*	*	*	*	62	40
06:00	*	*	159	115	139	126	*	*	*	*	*	*	*	*	149	120
07:00	*	*	**583**	419	**572**	**441**	*	*	*	*	*	*	*	*	**578**	**430**
08:00	*	*	566	**435**	568	419	*	*	*	*	*	*	*	*	567	427
09:00	*	*	389	331	418	283	*	*	*	*	*	*	*	*	404	307
10:00	*	*	345	292	348	278	*	*	*	*	*	*	*	*	346	285
11:00	*	*	369	366	404	351	*	*	*	*	*	*	*	*	386	358
12:00 PM	*	*	357	392	361	419	*	*	*	*	*	*	*	*	359	406
01:00	*	*	435	398	393	388	*	*	*	*	*	*	*	*	414	393
02:00	*	*	443	495	438	459	*	*	*	*	*	*	*	*	440	477
03:00	*	*	482	557	532	549	*	*	*	*	*	*	*	*	507	553
04:00	*	*	444	547	484	576	*	*	*	*	*	*	*	*	464	562
05:00	*	*	**529**	**683**	**547**	**690**	*	*	*	*	*	*	*	*	**538**	**686**
06:00	*	*	362	412	335	459	*	*	*	*	*	*	*	*	348	436
07:00	*	*	217	278	195	258	*	*	*	*	*	*	*	*	206	268
08:00	*	*	160	236	222	253	*	*	*	*	*	*	*	*	191	244
09:00	*	*	91	222	120	219	*	*	*	*	*	*	*	*	106	220
10:00	*	*	74	92	80	91	*	*	*	*	*	*	*	*	77	92
11:00	*	*	47	51	32	50	*	*	*	*	*	*	*	*	40	50
Lane	0	0	6198	6453	6338	6430	0	0	0	0	0	0	0	0	6269	6440
Day	0		12651		12768		0		0		0		0		12709	
AM Peak	-	-	07:00	08:00	07:00	07:00	-	-	-	-	-	-	-	-	07:00	07:00
Vol.	-	-	583	435	572	441	-	-	-	-	-	-	-	-	578	430
PM Peak	-	-	17:00	17:00	17:00	17:00	-	-	-	-	-	-	-	-	17:00	17:00
Vol.	-	-	529	683	547	690	-	-	-	-	-	-	-	-	538	686

Comb. Total	0		12651		12768		0		0		0		0		12709	
ADT	ADT 12,710		AADT 12,710													

Counts Unlimited, Inc.

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City of Fresno
Elm Avenue
S/ Church Avenue
24 Hour Directional Volume Count

FSO006
Site Code: 003-19024

Start	1/24/2019	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		10	55			11	46				
12:15		7	62			4	51				
12:30		10	52			7	48				
12:45		10	54	37	223	4	52	26	197	63	420
01:00		6	61			6	52				
01:15		6	55			5	72				
01:30		2	55			2	61				
01:45		7	46	21	217	4	58	17	243	38	460
02:00		3	57			6	72				
02:15		5	69			3	60				
02:30		4	84			8	57				
02:45		2	65	14	275	2	**73**	19	262	33	537
03:00		8	79			2	**119**				
03:15		3	100			1	**62**				
03:30		3	94			6	**71**				
03:45		2	89	16	362	3	68	12	320	28	682
04:00		3	74			6	82				
04:15		3	88			7	74				
04:30		7	**90**			9	69				
04:45		7	**106**	20	358	8	60	30	285	50	643
05:00		5	**104**			6	88				
05:15		7	**109**			9	93				
05:30		7	82			22	66				
05:45		11	74	30	369	31	64	68	311	98	680
06:00		7	77			19	57				
06:15		12	57			42	63				
06:30		13	51			46	53				
06:45		24	36	56	221	44	49	151	222	207	443
07:00		26	48			26	33				
07:15		38	60			**46**	33				
07:30		**66**	28			**54**	44				
07:45		**66**	43	196	179	**113**	28	239	138	435	317
08:00		**68**	31			**79**	37				
08:15		**54**	44			46	31				
08:30		43	38			40	21				
08:45		31	29	196	142	47	26	212	115	408	257
09:00		40	23			37	12				
09:15		52	18			49	26				
09:30		29	22			42	20				
09:45		38	17	159	80	35	21	163	79	322	159
10:00		53	16			50	18				
10:15		41	22			47	15				
10:30		60	14			47	25				
10:45		58	12	212	64	53	16	197	74	409	138
11:00		54	16			55	10				
11:15		58	9			42	6				
11:30		50	11			38	10				
11:45		44	11	206	47	48	8	183	34	389	81
Total		1163	2537	1163	2537	1317	2280	1317	2280	2480	4817
Combined Total		3700		3700		3597		3597		7297	
AM Peak	-	07:30	-	-	-	07:15	-	-	-	-	-
Vol.	-	254	-	-	-	292	-	-	-	-	-
P.H.F.		0.934				0.646					
PM Peak	-	-	04:30	-	-	-	02:45	-	-	-	-
Vol.	-	-	409	-	-	-	325	-	-	-	-
P.H.F.			0.938				0.683				
Percentage		31.4%	68.6%			36.6%	63.4%				
ADT/AADT		ADT 7,297		AADT 7,297							

Counts Unlimited, Inc.

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City of Fresno
G Street
N/ Tulare Street
24 Hour Directional Volume Count

FSO007
Site Code: 003-19024

Start Time	1/24/2019 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		2	31			2	30				
12:15		6	25			2	36				
12:30		1	34			2	20				
12:45		2	23	11	113	0	36	6	122	17	235
01:00		5	40			2	31				
01:15		1	33			0	**37**				
01:30		1	32			1	**31**				
01:45		2	36	9	141	0	**37**	3	136	12	277
02:00		2	36			0	**38**				
02:15		1	27			1	24				
02:30		2	29			5	35				
02:45		0	34	5	126	0	20	6	117	11	243
03:00		1	35			1	19				
03:15		0	33			0	22				
03:30		3	33			0	27				
03:45		1	52	5	153	2	29	3	97	8	250
04:00		2	41			0	27				
04:15		4	41			1	23				
04:30		5	29			1	32				
04:45		3	**42**	14	153	0	35	2	117	16	270
05:00		1	**48**			2	34				
05:15		2	**63**			5	22				
05:30		1	**30**			4	21				
05:45		8	24	12	165	6	22	17	99	29	264
06:00		6	19			6	14				
06:15		9	15			10	19				
06:30		6	5			4	10				
06:45		13	10	34	49	14	12	34	55	68	104
07:00		10	12			14	6				
07:15		10	8			16	6				
07:30		20	9			24	6				
07:45		23	12	63	41	34	9	88	27	151	68
08:00		17	7			28	12				
08:15		25	2			26	4				
08:30		26	2			21	7				
08:45		22	3	90	14	20	6	95	29	185	43
09:00		31	3			15	5				
09:15		27	3			17	6				
09:30		23	4			22	5				
09:45		23	2	104	12	20	4	74	20	178	32
10:00		26	3			14	2				
10:15		29	5			23	1				
10:30		21	2			24	1				
10:45		**34**	7	110	17	**38**	1	99	5	209	22
11:00		**35**	3			**21**	6				
11:15		**37**	3			**29**	1				
11:30		**27**	2			**30**	3				
11:45		28	2	127	10	36	2	116	12	243	22
Total		584	994	584	994	543	836	543	836	1127	1830
Combined Total		1578		1578		1379		1379		2957	
AM Peak	-	10:45	-	-	-	10:45	-	-	-	-	-
Vol.	-	133	-	-	-	118	-	-	-	-	-
P.H.F.		0.899				0.776					
PM Peak	-	-	04:45	-	-	-	01:15	-	-	-	-
Vol.	-	-	183	-	-	-	143	-	-	-	-
P.H.F.			0.726				0.941				
Percentage		37.0%	63.0%			39.4%	60.6%				
ADT/AADT		ADT 2,957		AADT 2,957							

Counts Unlimited, Inc.

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City of Fresno
G Street
N/ Fresno Street
24 Hour Directional Volume Count

FSO008
Site Code: 003-19024

Start	1/24/2019	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		2	18			0	15				
12:15		1	21			0	28				
12:30		0	18			1	22				
12:45		1	25	4	82	1	**28**	2	93	6	175
01:00		0	20			1	**37**				
01:15		2	31			2	**41**				
01:30		2	26			0	**31**				
01:45		1	25	5	102	4	28	7	137	12	239
02:00		1	22			2	25				
02:15		0	19			3	27				
02:30		2	27			0	31				
02:45		0	24	3	92	0	18	5	101	8	193
03:00		1	16			1	14				
03:15		3	21			1	29				
03:30		3	30			1	28				
03:45		0	31	7	98	1	20	4	91	11	189
04:00		0	28			2	22				
04:15		2	**26**			4	36				
04:30		3	**43**			3	34				
04:45		1	**51**	6	148	2	23	11	115	17	263
05:00		3	**49**			7	21				
05:15		4	23			16	18				
05:30		9	17			13	16				
05:45		7	13	23	102	22	10	58	65	81	167
06:00		5	8			7	8				
06:15		2	10			9	17				
06:30		7	5			23	8				
06:45		11	14	25	37	12	8	51	41	76	78
07:00		13	4			**28**	5				
07:15		19	6			**35**	7				
07:30		11	3			**41**	10				
07:45		15	1	58	14	**32**	6	136	28	194	42
08:00		17	5			25	3				
08:15		12	2			12	6				
08:30		17	5			32	3				
08:45		13	1	59	13	17	10	86	22	145	35
09:00		20	2			15	2				
09:15		17	3			17	2				
09:30		16	4			18	2				
09:45		22	3	75	12	15	3	65	9	140	21
10:00		15	1			22	3				
10:15		11	2			32	2				
10:30		17	7			25	4				
10:45		**27**	1	70	11	26	0	105	9	175	20
11:00		**20**	0			28	2				
11:15		**15**	0			29	2				
11:30		**22**	0			26	2				
11:45		18	0	75	0	37	4	120	10	195	10
Total		410	711	410	711	650	721	650	721	1060	1432
Combined Total		1121		1121		1371		1371		2492	
AM Peak	-	10:45	-	-	-	07:00	-	-	-	-	-
Vol.	-	84	-	-	-	136	-	-	-	-	-
P.H.F.		0.778				0.829					
PM Peak	-	-	04:15	-	-	-	00:45	-	-	-	-
Vol.	-	-	169	-	-	-	137	-	-	-	-
P.H.F.			0.828				0.835				
Percentage		36.6%	63.4%			47.4%	52.6%				
ADT/AADT		ADT 2,492		AADT 2,492							

Counts Unlimited, Inc.

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City of Fresno
Van Ness Street
N/ Fresno Street
24 Hour Directional Volume Count

FSO009
Site Code: 003-19024

Start Time	1/23/2019 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		2	149			3	48				
12:15		8	100			5	48				
12:30		4	112			2	57				
12:45		6	124	20	485	5	63	15	216	35	701
01:00		5	115			3	51				
01:15		2	96			5	54				
01:30		7	106			0	48				
01:45		4	120	18	437	2	63	10	216	28	653
02:00		3	122			1	60				
02:15		3	89			1	42				
02:30		2	110			1	46				
02:45		3	103	11	424	2	58	5	206	16	630
03:00		1	103			1	63				
03:15		3	110			2	63				
03:30		5	96			2	50				
03:45		5	113	14	422	1	61	6	237	20	659
04:00		3	103			3	**46**				
04:15		3	**135**			0	**58**				
04:30		4	**134**			2	**60**				
04:45		15	**181**	25	553	2	**77**	7	241	32	794
05:00		16	**147**			8	46				
05:15		11	106			8	43				
05:30		18	53			2	35				
05:45		7	59	52	365	10	30	28	154	80	519
06:00		13	50			8	17				
06:15		17	50			14	25				
06:30		34	41			19	23				
06:45		21	42	85	183	11	17	52	82	137	265
07:00		47	41			32	21				
07:15		70	38			44	17				
07:30		69	28			55	14				
07:45		66	28	252	135	49	16	180	68	432	203
08:00		89	20			57	18				
08:15		84	18			44	18				
08:30		99	24			50	14				
08:45		81	21	353	83	38	9	189	59	542	142
09:00		98	20			37	8				
09:15		85	14			41	9				
09:30		85	7			49	12				
09:45		69	7	337	48	49	5	176	34	513	82
10:00		73	13			41	7				
10:15		87	14			49	3				
10:30		90	14			55	4				
10:45		92	15	342	56	41	2	186	16	528	72
11:00		**101**	14			**55**	2				
11:15		**128**	6			**56**	6				
11:30		**163**	12			**45**	2				
11:45		**123**	11	515	43	**59**	6	215	16	730	59
Total		2024	3234	2024	3234	1069	1545	1069	1545	3093	4779
Combined Total		5258		5258		2614		2614		7872	
AM Peak	-	11:00	-	-	-	11:00	-	-	-	-	-
Vol.	-	515	-	-	-	215	-	-	-	-	-
P.H.F.		0.790				0.911					
PM Peak	-	-	04:15	-	-	-	04:00	-	-	-	-
Vol.	-	-	597	-	-	-	241	-	-	-	-
P.H.F.			0.825				0.782				
Percentage		38.5%	61.5%			40.9%	59.1%				
ADT/AADT		ADT 7,872		AADT 7,872							

Counts Unlimited, Inc.

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City of Fresno
O Street
N/ Tulare Street
24 Hour Directional Volume Count

FSO010
Site Code: 003-19024

Start Time	1/23/2019 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		1	34			1	49				
12:15		0	33			1	36				
12:30		2	30			5	34				
12:45		1	46	4	143	0	39	7	158	11	301
01:00		0	42			0	**58**				
01:15		0	41			1	**38**				
01:30		1	33			1	**39**				
01:45		0	37	1	153	0	**44**	2	179	3	332
02:00		2	30			4	34				
02:15		1	41			2	35				
02:30		2	30			1	35				
02:45		0	25	5	126	3	36	10	140	15	266
03:00		0	36			1	34				
03:15		1	31			0	35				
03:30		0	45			0	43				
03:45		0	38	1	150	0	33	1	145	2	295
04:00		0	30			2	33				
04:15		0	21			2	36				
04:30		0	**47**			2	39				
04:45		0	**36**	0	134	2	34	8	142	8	276
05:00		1	**65**			0	39				
05:15		2	**25**			3	25				
05:30		1	13			5	10				
05:45		4	9	8	112	6	10	14	84	22	196
06:00		2	17			7	9				
06:15		2	9			4	15				
06:30		5	6			9	8				
06:45		9	7	18	39	14	8	34	40	52	79
07:00		16	3			13	7				
07:15		15	6			12	13				
07:30		23	13			28	7				
07:45		**38**	6	92	28	40	13	93	40	185	68
08:00		**40**	4			47	3				
08:15		**37**	3			31	0				
08:30		**45**	2			45	6				
08:45		26	1	148	10	44	3	167	12	315	22
09:00		29	3			**40**	3				
09:15		40	5			**59**	1				
09:30		24	2			**60**	2				
09:45		36	1	129	11	**48**	5	207	11	336	22
10:00		23	1			37	1				
10:15		25	4			51	7				
10:30		30	1			45	4				
10:45		30	2	108	8	47	2	180	14	288	22
11:00		27	1			33	4				
11:15		40	1			37	0				
11:30		45	1			42	0				
11:45		48	1	160	4	38	2	150	6	310	10
Total		674	918	674	918	873	971	873	971	1547	1889
Combined Total		1592		1592		1844		1844		3436	
AM Peak	-	07:45	-	-	-	09:00	-	-	-	-	-
Vol.	-	160	-	-	-	207	-	-	-	-	-
P.H.F.		0.889				0.863					
PM Peak	-	-	04:30	-	-	-	01:00	-	-	-	-
Vol.	-	-	173	-	-	-	179	-	-	-	-
P.H.F.			0.665				0.772				
Percentage		42.3%	57.7%			47.3%	52.7%				
ADT/AADT		ADT 3,436		AADT 3,436							

Counts Unlimited, Inc.

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City of Fresno
East Avenue
N/ North Avenue
24 Hour Directional Volume Count

FSO015
Site Code: 003-19024

Start Time	1/8/2019 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		5	39			4	**57**				
12:15		3	28			9	**58**				
12:30		0	33			0	**40**				
12:45		1	28	9	128	1	**48**	14	203	23	331
01:00		1	41			0	48				
01:15		0	30			1	31				
01:30		3	29			4	34				
01:45		1	32	5	132	4	39	9	152	14	284
02:00		1	**27**			5	54				
02:15		1	**44**			4	39				
02:30		3	**37**			1	49				
02:45		6	**33**	11	141	10	28	20	170	31	311
03:00		3	25			6	56				
03:15		7	20			16	53				
03:30		4	37			16	40				
03:45		5	24	19	106	9	47	47	196	66	302
04:00		6	39			11	44				
04:15		14	22			17	57				
04:30		12	19			18	35				
04:45		4	16	36	96	15	45	61	181	97	277
05:00		12	6			17	21				
05:15		13	17			25	26				
05:30		27	9			25	16				
05:45		7	12	59	44	12	19	79	82	138	126
06:00		14	10			20	12				
06:15		23	6			21	13				
06:30		28	3			22	4				
06:45		18	14	83	33	15	6	78	35	161	68
07:00		24	6			22	4				
07:15		23	1			27	8				
07:30		39	2			17	5				
07:45		19	3	105	12	26	6	92	23	197	35
08:00		17	8			23	8				
08:15		24	4			31	8				
08:30		29	3			27	7				
08:45		23	2	93	17	17	5	98	28	191	45
09:00		26	7			32	8				
09:15		18	7			44	6				
09:30		23	5			46	4				
09:45		27	3	94	22	46	2	168	20	262	42
10:00		23	1			41	3				
10:15		16	7			**46**	8				
10:30		**28**	4			**49**	4				
10:45		**32**	3	99	15	**44**	2	180	17	279	32
11:00		**31**	6			**44**	1				
11:15		**31**	2			34	1				
11:30		25	1			48	3				
11:45		23	0	110	9	47	1	173	6	283	15
Total		723	755	723	755	1019	1113	1019	1113	1742	1868
Combined Total		1478		1478		2132		2132		3610	
AM Peak	-	10:30	-	-	-	10:15	-	-	-	-	-
Vol.	-	122	-	-	-	183	-	-	-	-	-
P.H.F.		0.953				0.934					
PM Peak	-	-	02:00	-	-	-	12:00	-	-	-	-
Vol.	-	-	141	-	-	-	203	-	-	-	-
P.H.F.			0.801				0.875				
Percentage		48.9%	51.1%			47.8%	52.2%				
ADT/AADT		ADT 3,610		AADT 3,610							

Counts Unlimited, Inc.

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City of Fresno
Cedar Avenue
S/ Central Avenue
24 Hour Directional Volume Count

FSO011
Site Code: 003-19024

Start Time	1/23/2019 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		1	19			3	33				
12:15		6	26			8	24				
12:30		7	32			10	21				
12:45		6	33	20	110	7	17	28	95	48	205
01:00		3	16			6	23				
01:15		0	30			5	24				
01:30		5	22			2	26				
01:45		3	21	11	89	2	10	15	83	26	172
02:00		6	29			10	22				
02:15		0	13			3	**25**				
02:30		6	31			4	**21**				
02:45		5	23	17	96	3	**44**	20	112	37	208
03:00		5	34			9	**34**				
03:15		9	39			7	18				
03:30		0	40			4	27				
03:45		11	39	25	152	15	44	35	123	60	275
04:00		10	22			3	33				
04:15		3	**34**			1	19				
04:30		6	**54**			1	24				
04:45		3	**33**	22	143	9	22	14	98	36	241
05:00		7	**34**			5	33				
05:15		5	27			11	26				
05:30		1	20			17	14				
05:45		24	16	37	97	22	22	55	95	92	192
06:00		14	15			13	16				
06:15		14	7			18	14				
06:30		23	10			28	10				
06:45		21	7	72	39	**39**	6	98	46	170	85
07:00		19	13			**15**	11				
07:15		24	2			**28**	8				
07:30		29	1			**29**	9				
07:45		15	8	87	24	30	7	102	35	189	59
08:00		23	1			20	11				
08:15		24	11			27	3				
08:30		17	5			24	7				
08:45		26	4	90	21	27	7	98	28	188	49
09:00		**39**	6			24	7				
09:15		**22**	3			18	5				
09:30		**23**	3			31	5				
09:45		**32**	3	116	15	25	5	98	22	214	37
10:00		28	6			21	2				
10:15		25	8			15	0				
10:30		16	14			14	5				
10:45		23	6	92	34	15	4	65	11	157	45
11:00		32	3			24	5				
11:15		22	1			29	8				
11:30		33	6			19	6				
11:45		27	3	114	13	24	4	96	23	210	36
Total		703	833	703	833	724	771	724	771	1427	1604
Combined Total		1536		1536		1495		1495		3031	
AM Peak	-	09:00	-	-	-	06:45	-	-	-	-	-
Vol.	-	116	-	-	-	111	-	-	-	-	-
P.H.F.		0.744				0.712					
PM Peak	-	-	04:15	-	-	-	02:15	-	-	-	-
Vol.	-	-	155	-	-	-	124	-	-	-	-
P.H.F.			0.718				0.705				
Percentage		45.8%	54.2%			48.4%	51.6%				
ADT/AADT		ADT 3,031		AADT 3,031							

Counts Unlimited, Inc.

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City of Fresno
Cedar Avenue
S/ California Avenue
24 Hour Directional Volume Count

FSO012
Site Code: 003-19024

Start Time	1/23/2019 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		14	65			11	93				
12:15		13	57			10	84				
12:30		9	58			8	76				
12:45		2	57	38	237	6	74	35	327	73	564
01:00		0	49			2	106				
01:15		3	57			3	98				
01:30		6	66			1	99				
01:45		1	54	10	226	10	88	16	391	26	617
02:00		10	86			6	104				
02:15		14	129			8	133				
02:30		8	101			14	89				
02:45		9	79	41	395	16	113	44	439	85	834
03:00		8	103			16	124				
03:15		6	80			21	120				
03:30		3	96			15	101				
03:45		0	82	17	361	8	91	60	436	77	797
04:00		4	88			8	121				
04:15		7	**127**			21	**106**				
04:30		10	**101**			26	**126**				
04:45		12	**114**	33	430	27	**134**	82	487	115	917
05:00		14	**121**			34	**134**				
05:15		30	100			63	97				
05:30		28	101			73	108				
05:45		34	96	106	418	73	109	243	448	349	866
06:00		39	76			91	100				
06:15		46	74			77	76				
06:30		56	68			95	83				
06:45		70	44	211	262	73	67	336	326	547	588
07:00		85	58			**84**	69				
07:15		**157**	40			**108**	61				
07:30		**130**	31			**169**	43				
07:45		**77**	44	449	173	**99**	54	460	227	909	400
08:00		**86**	33			68	43				
08:15		90	28			83	47				
08:30		67	43			97	44				
08:45		53	36	296	140	49	39	297	173	593	313
09:00		60	23			65	38				
09:15		53	15			76	40				
09:30		62	24			71	36				
09:45		52	16	227	78	81	43	293	157	520	235
10:00		37	19			72	23				
10:15		43	22			67	22				
10:30		64	18			86	12				
10:45		64	13	208	72	80	18	305	75	513	147
11:00		80	9			70	22				
11:15		55	11			66	11				
11:30		49	4			81	14				
11:45		63	8	247	32	68	15	285	62	532	94
Total		1883	2824	1883	2824	2456	3548	2456	3548	4339	6372
Combined Total		4707		4707		6004		6004		10711	
AM Peak	-	07:15	-	-	-	07:00	-	-	-	-	-
Vol.	-	450	-	-	-	460	-	-	-	-	-
P.H.F.		0.717				0.680					
PM Peak	-	-	04:15	-	-	-	04:15	-	-	-	-
Vol.	-	-	463	-	-	-	500	-	-	-	-
P.H.F.			0.911				0.933				
Percentage		40.0%	60.0%			40.9%	59.1%				
ADT/AADT		ADT 10,711		AADT 10,711							

Counts Unlimited, Inc.

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City of Fresno
Cedar Avenue
N/ Olive Avenue
24 Hour Directional Volume Count

FSO013
Site Code: 003-19024

Start Time	1/23/2019 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		16	117			26	123				
12:15		12	122			14	125				
12:30		11	130			9	135				
12:45		12	120	51	489	11	169	60	552	111	1041
01:00		4	148			8	173				
01:15		10	119			6	144				
01:30		4	119			9	165				
01:45		6	130	24	516	10	127	33	609	57	1125
02:00		6	166			9	177				
02:15		12	168			11	132				
02:30		7	226			9	172				
02:45		10	216	35	776	11	**239**	40	720	75	1496
03:00		5	197			6	**220**				
03:15		8	180			9	**152**				
03:30		10	156			12	**180**				
03:45		8	203	31	736	7	175	34	727	65	1463
04:00		5	186			13	179				
04:15		13	181			21	164				
04:30		7	**205**			28	194				
04:45		16	**255**	41	827	20	178	82	715	123	1542
05:00		16	**232**			31	207				
05:15		21	**193**			40	183				
05:30		31	167			44	165				
05:45		20	160	88	752	54	164	169	719	257	1471
06:00		34	133			55	127				
06:15		56	127			79	118				
06:30		71	101			107	126				
06:45		84	87	245	448	97	96	338	467	583	915
07:00		**133**	89			135	75				
07:15		**182**	78			**246**	76				
07:30		**194**	76			**250**	88				
07:45		**183**	77	692	320	**193**	92	824	331	1516	651
08:00		129	89			**147**	65				
08:15		134	57			154	72				
08:30		114	67			116	82				
08:45		111	53	488	266	112	72	529	291	1017	557
09:00		97	50			99	72				
09:15		102	60			99	64				
09:30		104	40			114	55				
09:45		91	39	394	189	105	52	417	243	811	432
10:00		105	40			109	35				
10:15		115	33			120	32				
10:30		113	32			104	31				
10:45		118	17	451	122	111	36	444	134	895	256
11:00		141	35			118	23				
11:15		116	22			119	23				
11:30		118	16			112	22				
11:45		146	12	521	85	123	18	472	86	993	171
Total		3061	5526	3061	5526	3442	5594	3442	5594	6503	11120
Combined Total		8587		8587		9036		9036		17623	
AM Peak	-	07:00	-	-	-	07:15	-	-	-	-	-
Vol.	-	692	-	-	-	836	-	-	-	-	-
P.H.F.		0.892				0.836					
PM Peak	-	-	04:30	-	-	-	02:45	-	-	-	-
Vol.	-	-	885	-	-	-	791	-	-	-	-
P.H.F.			0.868				0.827				
Percentage		35.6%	64.4%			38.1%	61.9%				
ADT/AADT		ADT 17,623		AADT 17,623							

Counts Unlimited, Inc.

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City of Fresno
Cedar Avenue
N/ Shaw Avenue
24 Hour Directional Volume Count

FSO014
Site Code: 003-19024

Start Time	1/23/2019 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		30	265			48	229				
12:15		31	202			42	202				
12:30		31	193			33	216				
12:45		23	220	115	880	23	218	146	865	261	1745
01:00		17	271			17	270				
01:15		14	223			16	206				
01:30		12	194			15	210				
01:45		12	228	55	916	12	208	60	894	115	1810
02:00		6	286			8	269				
02:15		9	265			11	226				
02:30		10	191			17	191				
02:45		5	222	30	964	8	263	44	949	74	1913
03:00		7	290			4	311				
03:15		10	265			7	275				
03:30		4	236			9	297				
03:45		10	254	31	1045	8	270	28	1153	59	2198
04:00		11	279			5	250				
04:15		8	277			4	232				
04:30		7	274			13	246				
04:45		9	262	35	1092	20	269	42	997	77	2089
05:00		14	**304**			16	**279**				
05:15		19	**330**			11	**351**				
05:30		24	**313**			23	**275**				
05:45		36	**295**	93	1242	46	**284**	96	1189	189	2431
06:00		45	275			44	278				
06:15		55	233			59	235				
06:30		83	225			56	215				
06:45		87	187	270	920	89	204	248	932	518	1852
07:00		84	176			90	183				
07:15		153	152			**151**	185				
07:30		**258**	169			**213**	179				
07:45		**325**	135	820	632	**257**	170	711	717	1531	1349
08:00		**259**	178			**210**	162				
08:15		**191**	164			143	192				
08:30		184	136			153	157				
08:45		183	150	817	628	190	185	696	696	1513	1324
09:00		181	115			183	145				
09:15		159	121			117	135				
09:30		185	99			145	99				
09:45		189	119	714	454	216	130	661	509	1375	963
10:00		187	100			180	123				
10:15		131	107			162	80				
10:30		181	66			175	79				
10:45		198	55	697	328	196	67	713	349	1410	677
11:00		213	54			195	56				
11:15		174	59			208	51				
11:30		173	40			191	54				
11:45		211	31	771	184	219	30	813	191	1584	375
Total		4448	9285	4448	9285	4258	9441	4258	9441	8706	18726
Combined Total		13733		13733		13699		13699		27432	
AM Peak	-	07:30	-	-	-	07:15	-	-	-	-	-
Vol.	-	1033	-	-	-	831	-	-	-	-	-
P.H.F.		0.795				0.808					
PM Peak	-	-	05:00	-	-	-	05:00	-	-	-	-
Vol.	-	-	1242	-	-	-	1189	-	-	-	-
P.H.F.			0.941				0.847				
Percentage		32.4%	67.6%			31.1%	68.9%				
ADT/AADT		ADT 27,432		AADT 27,432							

Counts Unlimited, Inc.

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City of Fresno
Cedar Avenue
N/ Nees Avenue
24 Hour Directional Volume Count

FSO015
Site Code: 003-19024

Start Time	1/23/2019 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		17	205			8	171				
12:15		7	184			4	174				
12:30		13	155			4	162				
12:45		5	161	42	705	4	**175**	20	682	62	1387
01:00		8	158			5	**190**				
01:15		4	194			7	**160**				
01:30		7	172			4	**239**				
01:45		9	157	28	681	3	174	19	763	47	1444
02:00		9	161			5	168				
02:15		5	170			2	180				
02:30		7	199			2	215				
02:45		6	218	27	748	2	192	11	755	38	1503
03:00		2	193			3	166				
03:15		5	217			7	171				
03:30		4	177			4	146				
03:45		9	185	20	772	3	194	17	677	37	1449
04:00		10	188			7	148				
04:15		7	203			14	156				
04:30		4	231			19	167				
04:45		16	**241**	37	863	18	188	58	659	95	1522
05:00		16	**273**			23	167				
05:15		20	**310**			38	204				
05:30		18	**267**			52	192				
05:45		37	236	91	1086	51	187	164	750	255	1836
06:00		23	211			73	155				
06:15		36	189			112	151				
06:30		35	160			133	136				
06:45		61	160	155	720	205	121	523	563	678	1283
07:00		58	142			237	131				
07:15		94	149			**302**	107				
07:30		110	106			**274**	93				
07:45		150	122	412	519	**261**	94	1074	425	1486	944
08:00		139	136			**246**	86				
08:15		114	136			201	92				
08:30		99	112			184	117				
08:45		102	104	454	488	164	80	795	375	1249	863
09:00		106	98			160	79				
09:15		113	92			157	57				
09:30		100	88			156	59				
09:45		133	47	452	325	171	34	644	229	1096	554
10:00		129	45			166	39				
10:15		114	45			163	28				
10:30		134	47			152	28				
10:45		141	15	518	152	162	37	643	132	1161	284
11:00		**151**	25			184	17				
11:15		**172**	21			143	13				
11:30		**163**	25			157	11				
11:45		**182**	14	668	85	157	11	641	52	1309	137
Total		2904	7144	2904	7144	4609	6062	4609	6062	7513	13206
Combined Total		10048		10048		10671		10671		20719	
AM Peak	-	11:00	-	-	-	07:15	-	-	-	-	-
Vol.	-	668	-	-	-	1083	-	-	-	-	-
P.H.F.		0.918				0.897					
PM Peak	-	-	04:45	-	-	-	00:45	-	-	-	-
Vol.	-	-	1091	-	-	-	764	-	-	-	-
P.H.F.			0.880				0.799				
Percentage		28.9%	71.1%			43.2%	56.8%				
ADT/AADT		ADT 20,719		AADT 20,719							

Counts Unlimited, Inc.

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City of Fresno
Chestnut Avenue
N/ Jensen Avenue
24 Hour Directional Volume Count

FSO016
Site Code: 003-19024

Start	1/24/2019	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		13	78			3	28				
12:15		11	79			5	33				
12:30		17	69			5	23				
12:45		7	76	48	302	2	28	15	112	63	414
01:00		7	74			3	29				
01:15		7	62			2	28				
01:30		8	63			4	28				
01:45		10	81	32	280	2	31	11	116	43	396
02:00		5	74			2	33				
02:15		6	94			1	30				
02:30		6	99			3	25				
02:45		2	120	19	387	3	32	9	120	28	507
03:00		5	75			1	41				
03:15		12	87			3	37				
03:30		10	129			4	33				
03:45		9	159	36	450	6	32	14	143	50	593
04:00		4	136			6	36				
04:15		11	**155**			11	26				
04:30		9	**154**			16	36				
04:45		19	**157**	43	602	18	33	51	131	94	733
05:00		14	**165**			14	29				
05:15		13	146			20	**38**				
05:30		25	124			52	**40**				
05:45		32	135	84	570	53	**46**	139	153	223	723
06:00		14	83			**48**	**39**				
06:15		34	102			**65**	28				
06:30		34	81			**80**	41				
06:45		42	65	124	331	**66**	23	259	131	383	462
07:00		57	75			36	24				
07:15		**76**	71			43	11				
07:30		**100**	51			71	22				
07:45		**102**	44	335	241	49	25	199	82	534	323
08:00		**71**	44			36	16				
08:15		63	34			34	22				
08:30		54	34			30	16				
08:45		72	30	260	142	33	18	133	72	393	214
09:00		71	33			23	21				
09:15		55	29			26	21				
09:30		73	29			18	11				
09:45		60	23	259	114	25	8	92	61	351	175
10:00		63	25			19	6				
10:15		70	34			20	8				
10:30		54	27			16	5				
10:45		77	18	264	104	28	9	83	28	347	132
11:00		57	14			24	3				
11:15		75	17			14	3				
11:30		44	12			21	7				
11:45		75	16	251	59	28	2	87	15	338	74
Total		1755	3582	1755	3582	1092	1164	1092	1164	2847	4746
Combined Total		5337		5337		2256		2256		7593	
AM Peak	-	07:15	-	-	-	06:00	-	-	-	-	-
Vol.	-	349	-	-	-	259	-	-	-	-	-
P.H.F.		0.855				0.809					
PM Peak	-	-	04:15	-	-	-	05:15	-	-	-	-
Vol.	-	-	631	-	-	-	163	-	-	-	-
P.H.F.			0.956				0.886				
Percentage		32.9%	67.1%			48.4%	51.6%				
ADT/AADT		ADT 7,593		AADT 7,593							

Counts Unlimited, Inc.

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City of Fresno
Willow Avenue
N/ Herndon Avenue
24 Hour Directional Volume Count

FSO012
Site Code: 003-19024

Start Time	1/8/2019 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		12	281			12	230				
12:15		13	247			17	238				
12:30		11	270			16	240				
12:45		14	278	50	1076	8	238	53	946	103	2022
01:00		10	253			1	207				
01:15		8	247			5	228				
01:30		8	249			5	218				
01:45		10	308	36	1057	4	214	15	867	51	1924
02:00		7	288			8	209				
02:15		3	279			5	230				
02:30		4	301			7	**290**				
02:45		3	278	17	1146	4	**269**	24	998	41	2144
03:00		8	307			6	**289**				
03:15		12	311			15	**253**				
03:30		16	326			9	221				
03:45		7	280	43	1224	21	235	51	998	94	2222
04:00		11	322			18	257				
04:15		12	**377**			24	215				
04:30		27	**358**			23	257				
04:45		28	**359**	78	1416	30	253	95	982	173	2398
05:00		25	**345**			30	252				
05:15		29	377			45	260				
05:30		52	332			45	202				
05:45		36	245	142	1299	61	193	181	907	323	2206
06:00		63	283			100	168				
06:15		86	204			122	148				
06:30		119	192			163	130				
06:45		117	203	385	882	224	147	609	593	994	1475
07:00		200	170			**254**	149				
07:15		182	151			**358**	118				
07:30		203	150			**367**	107				
07:45		171	149	756	620	**268**	124	1247	498	2003	1118
08:00		197	146			239	97				
08:15		184	118			202	103				
08:30		189	111			171	124				
08:45		165	102	735	477	187	87	799	411	1534	888
09:00		180	100			147	59				
09:15		171	82			171	67				
09:30		176	59			175	65				
09:45		172	74	699	315	164	54	657	245	1356	560
10:00		175	54			173	52				
10:15		222	47			160	50				
10:30		186	49			179	30				
10:45		209	42	792	192	185	48	697	180	1489	372
11:00		**209**	38			171	33				
11:15		**269**	19			222	21				
11:30		**251**	24			212	13				
11:45		**273**	33	1002	114	207	31	812	98	1814	212
Total		4735	9818	4735	9818	5240	7723	5240	7723	9975	17541
Combined Total		14553		14553		12963		12963		27516	
AM Peak	-	11:00	-	-	-	07:00	-	-	-	-	-
Vol.	-	1002	-	-	-	1247	-	-	-	-	-
P.H.F.		0.918				0.849					
PM Peak	-	-	04:15	-	-	-	02:30	-	-	-	-
Vol.	-	-	1439	-	-	-	1101	-	-	-	-
P.H.F.			0.954				0.949				
Percentage		32.5%	67.5%			40.4%	59.6%				
ADT/AADT		ADT 27,516		AADT 27,516							

Counts Unlimited, Inc.

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City of Fresno
Peach Avenue
N/ Olive Avenue
24 Hour Directional Volume Count

FSO017
Site Code: 003-19024

Start	1/24/2019	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		20	129			56	142				
12:15		18	134			36	138				
12:30		17	122			31	127				
12:45		11	110	66	495	51	122	174	529	240	1024
01:00		10	130			35	107				
01:15		13	116			11	105				
01:30		7	134			8	99				
01:45		10	126	40	506	7	107	61	418	101	924
02:00		8	123			5	117				
02:15		4	166			10	141				
02:30		7	123			6	130				
02:45		8	172	27	584	4	133	25	521	52	1105
03:00		10	159			1	153				
03:15		10	149			6	135				
03:30		24	158			4	151				
03:45		41	175	85	641	16	133	27	572	112	1213
04:00		26	159			10	168				
04:15		47	138			16	134				
04:30		46	157			16	**181**				
04:45		64	**174**	183	628	20	**183**	62	666	245	1294
05:00		50	**150**			34	**216**				
05:15		25	**163**			30	**137**				
05:30		33	**184**			33	147				
05:45		83	168	191	665	34	112	131	612	322	1277
06:00		79	141			39	112				
06:15		95	125			44	117				
06:30		104	134			82	104				
06:45		159	101	437	501	83	122	248	455	685	956
07:00		147	95			81	95				
07:15		163	89			**115**	88				
07:30		**174**	101			**128**	69				
07:45		**214**	79	698	364	**159**	101	483	353	1181	717
08:00		**203**	97			**101**	94				
08:15		**164**	90			104	93				
08:30		124	89			98	97				
08:45		135	99	626	375	93	108	396	392	1022	767
09:00		109	90			98	81				
09:15		94	65			69	62				
09:30		96	62			87	41				
09:45		129	52	428	269	88	66	342	250	770	519
10:00		97	67			84	70				
10:15		100	60			86	62				
10:30		142	47			88	60				
10:45		124	37	463	211	94	36	352	228	815	439
11:00		103	51			102	32				
11:15		133	55			105	32				
11:30		137	46			97	34				
11:45		121	49	494	201	119	39	423	137	917	338
Total		3738	5440	3738	5440	2724	5133	2724	5133	6462	10573
Combined Total		9178		9178		7857		7857		17035	
AM Peak	-	07:30	-	-	-	07:15	-	-	-	-	-
Vol.	-	755	-	-	-	503	-	-	-	-	-
P.H.F.		0.882				0.791					
PM Peak	-	-	04:45	-	-	-	04:30	-	-	-	-
Vol.	-	-	671	-	-	-	717	-	-	-	-
P.H.F.			0.912				0.830				
Percentage		40.7%	59.3%			34.7%	65.3%				

ADT/AADT	ADT 17,035	AADT 17,035

Counts Unlimited, Inc.

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City of Fresno
Clovis Avenue
S/ Jensen Avenue
24 Hour Directional Volume Count

FSO018
Site Code: 003-19024

Start	1/24/2019	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		23	96			20	89				
12:15		14	105			27	90				
12:30		20	104			15	117				
12:45		14	102	71	407	18	110	80	406	151	813
01:00		8	94			11	106				
01:15		11	128			9	117				
01:30		11	94			11	129				
01:45		8	121	38	437	7	117	38	469	76	906
02:00		13	109			10	129				
02:15		5	125			11	120				
02:30		9	161			7	103				
02:45		7	177	34	572	11	111	39	463	73	1035
03:00		6	135			15	142				
03:15		14	170			14	111				
03:30		16	196			20	**170**				
03:45		13	227	49	728	20	**160**	69	583	118	1311
04:00		17	209			25	**160**				
04:15		23	186			27	**161**				
04:30		27	215			45	141				
04:45		34	**218**	101	828	60	152	157	614	258	1442
05:00		17	**233**			59	148				
05:15		46	**239**			51	155				
05:30		67	**219**			103	107				
05:45		72	169	202	860	123	134	336	544	538	1404
06:00		70	153			122	116				
06:15		78	135			172	109				
06:30		134	107			176	97				
06:45		126	94	408	489	189	98	659	420	1067	909
07:00		**147**	84			184	80				
07:15		**97**	91			**198**	68				
07:30		**146**	71			**210**	70				
07:45		**145**	62	535	308	**250**	68	842	286	1377	594
08:00		102	53			**222**	61				
08:15		103	52			152	70				
08:30		127	63			177	55				
08:45		111	66	443	234	136	53	687	239	1130	473
09:00		82	55			105	37				
09:15		85	58			103	55				
09:30		96	46			118	43				
09:45		85	49	348	208	93	28	419	163	767	371
10:00		96	55			97	33				
10:15		68	39			92	30				
10:30		92	21			100	40				
10:45		87	38	343	153	84	25	373	128	716	281
11:00		109	33			71	13				
11:15		91	22			94	19				
11:30		75	35			115	15				
11:45		112	26	387	116	104	20	384	67	771	183
Total		2959	5340	2959	5340	4083	4382	4083	4382	7042	9722
Combined Total		8299		8299		8465		8465		16764	
AM Peak	-	07:00	-	-	-	07:15	-	-	-	-	-
Vol.	-	535	-	-	-	880	-	-	-	-	-
P.H.F.		0.910				0.880					
PM Peak	-	-	04:45	-	-	-	03:30	-	-	-	-
Vol.	-	-	909	-	-	-	651	-	-	-	-
P.H.F.			0.951				0.957				
Percentage		35.7%	64.3%			48.2%	51.8%				
ADT/AADT		ADT 16,764		AADT 16,764							

Counts Unlimited, Inc.

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City of Fresno
Clovis Avenue
S/ Butler Avenue
24 Hour Directional Volume Count

FSO019
Site Code: 003-19024

Start Time	1/24/2019 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		28	174			34	164				
12:15		17	177			41	170				
12:30		20	171			15	189				
12:45		14	164	79	686	28	179	118	702	197	1388
01:00		13	169			16	156				
01:15		13	162			13	196				
01:30		16	184			13	207				
01:45		11	197	53	712	13	156	55	715	108	1427
02:00		14	174			18	171				
02:15		8	186			8	191				
02:30		10	233			12	207				
02:45		13	259	45	852	15	211	53	780	98	1632
03:00		12	186			10	204				
03:15		12	211			14	253				
03:30		21	249			17	241				
03:45		18	279	63	925	22	273	63	971	126	1896
04:00		22	243			25	242				
04:15		37	256			24	283				
04:30		37	**267**			44	255				
04:45		51	**271**	147	1037	51	**294**	144	1074	291	2111
05:00		29	**299**			41	**293**				
05:15		74	**313**			48	**276**				
05:30		103	243			76	**268**				
05:45		109	246	315	1101	82	266	247	1103	562	2204
06:00		108	208			111	237				
06:15		127	217			150	223				
06:30		194	165			143	204				
06:45		225	167	654	757	175	195	579	859	1233	1616
07:00		**252**	135			159	176				
07:15		**356**	129			**199**	190				
07:30		**334**	107			**228**	167				
07:45		**326**	80	1268	451	**249**	144	835	677	2103	1128
08:00		202	95			**255**	163				
08:15		217	92			192	148				
08:30		192	80			171	152				
08:45		197	76	808	343	136	133	754	596	1562	939
09:00		169	75			121	112				
09:15		183	84			125	116				
09:30		187	65			118	94				
09:45		168	62	707	286	119	92	483	414	1190	700
10:00		159	58			110	74				
10:15		154	57			120	65				
10:30		142	34			137	69				
10:45		178	40	633	189	141	52	508	260	1141	449
11:00		191	40			123	50				
11:15		172	26			156	45				
11:30		178	38			157	48				
11:45		173	21	714	125	155	54	591	197	1305	322
Total		5486	7464	5486	7464	4430	8348	4430	8348	9916	15812
Combined Total		12950		12950		12778		12778		25728	
AM Peak	-	07:00	-	-	-	07:15	-	-	-	-	-
Vol.	-	1268	-	-	-	931	-	-	-	-	-
P.H.F.		0.890				0.913					
PM Peak	-	-	04:30	-	-	-	04:45	-	-	-	-
Vol.	-	-	1150	-	-	-	1131	-	-	-	-
P.H.F.			0.919				0.962				
Percentage		42.4%	57.6%			34.7%	65.3%				
ADT/AADT		ADT 25,728		AADT 25,728							

Counts Unlimited, Inc.

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City of Fresno
Fowler Avenue
N/ Jensen Avenue
24 Hour Directional Volume Count

FSO006
Site Code: 003-19024

Start Time	1/8/2019 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		3	36			3	39				
12:15		5	39			5	26				
12:30		2	29			2	35				
12:45		2	34	12	138	1	32	11	132	23	270
01:00		2	41			1	38				
01:15		1	50			1	42				
01:30		0	30			0	30				
01:45		0	40	3	161	3	25	5	135	8	296
02:00		1	51			1	**40**				
02:15		1	72			3	**56**				
02:30		1	63			3	**54**				
02:45		1	41	4	227	1	**34**	8	184	12	411
03:00		3	67			2	39				
03:15		4	69			1	40				
03:30		1	59			4	59				
03:45		6	63	14	258	5	29	12	167	26	425
04:00		6	70			7	36				
04:15		6	**82**			8	39				
04:30		7	**72**			11	39				
04:45		8	**81**	27	305	15	44	41	158	68	463
05:00		14	**77**			19	48				
05:15		13	59			25	43				
05:30		11	51			42	47				
05:45		10	44	48	231	34	22	120	160	168	391
06:00		26	37			33	19				
06:15		24	30			31	26				
06:30		19	24			68	22				
06:45		30	25	99	116	**59**	15	191	82	290	198
07:00		**41**	22			**94**	10				
07:15		**52**	20			**117**	14				
07:30		**64**	15			**89**	14				
07:45		**93**	28	250	85	47	13	347	51	597	136
08:00		34	20			47	15				
08:15		24	15			43	13				
08:30		23	11			35	8				
08:45		26	16	107	62	32	9	157	45	264	107
09:00		25	13			30	14				
09:15		20	18			38	11				
09:30		21	7			34	7				
09:45		21	8	87	46	25	4	127	36	214	82
10:00		26	7			43	10				
10:15		29	10			28	9				
10:30		47	5			16	6				
10:45		34	6	136	28	16	8	103	33	239	61
11:00		36	7			25	8				
11:15		26	11			35	3				
11:30		52	3			45	4				
11:45		47	4	161	25	39	5	144	20	305	45
Total		948	1682	948	1682	1266	1203	1266	1203	2214	2885
Combined Total		2630		2630		2469		2469		5099	
AM Peak	-	07:00	-	-	-	06:45	-	-	-	-	-
Vol.	-	250	-	-	-	359	-	-	-	-	-
P.H.F.		0.672				0.767					
PM Peak	-	-	04:15	-	-	-	02:00	-	-	-	-
Vol.	-	-	312	-	-	-	184	-	-	-	-
P.H.F.			0.951				0.821				
Percentage		36.0%	64.0%			51.3%	48.7%				
ADT/AADT		ADT 5,099		AADT 5,099							

Counts Unlimited, Inc.

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City of Fresno
Fowler Avenue
S/ Belmont Avenue
24 Hour Directional Volume Count

FSO020
Site Code: 003-19024

Start	1/24/2019	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		17	148			15	124				
12:15		11	126			11	124				
12:30		17	122			14	133				
12:45		7	140	52	536	12	112	52	493	104	1029
01:00		8	137			6	142				
01:15		10	144			7	121				
01:30		8	170			10	160				
01:45		4	122	30	573	5	142	28	565	58	1138
02:00		3	150			7	160				
02:15		3	158			3	164				
02:30		6	184			1	194				
02:45		8	177	20	669	6	204	17	722	37	1391
03:00		5	**260**			5	227				
03:15		3	**197**			3	217				
03:30		8	**218**			10	233				
03:45		18	**195**	34	870	20	214	38	891	72	1761
04:00		13	157			15	195				
04:15		29	169			13	209				
04:30		27	190			12	**233**				
04:45		34	165	103	681	27	**228**	67	865	170	1546
05:00		31	186			26	**252**				
05:15		39	176			40	**218**				
05:30		83	204			52	196				
05:45		101	179	254	745	39	178	157	844	411	1589
06:00		89	135			48	176				
06:15		109	133			94	126				
06:30		207	138			112	133				
06:45		215	115	620	521	84	116	338	551	958	1072
07:00		**278**	103			**138**	107				
07:15		**311**	74			**133**	116				
07:30		**336**	109			**173**	81				
07:45		**302**	81	1227	367	**185**	117	629	421	1856	788
08:00		254	86			134	121				
08:15		173	65			91	102				
08:30		194	79			80	97				
08:45		168	70	789	300	94	71	399	391	1188	691
09:00		144	55			85	70				
09:15		116	50			102	59				
09:30		157	45			86	51				
09:45		115	37	532	187	95	59	368	239	900	426
10:00		126	39			68	47				
10:15		131	43			89	37				
10:30		129	38			107	32				
10:45		113	30	499	150	107	20	371	136	870	286
11:00		138	30			122	23				
11:15		146	23			146	19				
11:30		174	25			130	23				
11:45		147	12	605	90	114	25	512	90	1117	180
Total		4765	5689	4765	5689	2976	6208	2976	6208	7741	11897
Combined Total		10454		10454		9184		9184		19638	
AM Peak	-	07:00	-	-	-	07:00	-	-	-	-	-
Vol.	-	1227	-	-	-	629	-	-	-	-	-
P.H.F.		0.913				0.850					
PM Peak	-	-	03:00	-	-	-	04:30	-	-	-	-
Vol.	-	-	870	-	-	-	931	-	-	-	-
P.H.F.			0.837				0.924				
Percentage		45.6%	54.4%			32.4%	67.6%				
ADT/AADT		ADT 19,638		AADT 19,638							

Prepared by NDS/ATD

VOLUME

Fowler Ave Bet. Olive Ave & SR 180

Day: Thursday
Date: 1/25/2018

City: Fresno
Project #: CA18_2014_005

DAILY TOTALS	NB	SB	EB	WB	Total
	7,468	8,592	0	0	16,060

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	20		11				31		12:00	99		109				208	
00:15	14		8				22		12:15	103		120				223	
00:30	15		12				27		12:30	118		100				218	
00:45	15	64	5	36			20	100	12:45	114	434	112	441			226	875
01:00	8		9				17		13:00	111		130				241	
01:15	12		2				14		13:15	129		122				251	
01:30	12		6				18		13:30	107		149				256	
01:45	7	39	2	19			9	58	13:45	110	457	121	522			231	979
02:00	6		6				12		14:00	115		156				271	
02:15	8		3				11		14:15	148		121				269	
02:30	7		4				11		14:30	125		129				254	
02:45	10	31	8	21			18	52	14:45	145	533	148	554			293	1087
03:00	5		7				12		15:00	148		142				290	
03:15	1		7				8		15:15	135		159				294	
03:30	14		12				26		15:30	126		210				336	
03:45	9	29	11	37			20	66	15:45	149	558	170	681			319	1239
04:00	4		12				16		16:00	138		158				296	
04:15	4		18				22		16:15	159		157				316	
04:30	23		23				46		16:30	155		161				316	
04:45	41	72	37	90			78	162	16:45	150	602	140	616			290	1218
05:00	16		44				60		17:00	145		161				306	
05:15	26		63				89		17:15	163		144				307	
05:30	42		82				124		17:30	158		140				298	
05:45	69	153	82	271			151	424	17:45	148	614	135	580			283	1194
06:00	62		91				153		18:00	138		109				247	
06:15	96		126				222		18:15	132		110				242	
06:30	90		190				280		18:30	124		101				225	
06:45	70	318	170	577			240	895	18:45	96	490	71	391			167	881
07:00	118		192				310		19:00	89		84				173	
07:15	115		238				353		19:15	77		50				127	
07:30	110		236				346		19:30	85		70				155	
07:45	113	456	219	885			332	1341	19:45	77	328	49	253			126	581
08:00	101		224				325		20:00	82		46				128	
08:15	125		211				336		20:15	85		62				147	
08:30	94		166				260		20:30	82		69				151	
08:45	93	413	141	742			234	1155	20:45	66	315	60	237			126	552
09:00	75		97				172		21:00	57		52				109	
09:15	88		127				215		21:15	59		45				104	
09:30	67		102				169		21:30	52		48				100	
09:45	102	332	103	429			205	761	21:45	45	213	39	184			84	397
10:00	102		99				201		22:00	47		32				79	
10:15	85		107				192		22:15	44		33				77	
10:30	90		101				191		22:30	37		35				72	
10:45	84	361	81	388			165	749	22:45	32	160	25	125			57	285
11:00	111		98				209		23:00	25		16				41	
11:15	108		123				231		23:15	22		16				38	
11:30	105		109				214		23:30	22		19				41	
11:45	82	406	120	450			202	856	23:45	21	90	12	63			33	153
TOTALS		2674		3945				6619	TOTALS		4794		4647				9441
SPLIT %		40.4%		59.6%				41.2%	SPLIT %		50.8%		49.2%				58.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	7,468	8,592	0	0	16,060

AM Peak Hour	07:00	07:15	07:15	PM Peak Hour	16:45	15:15	15:30
AM Pk Volume	456	917	1356	PM Pk Volume	616	697	1267
Pk Hr Factor	0.966	0.963	0.960	Pk Hr Factor	0.945	0.830	0.943
7 - 9 Volume	869	1627	2496	4 - 6 Volume	1216	1196	2412
7 - 9 Peak Hour	07:00	07:15	07:15	4 - 6 Peak Hour	16:45	16:15	16:15
7 - 9 Pk Volume	456	917	1356	4 - 6 Pk Volume	616	619	1228
Pk Hr Factor	0.966	0.963	0.960	Pk Hr Factor	0.945	0.961	0.972

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Fresno
Fowler Avenue
N/ Olive Avenue
24 Hour Directional Volume Count

FSO021
Site Code: 003-19024

Start	1/24/2019	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		19	98			19	110				
12:15		12	**116**			15	134				
12:30		13	**106**			13	122				
12:45		6	**118**	50	438	12	102	59	468	109	906
01:00		8	**110**			6	116				
01:15		8	110			8	102				
01:30		5	98			10	107				
01:45		5	122	26	440	6	152	30	477	56	917
02:00		6	104			12	100				
02:15		4	99			5	108				
02:30		2	102			6	120				
02:45		4	138	16	443	6	119	29	447	45	890
03:00		1	93			3	200				
03:15		4	102			6	**162**				
03:30		6	98			4	**110**				
03:45		12	78	23	371	9	**160**	22	632	45	1003
04:00		14	92			14	**211**				
04:15		15	112			12	137				
04:30		16	98			12	115				
04:45		32	114	77	416	28	174	66	637	143	1053
05:00		24	112			40	200				
05:15		30	110			22	130				
05:30		44	107			32	126				
05:45		64	112	162	441	69	128	163	584	325	1025
06:00		51	107			71	134				
06:15		54	101			46	107				
06:30		**101**	87			60	122				
06:45		**106**	78	312	373	104	110	281	473	593	846
07:00		**115**	75			113	100				
07:15		**126**	67			102	82				
07:30		85	66			**140**	78				
07:45		39	46	365	254	**151**	76	506	336	871	590
08:00		90	56			**148**	85				
08:15		75	74			**132**	70				
08:30		88	62			110	81				
08:45		102	59	355	251	94	76	484	312	839	563
09:00		94	54			100	53				
09:15		95	58			88	56				
09:30		86	48			78	42				
09:45		112	39	387	199	111	28	377	179	764	378
10:00		94	33			96	32				
10:15		86	40			102	33				
10:30		80	28			93	36				
10:45		88	18	348	119	88	26	379	127	727	246
11:00		88	12			80	16				
11:15		101	17			114	26				
11:30		91	20			99	27				
11:45		108	17	388	66	110	23	403	92	791	158
Total		2509	3811	2509	3811	2799	4764	2799	4764	5308	8575
Combined Total		6320		6320		7563		7563		13883	
AM Peak	-	06:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	448	-	-	-	571	-	-	-	-	-
P.H.F.		0.889				0.945					
PM Peak	-	-	00:15	-	-	-	03:15	-	-	-	-
Vol.	-	-	450	-	-	-	643	-	-	-	-
P.H.F.			0.953				0.762				
Percentage		39.7%	60.3%			37.0%	63.0%				
ADT/AADT		ADT 13,883		AADT 13,883							

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City of Fresno
Armstrong Avenue
S/ Butler Avenue
24 Hour Directional Volume Count

FSO011
Site Code: 003-19024

Start Time	1/8/2019 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		2	17			2	16				
12:15		1	18			1	19				
12:30		0	23			1	23				
12:45		1	33	4	91	2	33	6	91	10	182
01:00		1	28			3	20				
01:15		0	29			1	13				
01:30		1	17			2	28				
01:45		0	29	2	103	1	20	7	81	9	184
02:00		1	36			0	14				
02:15		0	50			1	43				
02:30		2	37			2	38				
02:45		2	33	5	156	0	30	3	125	8	281
03:00		1	31			0	35				
03:15		2	32			2	32				
03:30		0	39			4	23				
03:45		2	30	5	132	0	30	6	120	11	252
04:00		5	30			1	24				
04:15		10	27			4	**37**				
04:30		4	**30**			4	**42**				
04:45		10	**50**	29	137	6	**45**	15	148	44	285
05:00		6	**44**			2	**59**				
05:15		11	**33**			5	30				
05:30		14	26			6	30				
05:45		7	28	38	131	7	33	20	152	58	283
06:00		24	27			10	22				
06:15		28	19			24	25				
06:30		41	13			22	14				
06:45		**43**	14	136	73	16	15	72	76	208	149
07:00		**82**	11			**29**	14				
07:15		**107**	3			**32**	13				
07:30		**91**	10			**42**	14				
07:45		40	12	320	36	**24**	18	127	59	447	95
08:00		21	11			19	16				
08:15		21	8			13	18				
08:30		17	5			10	15				
08:45		14	7	73	31	5	10	47	59	120	90
09:00		13	6			19	10				
09:15		20	8			14	12				
09:30		15	9			20	8				
09:45		16	7	64	30	12	6	65	36	129	66
10:00		12	9			11	11				
10:15		30	8			9	7				
10:30		17	4			12	6				
10:45		25	5	84	26	16	5	48	29	132	55
11:00		17	5			10	2				
11:15		31	1			18	1				
11:30		25	2			27	2				
11:45		25	0	98	8	16	0	71	5	169	13
Total		858	954	858	954	487	981	487	981	1345	1935
Combined Total		1812		1812		1468		1468		3280	
AM Peak	-	06:45	-	-	-	07:00	-	-	-	-	-
Vol.	-	323	-	-	-	127	-	-	-	-	-
P.H.F.		0.755				0.756					
PM Peak	-	-	04:30	-	-	-	04:15	-	-	-	-
Vol.	-	-	157	-	-	-	183	-	-	-	-
P.H.F.			0.785				0.775				
Percentage		47.4%	52.6%			33.2%	66.8%				
ADT/AADT		ADT 3,280		AADT 3,280							

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City of Fresno
Armstrong Avenue
N/ Butler Avenue
24 Hour Directional Volume Count

FSO010
Site Code: 003-19024

Start Time	1/8/2019 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		3	28			2	14				
12:15		2	19			2	21				
12:30		1	31			2	24				
12:45		3	31	9	109	2	35	8	94	17	203
01:00		1	35			2	26				
01:15		1	33			0	14				
01:30		1	39			2	27				
01:45		1	24	4	131	1	20	5	87	9	218
02:00		1	31			0	19				
02:15		1	**53**			1	46				
02:30		0	**65**			3	45				
02:45		2	**41**	4	190	0	34	4	144	8	334
03:00		2	**36**			0	31				
03:15		1	36			2	33				
03:30		2	40			4	26				
03:45		0	48	5	160	0	28	6	118	11	278
04:00		3	36			1	38				
04:15		5	31			3	29				
04:30		10	39			5	**45**				
04:45		3	29	21	135	7	**45**	16	157	37	292
05:00		10	31			3	**45**				
05:15		9	55			7	**70**				
05:30		13	48			7	38				
05:45		14	43	46	177	7	39	24	192	70	369
06:00		8	38			10	35				
06:15		26	36			27	30				
06:30		45	32			25	30				
06:45		56	20	135	126	15	19	77	114	212	240
07:00		**55**	19			**26**	17				
07:15		**103**	14			**35**	14				
07:30		**133**	14			**43**	16				
07:45		**103**	6	394	53	**25**	16	129	63	523	116
08:00		47	16			23	16				
08:15		21	12			13	18				
08:30		26	11			11	17				
08:45		25	10	119	49	6	15	53	66	172	115
09:00		15	8			18	14				
09:15		19	6			16	13				
09:30		22	10			26	12				
09:45		21	4	77	28	12	9	72	48	149	76
10:00		20	13			12	9				
10:15		19	8			7	13				
10:30		35	15			13	9				
10:45		23	9	97	45	23	9	55	40	152	85
11:00		30	9			12	5				
11:15		24	4			22	2				
11:30		36	5			28	1				
11:45		29	0	119	18	23	4	85	12	204	30
Total		1030	1221	1030	1221	534	1135	534	1135	1564	2356
Combined Total		2251		2251		1669		1669		3920	
AM Peak	-	07:00	-	-	-	07:00	-	-	-	-	-
Vol.	-	394	-	-	-	129	-	-	-	-	-
P.H.F.		0.741				0.750					
PM Peak	-	-	02:15	-	-	-	04:30	-	-	-	-
Vol.	-	-	195	-	-	-	205	-	-	-	-
P.H.F.			0.750				0.732				
Percentage		45.8%	54.2%			32.0%	68.0%				
ADT/AADT		ADT 3,920		AADT 3,920							

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City of Fresno
Armstong Avenue
N/ Belmont Avenue
24 Hour Directional Volume Count

FSO008
Site Code: 003-19024

Start Time	1/8/2019 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		1	7			0	5				
12:15		0	17			0	3				
12:30		1	10			0	2				
12:45		1	10	3	44	0	5	0	15	3	59
01:00		0	8			0	3				
01:15		2	37			0	7				
01:30		0	22			0	30				
01:45		0	12	2	79	1	3	1	43	3	122
02:00		1	27			0	6				
02:15		0	33			0	7				
02:30		0	44			0	**14**				
02:45		1	68	2	172	0	**14**	0	41	2	213
03:00		0	47			0	**52**				
03:15		1	42			0	**13**				
03:30		0	43			0	13				
03:45		1	54	2	186	1	8	1	86	3	272
04:00		0	50			1	16				
04:15		0	**64**			0	28				
04:30		1	**75**			2	13				
04:45		2	**68**	3	257	0	10	3	67	6	324
05:00		0	**73**			1	13				
05:15		0	47			0	15				
05:30		5	47			5	4				
05:45		9	19	14	186	2	3	8	35	22	221
06:00		6	12			1	2				
06:15		9	9			7	2				
06:30		34	7			10	4				
06:45		50	6	99	34	14	1	32	9	131	43
07:00		**51**	7			22	2				
07:15		**69**	5			**36**	0				
07:30		**109**	6			**61**	1				
07:45		**87**	3	316	21	**50**	5	169	8	485	29
08:00		21	1			**24**	1				
08:15		5	4			13	2				
08:30		7	7			5	0				
08:45		12	2	45	14	4	0	46	3	91	17
09:00		14	0			3	0				
09:15		9	2			6	0				
09:30		5	0			5	0				
09:45		8	2	36	4	3	1	17	1	53	5
10:00		6	2			4	3				
10:15		9	5			7	0				
10:30		7	1			2	0				
10:45		13	1	35	9	4	0	17	3	52	12
11:00		17	1			7	0				
11:15		15	1			7	0				
11:30		10	0			6	0				
11:45		13	1	55	3	11	0	31	0	86	3
Total		612	1009	612	1009	325	311	325	311	937	1320
Combined Total		1621		1621		636		636		2257	
AM Peak	-	07:00	-	-	-	07:15	-	-	-	-	-
Vol.	-	316	-	-	-	171	-	-	-	-	-
P.H.F.		0.725				0.701					
PM Peak	-	-	04:15	-	-	-	02:30	-	-	-	-
Vol.	-	-	280	-	-	-	93	-	-	-	-
P.H.F.			0.933				0.447				
Percentage		37.8%	62.2%			51.1%	48.9%				
ADT/AADT		ADT 2,257		AADT 2,257							

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City of Fresno
Armstrong Avenue
S/ Dakota Avenue
24 Hour Directional Volume Count

FSO007
Site Code: 003-19024

Start Time	1/8/2019 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		3	43			3	36				
12:15		4	37			1	39				
12:30		0	39			0	46				
12:45		2	25	9	144	2	44	6	165	15	309
01:00		0	35			1	32				
01:15		1	33			1	36				
01:30		1	30			0	39				
01:45		1	29	3	127	0	43	2	150	5	277
02:00		0	36			1	30				
02:15		0	28			1	**63**				
02:30		0	**71**			2	**68**				
02:45		1	**69**	1	204	2	**89**	6	250	7	454
03:00		0	**148**			2	**66**				
03:15		1	**80**			2	53				
03:30		0	68			3	56				
03:45		5	56	6	352	3	67	10	242	16	594
04:00		1	60			6	74				
04:15		2	53			6	54				
04:30		5	61			5	55				
04:45		4	65	12	239	9	66	26	249	38	488
05:00		1	74			12	62				
05:15		5	75			18	57				
05:30		4	72			18	49				
05:45		6	57	16	278	16	57	64	225	80	503
06:00		10	47			32	37				
06:15		13	32			63	30				
06:30		17	28			63	44				
06:45		32	19	72	126	77	40	235	151	307	277
07:00		73	20			**99**	28				
07:15		**57**	34			**106**	32				
07:30		**70**	15			**101**	25				
07:45		**154**	27	354	96	**92**	24	398	109	752	205
08:00		**107**	21			52	21				
08:15		40	18			47	14				
08:30		29	9			42	16				
08:45		25	20	201	68	29	21	170	72	371	140
09:00		16	8			29	17				
09:15		27	11			27	14				
09:30		23	6			29	13				
09:45		24	12	90	37	36	13	121	57	211	94
10:00		17	6			34	13				
10:15		24	7			24	11				
10:30		26	5			51	5				
10:45		40	7	107	25	39	7	148	36	255	61
11:00		51	7			64	8				
11:15		73	4			41	2				
11:30		70	5			38	5				
11:45		57	2	251	18	32	2	175	17	426	35
Total		1122	1714	1122	1714	1361	1723	1361	1723	2483	3437
Combined Total		2836		2836		3084		3084		5920	
AM Peak	-	07:15	-	-	-	07:00	-	-	-	-	-
Vol.	-	388	-	-	-	398	-	-	-	-	-
P.H.F.		0.630				0.939					
PM Peak	-	-	02:30	-	-	-	02:15	-	-	-	-
Vol.	-	-	368	-	-	-	286	-	-	-	-
P.H.F.			0.622				0.803				
Percentage		39.6%	60.4%			44.1%	55.9%				
ADT/AADT		ADT 5,920		AADT 5,920							

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City of Fresno
Temperance Avenue
N/ California Avenue
24 Hour Directional Volume Count

FSO022
Site Code: 003-19024

Start	1/24/2019	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	18			1	16				
12:15		0	10			1	21				
12:30		1	19			4	24				
12:45		0	25	1	72	2	23	8	84	9	156
01:00		1	15			1	25				
01:15		1	34			0	31				
01:30		2	20			0	31				
01:45		1	42	5	111	0	28	1	115	6	226
02:00		0	17			0	33				
02:15		0	15			0	30				
02:30		1	22			3	40				
02:45		1	26	2	80	1	35	4	138	6	218
03:00		1	24			4	48				
03:15		3	42			5	40				
03:30		1	42			6	22				
03:45		0	28	5	136	3	42	18	152	23	288
04:00		1	32			2	43				
04:15		2	36			6	38				
04:30		3	25			7	28				
04:45		4	**38**	10	131	9	**32**	24	141	34	272
05:00		3	**38**			9	**48**				
05:15		4	**47**			13	**44**				
05:30		13	**38**			14	**61**				
05:45		7	34	27	157	24	32	60	185	87	342
06:00		5	34			34	21				
06:15		12	23			38	29				
06:30		14	20			46	14				
06:45		17	12	48	89	67	12	185	76	233	165
07:00		26	12			**64**	18				
07:15		**24**	12			**81**	20				
07:30		**40**	9			**87**	16				
07:45		**24**	8	114	41	**86**	16	318	70	432	111
08:00		**32**	10			62	16				
08:15		17	10			48	10				
08:30		14	8			40	14				
08:45		18	5	81	33	27	4	177	44	258	77
09:00		10	7			18	18				
09:15		16	11			16	5				
09:30		18	12			19	8				
09:45		10	6	54	36	16	13	69	44	123	80
10:00		16	6			22	7				
10:15		18	1			24	8				
10:30		15	1			24	12				
10:45		11	4	60	12	13	1	83	28	143	40
11:00		21	1			18	5				
11:15		20	4			24	1				
11:30		12	3			16	3				
11:45		12	1	65	9	24	4	82	13	147	22
Total		472	907	472	907	1029	1090	1029	1090	1501	1997
Combined Total		1379		1379		2119		2119		3498	
AM Peak	-	07:15	-	-	-	07:00	-	-	-	-	-
Vol.	-	120	-	-	-	318	-	-	-	-	-
P.H.F.		0.750				0.914					
PM Peak	-	-	04:45	-	-	-	04:45	-	-	-	-
Vol.	-	-	161	-	-	-	185	-	-	-	-
P.H.F.			0.856				0.758				
Percentage		34.2%	65.8%			48.6%	51.4%				
ADT/AADT		ADT 3,498		AADT 3,498							

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City of Fresno
Temperance Avenue
N/ Olive Avenue
24 Hour Directional Volume Count

FSO023
Site Code: 003-19024

Start Time	1/23/2019 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		7	42			4	71				
12:15		8	60			1	51				
12:30		1	57			1	64				
12:45		2	67	18	226	3	62	9	248	27	474
01:00		5	56			3	57				
01:15		2	52			2	58				
01:30		2	53			5	59				
01:45		1	62	10	223	2	89	12	263	22	486
02:00		5	62			3	51				
02:15		3	64			3	64				
02:30		3	78			4	74				
02:45		2	67	13	271	3	**99**	13	288	26	559
03:00		0	85			2	**104**				
03:15		2	67			5	**93**				
03:30		3	92			13	**78**				
03:45		1	95	6	339	13	69	33	344	39	683
04:00		1	113			15	81				
04:15		3	108			14	82				
04:30		4	**104**			24	66				
04:45		4	**127**	12	452	27	81	80	310	92	762
05:00		2	**126**			28	91				
05:15		10	**127**			46	85				
05:30		14	95			62	71				
05:45		10	80	36	428	57	43	193	290	229	718
06:00		32	86			78	66				
06:15		28	62			92	63				
06:30		75	56			125	65				
06:45		77	45	212	249	109	40	404	234	616	483
07:00		**101**	50			**144**	41				
07:15		**100**	32			**143**	52				
07:30		**106**	36			**142**	37				
07:45		**93**	27	400	145	**113**	35	542	165	942	310
08:00		72	40			124	21				
08:15		42	34			84	33				
08:30		52	37			70	24				
08:45		43	18	209	129	48	21	326	99	535	228
09:00		43	30			53	14				
09:15		58	18			58	24				
09:30		46	21			55	22				
09:45		46	11	193	80	62	15	228	75	421	155
10:00		45	12			42	19				
10:15		60	13			44	9				
10:30		52	12			54	4				
10:45		41	15	198	52	48	8	188	40	386	92
11:00		43	12			56	14				
11:15		39	8			50	7				
11:30		58	9			51	13				
11:45		56	1	196	30	43	3	200	37	396	67
Total		1503	2624	1503	2624	2228	2393	2228	2393	3731	5017
Combined Total		4127		4127		4621		4621		8748	
AM Peak	-	07:00	-	-	-	07:00	-	-	-	-	-
Vol.	-	400	-	-	-	542	-	-	-	-	-
P.H.F.		0.943				0.941					
PM Peak	-	-	04:30	-	-	-	02:45	-	-	-	-
Vol.	-	-	484	-	-	-	374	-	-	-	-
P.H.F.			0.953				0.899				
Percentage		36.4%	63.6%			48.2%	51.8%				
ADT/AADT		ADT 8,748		AADT 8,748							

Counts Unlimited, Inc.

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City of Fresno
Temperance Avenue
N/ Shields Avenue
24 Hour Directional Volume Count

FSO024
Site Code: 003-19024

Start Time	1/23/2019 Wed	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		4	46			7	48				
12:15		8	41			4	53				
12:30		5	67			1	44				
12:45		5	67	22	221	3	56	15	201	37	422
01:00		2	60			1	55				
01:15		3	70			0	49				
01:30		3	52			4	84				
01:45		0	67	8	249	5	97	10	285	18	534
02:00		1	100			3	46				
02:15		1	56			2	48				
02:30		2	51			2	**68**				
02:45		3	79	7	286	1	**73**	8	235	15	521
03:00		2	66			3	**79**				
03:15		1	81			3	**78**				
03:30		3	82			8	63				
03:45		2	90	8	319	8	75	22	295	30	614
04:00		2	98			9	76				
04:15		3	100			4	59				
04:30		1	93			10	71				
04:45		3	**106**	9	397	10	51	33	257	42	654
05:00		5	**113**			21	71				
05:15		5	**121**			17	83				
05:30		11	**120**			27	47				
05:45		13	86	34	440	35	74	100	275	134	715
06:00		14	88			42	51				
06:15		24	70			65	50				
06:30		35	66			66	59				
06:45		36	49	109	273	89	51	262	211	371	484
07:00		57	41			93	33				
07:15		79	42			108	25				
07:30		**83**	30			**152**	39				
07:45		**108**	33	327	146	**146**	41	499	138	826	284
08:00		**86**	35			**129**	34				
08:15		**92**	39			**113**	25				
08:30		48	30			51	41				
08:45		35	31	261	135	45	19	338	119	599	254
09:00		43	17			52	23				
09:15		38	32			48	24				
09:30		54	20			41	25				
09:45		34	17	169	86	45	15	186	87	355	173
10:00		43	14			41	10				
10:15		50	7			42	18				
10:30		43	11			44	10				
10:45		46	12	182	44	56	8	183	46	365	90
11:00		58	15			41	7				
11:15		44	17			39	7				
11:30		55	8			50	8				
11:45		46	11	203	51	63	8	193	30	396	81
Total		1339	2647	1339	2647	1849	2179	1849	2179	3188	4826
Combined Total		3986		3986		4028		4028		8014	
AM Peak	-	07:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	369	-	-	-	540	-	-	-	-	-
P.H.F.		0.854				0.888					
PM Peak	-	-	04:45	-	-	-	02:30	-	-	-	-
Vol.	-	-	460	-	-	-	298	-	-	-	-
P.H.F.			0.950				0.768				
Percentage		33.6%	66.4%			45.9%	54.1%				
ADT/AADT		ADT 8,014		AADT 8,014							

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City of Fresno
Temperance Avenue
N/ Dakota Avenue
24 Hour Directional Volume Count

FSO013
Site Code: 003-19024

Start Time	1/8/2019 Tue	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		5	60			6	41				
12:15		7	40			4	44				
12:30		6	53			2	68				
12:45		4	52	22	205	3	57	15	210	37	415
01:00		3	60			1	45				
01:15		4	61			5	61				
01:30		4	52			2	58				
01:45		0	63	11	236	2	51	10	215	21	451
02:00		0	67			2	49				
02:15		2	111			2	64				
02:30		0	84			6	**151**				
02:45		2	112	4	374	2	**131**	12	395	16	769
03:00		2	107			3	**106**				
03:15		2	100			6	**89**				
03:30		1	103			6	82				
03:45		2	90	7	400	5	85	20	362	27	762
04:00		4	**128**			10	93				
04:15		7	**133**			16	83				
04:30		4	**113**			15	92				
04:45		5	**124**	20	498	17	98	58	366	78	864
05:00		7	112			22	93				
05:15		11	98			36	69				
05:30		10	93			32	63				
05:45		22	71	50	374	42	61	132	286	182	660
06:00		40	64			52	46				
06:15		53	54			79	42				
06:30		75	63			77	44				
06:45		**105**	40	273	221	80	48	288	180	561	401
07:00		**126**	32			**156**	40				
07:15		**131**	28			**188**	45				
07:30		**92**	38			**173**	32				
07:45		97	31	446	129	**89**	26	606	143	1052	272
08:00		82	27			90	36				
08:15		80	23			86	26				
08:30		58	19			64	37				
08:45		47	19	267	88	63	29	303	128	570	216
09:00		46	17			43	22				
09:15		47	18			47	18				
09:30		52	16			49	22				
09:45		42	10	187	61	38	15	177	77	364	138
10:00		51	16			55	16				
10:15		58	13			58	13				
10:30		45	10			37	13				
10:45		51	8	205	47	41	6	191	48	396	95
11:00		46	4			49	7				
11:15		51	6			54	5				
11:30		67	7			49	5				
11:45		64	9	228	26	49	7	201	24	429	50
Total		1720	2659	1720	2659	2013	2434	2013	2434	3733	5093
Combined Total		4379		4379		4447		4447		8826	
AM Peak	-	06:45	-	-	-	07:00	-	-	-	-	-
Vol.	-	454	-	-	-	606	-	-	-	-	-
P.H.F.		0.866				0.806					
PM Peak	-	-	04:00	-	-	-	02:30	-	-	-	-
Vol.	-	-	498	-	-	-	477	-	-	-	-
P.H.F.			0.936				0.790				
Percentage		39.3%	60.7%			45.3%	54.7%				
ADT/AADT		ADT 8,826		AADT 8,826							

Counts Unlimited, Inc.

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City of Fresno
De Wolf Avenue
N/ California Avenue
24 Hour Directional Volume Count

FSO025
Site Code: 003-19024

Start Time	1/24/2019 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		1	17			2	14				
12:15		3	8			1	8				
12:30		0	12			0	12				
12:45		0	8	4	45	1	7	4	41	8	86
01:00		0	11			2	14				
01:15		2	11			2	13				
01:30		1	16			0	18				
01:45		0	20	3	58	0	14	4	59	7	117
02:00		0	14			1	7				
02:15		2	12			1	18				
02:30		1	19			2	18				
02:45		1	18	4	63	0	24	4	67	8	130
03:00		0	14			1	24				
03:15		2	26			0	18				
03:30		0	27			0	23				
03:45		0	36	2	103	1	34	2	99	4	202
04:00		0	32			0	34				
04:15		1	23			2	30				
04:30		0	18			2	26				
04:45		4	22	5	95	2	**26**	6	116	11	211
05:00		3	**36**			2	**30**				
05:15		4	**36**			3	**36**				
05:30		8	**33**			6	**38**				
05:45		11	**24**	26	129	10	12	21	116	47	245
06:00		8	12			10	24				
06:15		14	10			13	13				
06:30		24	6			21	12				
06:45		23	12	69	40	20	10	64	59	133	99
07:00		39	9			18	6				
07:15		**61**	6			**30**	7				
07:30		**72**	10			**22**	12				
07:45		**48**	6	220	31	**36**	6	106	31	326	62
08:00		**46**	2			**20**	5				
08:15		28	6			18	10				
08:30		22	6			14	4				
08:45		24	5	120	19	5	3	57	22	177	41
09:00		16	4			7	10				
09:15		14	2			10	11				
09:30		16	4			9	6				
09:45		15	2	61	12	15	6	41	33	102	45
10:00		6	2			8	3				
10:15		14	3			6	2				
10:30		12	0			14	3				
10:45		16	2	48	7	12	1	40	9	88	16
11:00		10	1			6	4				
11:15		14	2			10	3				
11:30		10	2			6	1				
11:45		18	1	52	6	8	2	30	10	82	16
Total		614	608	614	608	379	662	379	662	993	1270
Combined Total		1222		1222		1041		1041		2263	
AM Peak	-	07:15	-	-	-	07:15	-	-	-	-	-
Vol.	-	227	-	-	-	108	-	-	-	-	-
P.H.F.		0.788				0.750					
PM Peak	-	-	05:00	-	-	-	04:45	-	-	-	-
Vol.	-	-	129	-	-	-	130	-	-	-	-
P.H.F.			0.896				0.855				
Percentage		50.2%	49.8%			36.4%	63.6%				
ADT/AADT		ADT 2,263		AADT 2,263							

Counts Unlimited, Inc.

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City of Fresno
Nees Avenue
E/ Cedar Avenue
24 Hour Directional Volume Count

FSO026
Site Code: 003-19024

Start Time	1/24/2019 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		14	210			34	205				
12:15		11	158			10	197				
12:30		19	189			9	180				
12:45		11	159	55	716	7	212	60	794	115	1510
01:00		9	195			4	199				
01:15		9	164			4	175				
01:30		6	148			7	194				
01:45		6	175	30	682	1	194	16	762	46	1444
02:00		2	206			2	179				
02:15		2	190			1	208				
02:30		0	195			3	183				
02:45		3	230	7	821	6	224	12	794	19	1615
03:00		1	207			3	188				
03:15		1	222			4	254				
03:30		4	205			9	196				
03:45		1	225	7	859	9	216	25	854	32	1713
04:00		5	234			9	163				
04:15		5	270			6	**213**				
04:30		9	**272**			19	**226**				
04:45		8	**322**	27	1098	25	**212**	59	814	86	1912
05:00		14	**313**			20	**260**				
05:15		12	**305**			33	209				
05:30		20	271			54	226				
05:45		18	243	64	1132	50	195	157	890	221	2022
06:00		27	229			85	147				
06:15		37	201			128	148				
06:30		65	150			154	148				
06:45		63	170	192	750	176	134	543	577	735	1327
07:00		94	150			228	110				
07:15		126	121			**276**	123				
07:30		136	138			**339**	129				
07:45		128	127	484	536	**259**	93	1102	455	1586	991
08:00		109	103			**237**	129				
08:15		102	112			248	101				
08:30		142	96			197	66				
08:45		105	115	458	426	140	53	822	349	1280	775
09:00		104	86			157	63				
09:15		112	62			154	56				
09:30		114	67			151	49				
09:45		112	57	442	272	163	41	625	209	1067	481
10:00		137	45			147	35				
10:15		123	29			153	32				
10:30		123	26			170	24				
10:45		160	27	543	127	171	23	641	114	1184	241
11:00		**146**	25			197	19				
11:15		**166**	27			213	12				
11:30		**195**	11			215	18				
11:45		**202**	15	709	78	178	24	803	73	1512	151
Total		3018	7497	3018	7497	4865	6685	4865	6685	7883	14182
Combined Total		10515		10515		11550		11550		22065	
AM Peak	-	11:00	-	-	-	07:15	-	-	-	-	-
Vol.	-	709	-	-	-	1111	-	-	-	-	-
P.H.F.		0.877				0.819					
PM Peak	-	-	04:30	-	-	-	04:15	-	-	-	-
Vol.	-	-	1212	-	-	-	911	-	-	-	-
P.H.F.			0.941				0.876				
Percentage		28.7%	71.3%			42.1%	57.9%				
ADT/AADT		ADT 22,065		AADT 22,065							

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Volume Report

Site Code: UID#: CO85
Station ID: Mini-Tubes: 48-hour
Sierra W/O Fruit
SIN#: 7298
Date Start: 26-Feb-19
Date End: 27-Feb-19

Start	25-Feb-19		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	West Boun	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou
12:00 AM	*	*	19	8	19	11	*	*	*	*	*	*	*	*	19	10
01:00	*	*	7	4	3	3	*	*	*	*	*	*	*	*	5	4
02:00	*	*	8	5	6	5	*	*	*	*	*	*	*	*	7	5
03:00	*	*	3	0	7	5	*	*	*	*	*	*	*	*	5	2
04:00	*	*	3	3	7	4	*	*	*	*	*	*	*	*	5	4
05:00	*	*	10	23	15	17	*	*	*	*	*	*	*	*	12	20
06:00	*	*	40	50	35	59	*	*	*	*	*	*	*	*	38	54
07:00	*	*	139	281	139	273	*	*	*	*	*	*	*	*	139	277
08:00	*	*	**240**	**365**	**263**	**362**	*	*	*	*	*	*	*	*	**252**	**364**
09:00	*	*	153	225	138	176	*	*	*	*	*	*	*	*	146	200
10:00	*	*	155	179	145	174	*	*	*	*	*	*	*	*	150	176
11:00	*	*	199	167	190	162	*	*	*	*	*	*	*	*	194	164
12:00 PM	*	*	212	193	204	196	*	*	*	*	*	*	*	*	208	194
01:00	*	*	232	213	230	215	*	*	*	*	*	*	*	*	231	214
02:00	*	*	297	**256**	284	222	*	*	*	*	*	*	*	*	290	239
03:00	*	*	334	220	311	236	*	*	*	*	*	*	*	*	322	228
04:00	*	*	396	215	371	245	*	*	*	*	*	*	*	*	384	230
05:00	*	*	**440**	244	**446**	**256**	*	*	*	*	*	*	*	*	**443**	**250**
06:00	*	*	296	161	308	208	*	*	*	*	*	*	*	*	302	184
07:00	*	*	159	91	200	93	*	*	*	*	*	*	*	*	180	92
08:00	*	*	114	73	115	70	*	*	*	*	*	*	*	*	114	72
09:00	*	*	79	48	85	53	*	*	*	*	*	*	*	*	82	50
10:00	*	*	49	24	31	29	*	*	*	*	*	*	*	*	40	26
11:00	*	*	17	13	26	14	*	*	*	*	*	*	*	*	22	14
Lane	0	0	3601	3061	3578	3088	0	0	0	0	0	0	0	0	3590	3073
Day	0		6662		6666		0		0		0		0		6663	
AM Peak	-	-	08:00	08:00	08:00	08:00	-	-	-	-	-	-	-	-	08:00	08:00
Vol.	-	-	240	365	263	362	-	-	-	-	-	-	-	-	252	364
PM Peak	-	-	17:00	14:00	17:00	17:00	-	-	-	-	-	-	-	-	17:00	17:00
Vol.	-	-	440	256	446	256	-	-	-	-	-	-	-	-	443	250

Comb. Total	0	6662	6666	0	0	0	0	6663

ADT ADT 6,664 AADT 6,664

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Station ID: Mini-Tubes: 24-hour
Bullard W/O Grantland
SIN#: 1073.1
Date Start: 24-May-18
Date End: 24-May-18

Volume Report

Start	21-May-18		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	East Boun	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo
12:00 AM	*	*	*	*	*	*	0	0	*	*	*	*	*	*	0	0
01:00	*	*	*	*	*	*	1	0	*	*	*	*	*	*	1	0
02:00	*	*	*	*	*	*	2	2	*	*	*	*	*	*	2	2
03:00	*	*	*	*	*	*	2	2	*	*	*	*	*	*	2	2
04:00	*	*	*	*	*	*	15	3	*	*	*	*	*	*	15	3
05:00	*	*	*	*	*	*	20	6	*	*	*	*	*	*	20	6
06:00	*	*	*	*	*	*	**38**	**19**	*	*	*	*	*	*	**38**	**19**
07:00	*	*	*	*	*	*	27	19	*	*	*	*	*	*	27	19
08:00	*	*	*	*	*	*	13	17	*	*	*	*	*	*	13	17
09:00	*	*	*	*	*	*	18	10	*	*	*	*	*	*	18	10
10:00	*	*	*	*	*	*	18	15	*	*	*	*	*	*	18	15
11:00	*	*	*	*	*	*	21	15	*	*	*	*	*	*	21	15
12:00 PM	*	*	*	*	*	*	18	20	*	*	*	*	*	*	18	20
01:00	*	*	*	*	*	*	**25**	23	*	*	*	*	*	*	**25**	23
02:00	*	*	*	*	*	*	22	**33**	*	*	*	*	*	*	22	**33**
03:00	*	*	*	*	*	*	23	26	*	*	*	*	*	*	23	26
04:00	*	*	*	*	*	*	19	28	*	*	*	*	*	*	19	28
05:00	*	*	*	*	*	*	24	27	*	*	*	*	*	*	24	27
06:00	*	*	*	*	*	*	15	19	*	*	*	*	*	*	15	19
07:00	*	*	*	*	*	*	17	21	*	*	*	*	*	*	17	21
08:00	*	*	*	*	*	*	14	18	*	*	*	*	*	*	14	18
09:00	*	*	*	*	*	*	3	7	*	*	*	*	*	*	3	7
10:00	*	*	*	*	*	*	2	7	*	*	*	*	*	*	2	7
11:00	*	*	*	*	*	*	0	5	*	*	*	*	*	*	0	5
Lane	0	0	0	0	0	0	357	342	0	0	0	0	0	0	357	342
Day	0		0		0		699		0		0		0		699	
AM Peak	-	-	-	-	-	-	06:00	06:00	-	-	-	-	-	-	06:00	06:00
Vol.	-	-	-	-	-	-	38	19	-	-	-	-	-	-	38	19
PM Peak	-	-	-	-	-	-	13:00	14:00	-	-	-	-	-	-	13:00	14:00
Vol.	-	-	-	-	-	-	25	33	-	-	-	-	-	-	25	33

Comb. Total	0	0	0	699	0	0	0	699

ADT ADT 699 AADT 699

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Station ID: Mini-Tubes: 24-hour
Bullard E/O Grantland

Volume Report

Date Start: 24-May-18
Date End: 24-May-18

Start	21-May-18		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	East Boun	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo
12:00 AM	*	*	*	*	*	*	3	6	*	*	*	*	*	*	3	6
01:00	*	*	*	*	*	*	2	3	*	*	*	*	*	*	2	3
02:00	*	*	*	*	*	*	6	6	*	*	*	*	*	*	6	6
03:00	*	*	*	*	*	*	2	14	*	*	*	*	*	*	2	14
04:00	*	*	*	*	*	*	8	48	*	*	*	*	*	*	8	48
05:00	*	*	*	*	*	*	26	71	*	*	*	*	*	*	26	71
06:00	*	*	*	*	*	*	66	**200**	*	*	*	*	*	*	66	**200**
07:00	*	*	*	*	*	*	**116**	192	*	*	*	*	*	*	**116**	192
08:00	*	*	*	*	*	*	48	63	*	*	*	*	*	*	48	63
09:00	*	*	*	*	*	*	36	56	*	*	*	*	*	*	36	56
10:00	*	*	*	*	*	*	55	75	*	*	*	*	*	*	55	75
11:00	*	*	*	*	*	*	51	81	*	*	*	*	*	*	51	81
12:00 PM	*	*	*	*	*	*	54	78	*	*	*	*	*	*	54	78
01:00	*	*	*	*	*	*	84	122	*	*	*	*	*	*	84	122
02:00	*	*	*	*	*	*	**147**	**150**	*	*	*	*	*	*	**147**	**150**
03:00	*	*	*	*	*	*	113	86	*	*	*	*	*	*	113	86
04:00	*	*	*	*	*	*	120	104	*	*	*	*	*	*	120	104
05:00	*	*	*	*	*	*	121	90	*	*	*	*	*	*	121	90
06:00	*	*	*	*	*	*	108	86	*	*	*	*	*	*	108	86
07:00	*	*	*	*	*	*	80	63	*	*	*	*	*	*	80	63
08:00	*	*	*	*	*	*	55	33	*	*	*	*	*	*	55	33
09:00	*	*	*	*	*	*	44	33	*	*	*	*	*	*	44	33
10:00	*	*	*	*	*	*	27	20	*	*	*	*	*	*	27	20
11:00	*	*	*	*	*	*	11	3	*	*	*	*	*	*	11	3
Lane	0	0	0	0	0	0	1383	1683	0	0	0	0	0	0	1383	1683
Day	0		0		0		3066		0		0		0		3066	
AM Peak	-	-	-	-	-	-	07:00	06:00	-	-	-	-	-	-	07:00	06:00
Vol.	-	-	-	-	-	-	116	200	-	-	-	-	-	-	116	200
PM Peak	-	-	-	-	-	-	14:00	14:00	-	-	-	-	-	-	14:00	14:00
Vol.	-	-	-	-	-	-	147	150	-	-	-	-	-	-	147	150

Comb. Total	0	0	0	3066	0	0	0	3066

ADT ADT 3,066 AADT 3,066

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Fresno
Bullard Avenue
W/ Fruit Avenue
24 Hour Directional Volume Count

FSO027
Site Code: 003-19024

Start Time	1/24/2019 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		12	176			12	189				
12:15		11	166			11	188				
12:30		7	192			6	164				
12:45		4	149	34	683	7	167	36	708	70	1391
01:00		5	143			1	177				
01:15		9	177			3	170				
01:30		7	166			10	170				
01:45		5	180	26	666	5	170	19	687	45	1353
02:00		6	140			7	**255**				
02:15		3	187			1	**249**				
02:30		5	245			0	**253**				
02:45		1	288	15	860	4	**208**	12	965	27	1825
03:00		4	200			2	208				
03:15		4	186			4	167				
03:30		7	236			6	170				
03:45		4	252	19	874	9	163	21	708	40	1582
04:00		7	252			12	199				
04:15		9	263			11	200				
04:30		11	260			10	212				
04:45		13	**289**	40	1064	16	232	49	843	89	1907
05:00		15	**300**			23	191				
05:15		26	**297**			42	177				
05:30		26	**265**			43	173				
05:45		29	214	96	1076	53	135	161	676	257	1752
06:00		42	206			80	149				
06:15		48	136			111	149				
06:30		84	155			148	129				
06:45		98	131	272	628	189	107	528	534	800	1162
07:00		115	122			225	109				
07:15		**138**	113			**342**	87				
07:30		**226**	110			**360**	91				
07:45		**218**	115	697	460	**286**	79	1213	366	1910	826
08:00		**166**	115			**253**	77				
08:15		127	87			198	72				
08:30		162	67			190	75				
08:45		124	69	579	338	157	57	798	281	1377	619
09:00		119	77			152	59				
09:15		121	61			140	54				
09:30		149	60			174	33				
09:45		112	50	501	248	137	40	603	186	1104	434
10:00		155	42			149	32				
10:15		119	33			176	21				
10:30		144	25			137	22				
10:45		144	19	562	119	139	20	601	95	1163	214
11:00		154	29			156	19				
11:15		156	18			162	20				
11:30		165	20			188	15				
11:45		160	21	635	88	164	17	670	71	1305	159
Total		3476	7104	3476	7104	4711	6120	4711	6120	8187	13224
Combined Total		10580		10580		10831		10831		21411	
AM Peak	-	07:15	-	-	-	07:15	-	-	-	-	-
Vol.	-	748	-	-	-	1241	-	-	-	-	-
P.H.F.		0.827				0.862					
PM Peak	-	-	04:45	-	-	-	02:00	-	-	-	-
Vol.	-	-	1151	-	-	-	965	-	-	-	-
P.H.F.			0.959				0.946				
Percentage		32.9%	67.1%			43.5%	56.5%				
ADT/AADT		ADT 21,411		AADT 21,411							

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Site Code: UID#: CO12
Station ID: Tubes: 48hr Study
Barstow E/O Garfield

Date Start: 19-Sep-17
Date End: 21-Sep-17

Volume Report

Start Time	18-Sep-17 East Bound	18-Sep-17 West Bound	Tue East Bound	Tue West Bound	Wed East Bound	Wed West Bound	Thu East Bound	Thu West Bound	Fri East Bound	Fri West Bound	Weekday Average East Bound	Weekday Average West Bound	Sat East Bound	Sat West Bound	Sun East Bound	Sun West Bound
12:00 AM	*	*	3	4	1	3	0	0	*	*	1	2	*	*	*	*
01:00	*	*	0	4	0	0	*	*	*	*	0	2	*	*	*	*
02:00	*	*	1	1	0	1	*	*	*	*	0	1	*	*	*	*
03:00	*	*	1	3	2	3	*	*	*	*	2	3	*	*	*	*
04:00	*	*	5	4	7	10	*	*	*	*	6	7	*	*	*	*
05:00	*	*	12	31	16	29	*	*	*	*	14	30	*	*	*	*
06:00	*	*	24	**53**	**27**	**60**	*	*	*	*	**26**	**56**	*	*	*	*
07:00	*	*	**30**	39	12	30	*	*	*	*	21	34	*	*	*	*
08:00	*	*	20	16	19	13	*	*	*	*	20	14	*	*	*	*
09:00	*	*	11	13	18	11	*	*	*	*	14	12	*	*	*	*
10:00	*	*	15	16	13	10	*	*	*	*	14	13	*	*	*	*
11:00	*	*	15	24	13	18	*	*	*	*	14	21	*	*	*	*
12:00 PM	*	*	18	14	**29**	**36**	*	*	*	*	24	25	*	*	*	*
01:00	*	*	26	18	21	18	*	*	*	*	24	18	*	*	*	*
02:00	*	*	**28**	**31**	29	28	*	*	*	*	**28**	**30**	*	*	*	*
03:00	*	*	22	19	28	25	*	*	*	*	25	22	*	*	*	*
04:00	*	*	23	27	29	26	*	*	*	*	26	26	*	*	*	*
05:00	*	*	19	25	18	24	*	*	*	*	18	24	*	*	*	*
06:00	*	*	22	17	15	13	*	*	*	*	18	15	*	*	*	*
07:00	*	*	6	14	15	18	*	*	*	*	10	16	*	*	*	*
08:00	*	*	7	11	3	8	*	*	*	*	5	10	*	*	*	*
09:00	*	*	7	5	9	10	*	*	*	*	8	8	*	*	*	*
10:00	*	*	2	2	2	3	*	*	*	*	2	2	*	*	*	*
11:00	*	*	1	3	0	3	*	*	*	*	0	3	*	*	*	*
Total	0	0	318	394	326	400	0	0	0	0	320	394	0	0	0	0
Day	0		712		726		0		0		714		0		0	
AM Peak	-	-	07:00	06:00	06:00	06:00	-	-	-	-	06:00	06:00	-	-	-	-
Vol.	-	-	30	53	27	60	-	-	-	-	26	56	-	-	-	-
PM Peak	-	-	14:00	14:00	12:00	12:00	-	-	-	-	14:00	14:00	-	-	-	-
Vol.	-	-	28	31	29	36	-	-	-	-	28	30	-	-	-	-

Comb. Total	0	712	726	0	0	714	0	0

ADT ADT 717 AADT 717

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Site Code: UID#: CO83
Station ID: Mini-Tubes: 48-hour
Shaw W/O Grantland
SIN#: 7149
Date Start: 09-May-18
Date End: 10-May-18

Volume Report

Start	07-May-18		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	East Boun	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo
12:00 AM	*	*	*	*	5	16	9	20	*	*	*	*	*	*	7	18
01:00	*	*	*	*	8	9	12	13	*	*	*	*	*	*	10	11
02:00	*	*	*	*	11	21	11	18	*	*	*	*	*	*	11	20
03:00	*	*	*	*	38	30	42	31	*	*	*	*	*	*	40	30
04:00	*	*	*	*	95	122	101	131	*	*	*	*	*	*	98	126
05:00	*	*	*	*	121	156	134	154	*	*	*	*	*	*	128	155
06:00	*	*	*	*	**257**	**275**	**277**	**302**	*	*	*	*	*	*	**267**	**288**
07:00	*	*	*	*	257	194	239	211	*	*	*	*	*	*	248	202
08:00	*	*	*	*	211	161	234	158	*	*	*	*	*	*	222	160
09:00	*	*	*	*	202	135	198	205	*	*	*	*	*	*	200	170
10:00	*	*	*	*	206	173	263	179	*	*	*	*	*	*	234	176
11:00	*	*	*	*	199	219	228	220	*	*	*	*	*	*	214	220
12:00 PM	*	*	*	*	220	276	198	238	*	*	*	*	*	*	209	257
01:00	*	*	*	*	260	244	241	257	*	*	*	*	*	*	250	250
02:00	*	*	*	*	246	276	260	265	*	*	*	*	*	*	253	270
03:00	*	*	*	*	**281**	289	**321**	280	*	*	*	*	*	*	**301**	284
04:00	*	*	*	*	269	289	277	**288**	*	*	*	*	*	*	273	288
05:00	*	*	*	*	222	**298**	263	285	*	*	*	*	*	*	242	**292**
06:00	*	*	*	*	146	218	171	196	*	*	*	*	*	*	158	207
07:00	*	*	*	*	141	189	99	188	*	*	*	*	*	*	120	188
08:00	*	*	*	*	89	151	88	163	*	*	*	*	*	*	88	157
09:00	*	*	*	*	44	100	44	115	*	*	*	*	*	*	44	108
10:00	*	*	*	*	22	47	28	55	*	*	*	*	*	*	25	51
11:00	*	*	*	*	26	32	21	35	*	*	*	*	*	*	24	34
Lane	0	0	0	0	3576	3920	3759	4007	0	0	0	0	0	0	3666	3962
Day	0		0		7496		7766		0		0		0		7628	
AM Peak	-	-	-	-	06:00	06:00	06:00	06:00	-	-	-	-	-	-	06:00	06:00
Vol.	-	-	-	-	257	275	277	302	-	-	-	-	-	-	267	288
PM Peak	-	-	-	-	15:00	17:00	15:00	16:00	-	-	-	-	-	-	15:00	17:00
Vol.	-	-	-	-	281	298	321	288	-	-	-	-	-	-	301	292

Comb. Total	0		0		7496		7766		0		0		0		7628	

ADT ADT 7,631 AADT 7,631

Prepared by NDS/ATD

VOLUME

W Shaw Ave Bet. N Hayes Ave & N Polk Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_008

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,403	5,700	11,103

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			12		17		29		12:00			74		68		142	
00:15			9		14		23		12:15			66		87		153	
00:30			9		12		21		12:30			82		105		187	
00:45			5	35	11	54	16	89	12:45			65	287	92	352	157	639
01:00			3		6		9		13:00			91		108		199	
01:15			3		9		12		13:15			79		94		173	
01:30			6		2		8		13:30			97		91		188	
01:45			1	13	8	25	9	38	13:45			115	382	65	358	180	740
02:00			4		4		8		14:00			88		86		174	
02:15			5		1		6		14:15			88		90		178	
02:30			4		8		12		14:30			81		83		164	
02:45			8	21	6	19	14	40	14:45			77	334	93	352	170	686
03:00			2		3		5		15:00			98		80		178	
03:15			6		10		16		15:15			83		103		186	
03:30			7		5		12		15:30			90		104		194	
03:45			5	20	5	23	10	43	15:45			85	356	116	403	201	759
04:00			10		4		14		16:00			73		91		164	
04:15			11		7		18		16:15			76		103		179	
04:30			26		11		37		16:30			90		147		237	
04:45			25	72	9	31	34	103	16:45			76	315	130	471	206	786
05:00			28		19		47		17:00			74		131		205	
05:15			28		21		49		17:15			91		111		202	
05:30			60		33		93		17:30			82		122		204	
05:45			52	168	40	113	92	281	17:45			96	343	109	473	205	816
06:00			40		40		80		18:00			103		155		258	
06:15			61		47		108		18:15			80		111		191	
06:30			82		43		125		18:30			84		100		184	
06:45			82	265	65	195	147	460	18:45			62	329	93	459	155	788
07:00			112		83		195		19:00			57		86		143	
07:15			141		94		235		19:15			67		87		154	
07:30			148		83		231		19:30			45		100		145	
07:45			102	503	84	344	186	847	19:45			65	234	69	342	134	576
08:00			114		61		175		20:00			35		86		121	
08:15			122		77		199		20:15			46		78		124	
08:30			109		50		159		20:30			38		55		93	
08:45			90	435	47	235	137	670	20:45			29	148	67	286	96	434
09:00			91		49		140		21:00			23		86		109	
09:15			70		43		113		21:15			22		59		81	
09:30			78		42		120		21:30			25		47		72	
09:45			85	324	73	207	158	531	21:45			28	98	42	234	70	332
10:00			71		63		134		22:00			14		39		53	
10:15			83		60		143		22:15			20		32		52	
10:30			79		68		147		22:30			17		32		49	
10:45			80	313	57	248	137	561	22:45			15	66	33	136	48	202
11:00			82		58		140		23:00			13		29		42	
11:15			84		66		150		23:15			12		19		31	
11:30			57		70		127		23:30			14		10		24	
11:45			66	289	59	253	125	542	23:45			14	53	29	87	43	140
TOTALS				2458		1747		4205	TOTALS				2945		3953		6898
SPLIT %				58.5%		41.5%		37.9%	SPLIT %				42.7%		57.3%		62.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	5,403	5,700	11,103

AM Peak Hour	07:15	07:00	07:00	PM Peak Hour	13:30	16:30	17:15
AM Pk Volume	505	344	847	PM Pk Volume	388	519	869
Pk Hr Factor	0.853	0.915	0.901	Pk Hr Factor	0.843	0.883	0.842
7 - 9 Volume	938	579	1517	4 - 6 Volume	658	944	1602
7 - 9 Peak Hour	07:15	07:00	07:00	4 - 6 Peak Hour	17:00	16:30	16:30
7 - 9 Pk Volume	505	344	847	4 - 6 Pk Volume	343	519	850
Pk Hr Factor	0.853	0.915	0.901	Pk Hr Factor	0.893	0.883	0.897

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
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City of Fresno
Shaw Avenue
E/ Fresno Street
24 Hour Directional Volume Count

FSO028
Site Code: 003-19024

Start	1/24/2019	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		32	373			49	309				
12:15		38	383			45	316				
12:30		38	368			26	368				
12:45		28	**403**	136	1527	27	330	147	1323	283	2850
01:00		21	**412**			10	320				
01:15		22	**369**			27	361				
01:30		22	**387**			20	339				
01:45		27	374	92	1542	23	342	80	1362	172	2904
02:00		14	288			22	361				
02:15		22	374			12	372				
02:30		14	351			14	354				
02:45		13	340	63	1353	18	299	66	1386	129	2739
03:00		15	358			8	339				
03:15		22	398			10	336				
03:30		15	347			12	380				
03:45		21	339	73	1442	17	347	47	1402	120	2844
04:00		16	405			20	333				
04:15		16	370			24	**399**				
04:30		24	355			26	**366**				
04:45		25	356	81	1486	27	**347**	97	1445	178	2931
05:00		19	371			37	**350**				
05:15		40	398			34	329				
05:30		55	375			46	340				
05:45		96	368	210	1512	64	368	181	1387	391	2899
06:00		88	371			67	328				
06:15		73	358			96	334				
06:30		110	280			98	347				
06:45		182	332	453	1341	147	242	408	1251	861	2592
07:00		179	238			130	259				
07:15		306	280			202	254				
07:30		**396**	210			254	231				
07:45		**408**	242	1289	970	308	257	894	1001	2183	1971
08:00		**392**	244			283	276				
08:15		**333**	177			309	280				
08:30		311	166			247	250				
08:45		303	161	1339	748	206	228	1045	1034	2384	1782
09:00		357	171			185	225				
09:15		300	141			224	212				
09:30		309	129			240	178				
09:45		339	115	1305	556	258	185	907	800	2212	1356
10:00		324	89			210	137				
10:15		297	106			228	108				
10:30		322	72			238	99				
10:45		328	55	1271	322	273	71	949	415	2220	737
11:00		313	66			**299**	63				
11:15		350	67			**299**	58				
11:30		350	51			**308**	54				
11:45		383	56	1396	240	**282**	69	1188	244	2584	484
Total		7708	13039	7708	13039	6009	13050	6009	13050	13717	26089
Combined Total		20747		20747		19059		19059		39806	
AM Peak	-	07:30	-	-	-	11:00	-	-	-	-	-
Vol.	-	1529	-	-	-	1188	-	-	-	-	-
P.H.F.		0.937				0.964					
PM Peak	-	-	00:45	-	-	-	04:15	-	-	-	-
Vol.	-	-	1571	-	-	-	1462	-	-	-	-
P.H.F.			0.953				0.916				
Percentage		37.2%	62.8%			31.5%	68.5%				
ADT/AADT		ADT 39,806		AADT 39,806							

Counts Unlimited, Inc.

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City of Fresno
Ashlan Avenue
W/ Hayes Avenue
24 Hour Directional Volume Count

FSO029
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		2	21			2	30				
12:15		0	15			2	24				
12:30		1	18			1	28				
12:45		0	10	3	64	0	**44**	5	126	8	190
01:00		1	**77**			1	**74**				
01:15		1	**42**			1	**80**				
01:30		1	**87**			0	**47**				
01:45		1	**68**	4	274	1	29	3	230	7	504
02:00		0	21			0	75				
02:15		0	20			0	26				
02:30		0	13			0	32				
02:45		0	20	0	74	0	26	0	159	0	233
03:00		2	26			0	29				
03:15		0	30			0	32				
03:30		1	32			0	31				
03:45		2	30	5	118	0	26	0	118	5	236
04:00		1	44			0	25				
04:15		1	31			0	28				
04:30		1	57			0	30				
04:45		3	44	6	176	1	47	1	130	7	306
05:00		2	35			1	55				
05:15		3	38			9	78				
05:30		5	33			6	39				
05:45		5	33	15	139	7	33	23	205	38	344
06:00		7	80			5	32				
06:15		6	38			5	42				
06:30		12	4			11	33				
06:45		27	17	52	139	24	9	45	116	97	255
07:00		**86**	40			67	21				
07:15		**83**	33			**124**	21				
07:30		**114**	19			**68**	13				
07:45		**75**	14	358	106	**55**	26	314	81	672	187
08:00		50	15			**87**	7				
08:15		78	6			91	9				
08:30		64	8			17	4				
08:45		31	9	223	38	22	9	217	29	440	67
09:00		23	7			25	2				
09:15		19	7			14	2				
09:30		22	3			12	2				
09:45		18	2	82	19	16	2	67	8	149	27
10:00		18	2			11	3				
10:15		10	6			10	3				
10:30		10	4			21	4				
10:45		14	4	52	16	19	4	61	14	113	30
11:00		13	1			27	2				
11:15		16	3			12	4				
11:30		23	5			13	3				
11:45		25	1	77	10	21	2	73	11	150	21
Total		877	1173	877	1173	809	1227	809	1227	1686	2400
Combined Total		2050		2050		2036		2036		4086	
AM Peak	-	07:00	-	-	-	07:15	-	-	-	-	-
Vol.	-	358	-	-	-	334	-	-	-	-	-
P.H.F.		0.785				0.673					
PM Peak	-	-	01:00	-	-	-	00:45	-	-	-	-
Vol.	-	-	274	-	-	-	245	-	-	-	-
P.H.F.			0.787				0.766				
Percentage		42.8%	57.2%			39.7%	60.3%				
ADT/AADT		ADT 4,086		AADT 4,086							

Prepared by NDS/ATD

VOLUME

W Ashlan Ave Bet. N Hayes Ave & N Polk Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_012

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,011	1,850	3,861

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			2		4		6		12:00			28		17		45	
00:15			2		3		5		12:15			19		21		40	
00:30			2		4		6		12:30			19		17		36	
00:45			3	9	4	15	7	24	12:45			12	78	48	103	60	181
01:00			1		3		4		13:00			42		53		95	
01:15			1		0		1		13:15			65		45		110	
01:30			1		1		2		13:30			59		40		99	
01:45			0	3	0	4	0	7	13:45			64	230	33	171	97	401
02:00			0		1		1		14:00			35		31		66	
02:15			1		3		4		14:15			21		34		55	
02:30			0		1		1		14:30			20		23		43	
02:45			0	1	1	6	1	7	14:45			10	86	32	120	42	206
03:00			3		1		4		15:00			30		30		60	
03:15			0		1		1		15:15			26		35		61	
03:30			0		0		0		15:30			29		20		49	
03:45			3	6	0	2	3	8	15:45			36	121	25	110	61	231
04:00			1		0		1		16:00			32		29		61	
04:15			4		0		4		16:15			29		29		58	
04:30			6		2		8		16:30			38		34		72	
04:45			2	13	3	5	5	18	16:45			35	134	35	127	70	261
05:00			4		6		10		17:00			26		48		74	
05:15			10		11		21		17:15			36		39		75	
05:30			8		9		17		17:30			40		42		82	
05:45			12	34	9	35	21	69	17:45			56	158	36	165	92	323
06:00			14		8		22		18:00			57		36		93	
06:15			15		10		25		18:15			54		47		101	
06:30			11		11		22		18:30			37		30		67	
06:45			19	59	29	58	48	117	18:45			55	203	27	140	82	343
07:00			51		55		106		19:00			30		23		53	
07:15			63		101		164		19:15			31		24		55	
07:30			93		52		145		19:30			24		18		42	
07:45			46	253	22	230	68	483	19:45			33	118	21	86	54	204
08:00			46		56		102		20:00			16		15		31	
08:15			47		43		90		20:15			22		16		38	
08:30			45		20		65		20:30			10		9		19	
08:45			12	150	19	138	31	288	20:45			7	55	12	52	19	107
09:00			18		23		41		21:00			11		14		25	
09:15			28		19		47		21:15			12		10		22	
09:30			17		16		33		21:30			7		8		15	
09:45			17	80	16	74	33	154	21:45			8	38	11	43	19	81
10:00			22		12		34		22:00			7		13		20	
10:15			20		15		35		22:15			5		5		10	
10:30			14		17		31		22:30			7		5		12	
10:45			21	77	15	59	36	136	22:45			2	21	3	26	5	47
11:00			16		12		28		23:00			2		4		6	
11:15			20		14		34		23:15			1		5		6	
11:30			20		14		34		23:30			4		4		8	
11:45			16	72	23	63	39	135	23:45			5	12	5	18	10	30
TOTALS				757		689		1446	TOTALS				1254		1161		2415
SPLIT %				52.4%		47.6%		37.5%	SPLIT %				51.9%		48.1%		62.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,011	1,850	3,861

AM Peak Hour	07:00	06:45	07:00	PM Peak Hour	13:00	12:45	13:00
AM Pk Volume	253	237	483	PM Pk Volume	230	186	401
Pk Hr Factor	0.680	0.587	0.736	Pk Hr Factor	0.885	0.877	0.911
7 - 9 Volume	403	368	771	4 - 6 Volume	292	292	584
7 - 9 Peak Hour	07:00	07:15	07:00	4 - 6 Peak Hour	17:00	17:00	17:00
7 - 9 Pk Volume	253	231	483	4 - 6 Pk Volume	158	165	323
Pk Hr Factor	0.680	0.572	0.736	Pk Hr Factor	0.705	0.859	0.878

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Station ID: Mini-Tubes: 7-Day
Ashlan E-O Fruit
SIN#: 437
Date Start: 20-Sep-18
Date End: 26-Sep-18

Volume Report

Start	17-Sep-18		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	East Boun	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo
12:00 AM	*	*	*	*	*	*	39	50	32	56	70	91	67	95	52	73
01:00	*	*	*	*	*	*	31	43	34	54	55	62	54	76	44	59
02:00	*	*	*	*	*	*	44	42	49	41	40	58	47	60	45	50
03:00	*	*	*	*	*	*	69	55	65	61	30	38	36	44	50	50
04:00	*	*	*	*	*	*	163	110	160	98	79	61	54	38	114	77
05:00	*	*	*	*	*	*	279	207	301	207	148	94	71	67	200	144
06:00	*	*	*	*	*	*	**576**	382	**546**	377	253	174	155	113	382	262
07:00	*	*	*	*	*	*	545	**450**	543	405	362	278	254	190	426	331
08:00	*	*	*	*	*	*	425	370	442	363	447	354	342	249	414	334
09:00	*	*	*	*	*	*	387	372	387	340	440	375	**411**	326	406	353
10:00	*	*	*	*	*	*	421	372	409	410	469	454	384	331	421	392
11:00	*	*	*	*	*	*	434	436	447	**458**	**518**	**477**	401	**455**	**450**	**456**
12:00 PM	*	*	*	*	*	*	503	460	507	548	491	496	**497**	464	500	492
01:00	*	*	*	*	*	*	554	528	547	605	453	**561**	461	447	504	535
02:00	*	*	*	*	*	*	593	549	**620**	583	**492**	525	450	456	**539**	528
03:00	*	*	*	*	*	*	579	567	620	620	468	500	423	**465**	522	538
04:00	*	*	*	*	*	*	**615**	**632**	616	**657**	455	456	433	418	530	**541**
05:00	*	*	*	*	*	*	460	524	522	537	445	470	381	432	452	491
06:00	*	*	*	*	*	*	375	427	436	465	391	403	346	415	387	428
07:00	*	*	*	*	*	*	260	341	329	388	312	369	287	364	297	366
08:00	*	*	*	*	*	*	237	308	293	348	312	330	226	275	267	315
09:00	*	*	*	*	*	*	183	217	239	281	229	269	180	221	208	247
10:00	*	*	*	*	*	*	116	135	161	231	199	214	129	122	151	176
11:00	*	*	*	*	*	*	69	86	126	172	108	147	48	81	88	122
Lane	0	0	0	0	0	0	7957	7663	8431	8305	7266	7256	6137	6204	7449	7360
Day	0		0		0		15620		16736		14522		12341		14809	
AM Peak	-	-	-	-	-	-	06:00	07:00	06:00	11:00	11:00	11:00	09:00	11:00	11:00	11:00
Vol.	-	-	-	-	-	-	576	450	546	458	518	477	411	455	450	456
PM Peak	-	-	-	-	-	-	16:00	16:00	14:00	16:00	14:00	13:00	12:00	15:00	14:00	16:00
Vol.	-	-	-	-	-	-	615	632	620	657	492	561	497	465	539	541

Counts Unlimited, Inc.

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City of Fresno
Ashlan Avenue
W/ Blackstone Avenue
24 Hour Directional Volume Count

FSO030
Site Code: 003-19024

Start	1/23/2019	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Wed	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		15	120			34	168				
12:15		9	173			27	139				
12:30		9	156			17	157				
12:45		8	156	41	605	21	161	99	625	140	1230
01:00		12	163			10	145				
01:15		5	170			12	149				
01:30		3	160			16	173				
01:45		7	162	27	655	21	148	59	615	86	1270
02:00		4	**186**			11	183				
02:15		9	**214**			7	173				
02:30		7	**185**			15	192				
02:45		10	**165**	30	750	11	169	44	717	74	1467
03:00		15	181			5	162				
03:15		20	189			11	192				
03:30		16	178			13	198				
03:45		9	165	60	713	8	191	37	743	97	1456
04:00		19	177			8	179				
04:15		16	172			10	**220**				
04:30		26	170			15	**219**				
04:45		19	168	80	687	19	**233**	52	851	132	1538
05:00		42	196			25	**202**				
05:15		52	177			39	201				
05:30		82	172			39	207				
05:45		67	156	243	701	29	214	132	824	375	1525
06:00		90	147			40	184				
06:15		130	131			60	146				
06:30		118	124			77	129				
06:45		133	77	471	479	97	126	274	585	745	1064
07:00		**195**	110			120	109				
07:15		**193**	87			147	119				
07:30		**210**	99			136	134				
07:45		**200**	92	798	388	153	110	556	472	1354	860
08:00		164	88			127	124				
08:15		153	72			123	105				
08:30		164	72			121	117				
08:45		123	66	604	298	102	82	473	428	1077	726
09:00		150	64			95	105				
09:15		150	46			123	88				
09:30		158	67			91	72				
09:45		139	48	597	225	104	86	413	351	1010	576
10:00		134	46			120	67				
10:15		128	39			130	70				
10:30		169	30			92	27				
10:45		132	26	563	141	133	38	475	202	1038	343
11:00		136	20			**138**	32				
11:15		135	21			**136**	27				
11:30		147	24			**150**	27				
11:45		134	26	552	91	**142**	26	566	112	1118	203
Total		4066	5733	4066	5733	3180	6525	3180	6525	7246	12258
Combined Total		9799		9799		9705		9705		19504	
AM Peak	-	07:00	-	-	-	11:00	-	-	-	-	-
Vol.	-	798	-	-	-	566	-	-	-	-	-
P.H.F.		0.950				0.925					
PM Peak	-	-	02:00	-	-	-	04:15	-	-	-	-
Vol.	-	-	750	-	-	-	874	-	-	-	-
P.H.F.			0.876				0.938				
Percentage		41.5%	58.5%			32.8%	67.2%				
ADT/AADT		ADT 19,504		AADT 19,504							

Counts Unlimited, Inc.

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email: counts@countsunlimited.com

City of Fresno
Ashlan Avenue
E/ State Route 168
24 Hour Directional Volume Count

FSO031
Site Code: 003-19024

Start	1/23/2019	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Wed	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		37	173			28	168				
12:15		41	204			24	201				
12:30		39	176			24	196				
12:45		31	217	148	770	16	180	92	745	240	1515
01:00		22	201			16	183				
01:15		13	228			10	203				
01:30		8	206			13	194				
01:45		17	183	60	818	13	238	52	818	112	1636
02:00		16	223			13	213				
02:15		11	243			14	193				
02:30		5	234			10	215				
02:45		16	242	48	942	6	234	43	855	91	1797
03:00		6	231			15	199				
03:15		14	248			4	231				
03:30		10	265			17	237				
03:45		28	280	58	1024	23	233	59	900	117	1924
04:00		22	267			19	179				
04:15		16	320			18	228				
04:30		18	272			37	230				
04:45		25	**319**	81	1178	34	224	108	861	189	2039
05:00		34	**301**			40	**236**				
05:15		45	**363**			61	**273**				
05:30		59	**313**			86	**259**				
05:45		82	302	220	1279	127	**237**	314	1005	534	2284
06:00		81	267			100	203				
06:15		126	263			104	199				
06:30		97	229			166	188				
06:45		157	207	461	966	223	191	593	781	1054	1747
07:00		156	194			244	152				
07:15		167	161			**290**	154				
07:30		179	173			**335**	116				
07:45		**256**	141	758	669	**334**	151	1203	573	1961	1242
08:00		**224**	135			**262**	126				
08:15		**199**	179			280	111				
08:30		**181**	140			230	107				
08:45		200	140	804	594	213	125	985	469	1789	1063
09:00		185	125			200	102				
09:15		132	107			161	113				
09:30		172	108			165	81				
09:45		158	105	647	445	167	61	693	357	1340	802
10:00		163	63			154	56				
10:15		158	92			147	67				
10:30		166	51			163	58				
10:45		169	68	656	274	189	36	653	217	1309	491
11:00		153	57			170	29				
11:15		184	56			147	37				
11:30		173	40			162	36				
11:45		206	46	716	199	193	35	672	137	1388	336
Total		4657	9158	4657	9158	5467	7718	5467	7718	10124	16876
Combined Total		13815		13815		13185		13185		27000	
AM Peak	-	07:45	-	-	-	07:15	-	-	-	-	-
Vol.	-	860	-	-	-	1221	-	-	-	-	-
P.H.F.		0.840				0.911					
PM Peak	-	-	04:45	-	-	-	05:00	-	-	-	-
Vol.	-	-	1296	-	-	-	1005	-	-	-	-
P.H.F.			0.893				0.920				
Percentage		33.7%	66.3%			41.5%	58.5%				

ADT/AADT	ADT 27,000	AADT 27,000

Counts Unlimited, Inc.

PO Box 1178
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City of Fresno
Dakota Avenue
B/ Marks Avenue - Hughes Avenue
24 Hour Directional Volume Count

FSO004
Site Code: 003-19185

Start Time	19-Mar-19 Tue	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		32	45			56	102				
12:15		21	59			47	103				
12:30		20	56			38	100				
12:45		21	48	94	208	50	108	191	413	285	621
01:00		18	57			39	115				
01:15		18	68			27	127				
01:30		16	52			35	122				
01:45		18	68	70	245	25	129	126	493	196	738
02:00		16	74			23	124				
02:15		9	76			23	135				
02:30		11	70			18	135				
02:45		5	75	41	295	10	127	74	521	115	816
03:00		8	59			14	121				
03:15		9	69			19	139				
03:30		5	78			11	134				
03:45		4	69	26	275	11	132	55	526	81	801
04:00		3	82			8	116				
04:15		5	93			7	146				
04:30		3	75			9	143				
04:45		5	79	16	329	8	168	32	573	48	902
05:00		6	85			11	**168**				
05:15		3	**101**			8	**181**				
05:30		3	**95**			8	**175**				
05:45		5	**92**	17	373	14	**212**	41	736	58	1109
06:00		4	**89**			8	159				
06:15		5	54			7	144				
06:30		5	45			7	156				
06:45		5	69	19	257	12	173	34	632	53	889
07:00		9	54			12	152				
07:15		12	45			22	166				
07:30		11	57			20	161				
07:45		16	54	48	210	40	145	94	624	142	834
08:00		18	61			34	145				
08:15		21	54			34	123				
08:30		14	63			43	122				
08:45		32	39	85	217	73	119	184	509	269	726
09:00		44	56			73	122				
09:15		44	61			82	99				
09:30		64	65			**150**	126				
09:45		**99**	40	251	222	**155**	95	460	442	711	664
10:00		**104**	35			**177**	85				
10:15		**87**	49			**165**	90				
10:30		**76**	52			143	95				
10:45		47	50	314	186	123	99	608	369	922	555
11:00		66	40			142	85				
11:15		52	31			98	71				
11:30		45	32			110	61				
11:45		48	41	211	144	101	72	451	289	662	433
Total		1192	2961	1192	2961	2350	6127	2350	6127	3542	9088
Combined Total		4153		4153		8477		8477		12630	
AM Peak	-	09:45	-	-	-	09:30	-	-	-	-	-
Vol.	-	366	-	-	-	647	-	-	-	-	-
P.H.F.		0.880				0.914					
PM Peak	-	-	05:15	-	-	-	05:00	-	-	-	-
Vol.	-	-	377	-	-	-	736	-	-	-	-
P.H.F.			0.933				0.868				
Percentage		28.7%	71.3%			27.7%	72.3%				
ADT/AADT		ADT 12,630		AADT 12,630							

Counts Unlimited, Inc.

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City of Fresno
Dakota Avenue
Fruit Avenue - West Avenue
24 Hour Directional Volume Count

FSO005
Site Code: 003-19185

Start Time	19-Mar-19 Tue	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		22	31			19	38				
12:15		13	28			25	41				
12:30		26	34			20	50				
12:45		11	29	72	122	17	35	81	164	153	286
01:00		15	30			18	40				
01:15		17	29			16	56				
01:30		18	27			11	27				
01:45		18	50	68	136	17	52	62	175	130	311
02:00		14	50			9	53				
02:15		6	46			9	43				
02:30		7	46			6	56				
02:45		4	45	31	187	3	49	27	201	58	388
03:00		7	42			3	57				
03:15		6	44			6	43				
03:30		5	51			6	52				
03:45		3	33	21	170	3	60	18	212	39	382
04:00		4	43			7	54				
04:15		8	65			1	50				
04:30		3	57			2	56				
04:45		3	56	18	221	1	**98**	11	258	29	479
05:00		5	58			4	**69**				
05:15		1	**85**			3	**73**				
05:30		2	**74**			3	**67**				
05:45		0	**69**	8	286	6	68	16	277	24	563
06:00		2	**64**			8	62				
06:15		4	63			3	67				
06:30		4	44			3	73				
06:45		4	59	14	230	9	62	23	264	37	494
07:00		3	58			8	70				
07:15		4	75			10	72				
07:30		5	82			13	75				
07:45		5	66	17	281	15	66	46	283	63	564
08:00		6	65			19	60				
08:15		13	51			20	65				
08:30		2	44			22	45				
08:45		20	44	41	204	44	54	105	224	146	428
09:00		27	38			44	45				
09:15		28	43			65	40				
09:30		**42**	51			**79**	47				
09:45		**57**	48	154	180	**163**	46	351	178	505	358
10:00		**75**	37			**116**	38				
10:15		**62**	28			**94**	33				
10:30		42	42			51	38				
10:45		29	31	208	138	75	43	336	152	544	290
11:00		44	36			44	41				
11:15		31	28			65	36				
11:30		27	36			48	26				
11:45		34	33	136	133	56	23	213	126	349	259
Total		788	2288	788	2288	1289	2514	1289	2514	2077	4802
Combined Total		3076		3076		3803		3803		6879	
AM Peak	-	09:30	-	-	-	09:30	-	-	-	-	-
Vol.	-	236	-	-	-	452	-	-	-	-	-
P.H.F.		0.787				0.693					
PM Peak	-	-	05:15	-	-	-	04:45	-	-	-	-
Vol.	-	-	292	-	-	-	307	-	-	-	-
P.H.F.			0.859				0.783				
Percentage		25.6%	74.4%			33.9%	66.1%				
ADT/AADT		ADT 6,879		AADT 6,879							

Counts Unlimited, Inc.

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City of Fresno
Dakota Avenue
B/ Millbrook Avenue - First Street
24 Hour Directional Volume Count

FSO003
Site Code: 003-19185

Start Time	19-Mar-19 Tue	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		41	64			34	88				
12:15		28	89			39	60				
12:30		35	78			30	81				
12:45		30	66	134	297	30	92	133	321	267	618
01:00		21	83			22	81				
01:15		18	106			16	73				
01:30		14	77			9	86				
01:45		17	86	70	352	18	100	65	340	135	692
02:00		17	98			11	80				
02:15		8	106			14	87				
02:30		14	94			11	86				
02:45		17	105	56	403	12	94	48	347	104	750
03:00		8	76			10	106				
03:15		9	94			8	103				
03:30		4	104			6	97				
03:45		4	104	25	378	11	100	35	406	60	784
04:00		2	121			12	106				
04:15		2	125			2	107				
04:30		6	101			9	120				
04:45		3	105	13	452	0	122	23	455	36	907
05:00		7	120			4	115				
05:15		5	136			6	122				
05:30		4	122			7	133				
05:45		5	114	21	492	3	**149**	20	519	41	1011
06:00		5	147			5	**153**				
06:15		4	139			2	**151**				
06:30		5	137			7	**146**				
06:45		6	**136**	20	559	8	127	22	577	42	1136
07:00		15	**166**			7	114				
07:15		20	**182**			15	186				
07:30		17	**161**			12	131				
07:45		26	116	78	625	20	129	54	560	132	1185
08:00		30	119			20	113				
08:15		29	94			23	101				
08:30		26	93			22	100				
08:45		44	89	129	395	44	111	109	425	238	820
09:00		60	73			67	82				
09:15		59	84			101	81				
09:30		91	79			**143**	72				
09:45		**141**	74	351	310	**245**	93	556	328	907	638
10:00		**133**	66			**221**	59				
10:15		**112**	70			**149**	46				
10:30		**109**	62			124	57				
10:45		65	69	419	267	121	52	615	214	1034	481
11:00		87	68			136	47				
11:15		72	70			93	46				
11:30		62	44			82	36				
11:45		61	41	282	223	70	31	381	160	663	383
Total		1598	4753	1598	4753	2061	4652	2061	4652	3659	9405
Combined Total		6351		6351		6713		6713		13064	
AM Peak	-	09:45	-	-	-	09:30	-	-	-	-	-
Vol.	-	495	-	-	-	758	-	-	-	-	-
P.H.F.		0.878				0.773					
PM Peak	-	-	06:45	-	-	-	05:45	-	-	-	-
Vol.	-	-	645	-	-	-	599	-	-	-	-
P.H.F.			0.886				0.979				
Percentage		25.2%	74.8%			30.7%	69.3%				
ADT/AADT		ADT 13,064		AADT 13,064							

Prepared by NDS/ATD

VOLUME

Shields Ave Bet. Garfield Ave & Grantland Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,422	1,419	2,841

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			1		2		3		12:00			38		24		62	
00:15			1		0		1		12:15			28		17		45	
00:30			0		1		1		12:30			13		13		26	
00:45			0	2	0	3	0	5	12:45			20	99	23	77	43	176
01:00			3		1		4		13:00			36		22		58	
01:15			0		1		1		13:15			25		12		37	
01:30			1		0		1		13:30			16		13		29	
01:45			0	4	1	3	1	7	13:45			16	93	18	65	34	158
02:00			1		0		1		14:00			21		34		55	
02:15			0		1		1		14:15			19		31		50	
02:30			1		2		3		14:30			47		30		77	
02:45			1	3	0	3	1	6	14:45			38	125	31	126	69	251
03:00			0		1		1		15:00			38		47		85	
03:15			0		2		2		15:15			56		22		78	
03:30			1		4		5		15:30			28		20		48	
03:45			0	1	4	11	4	12	15:45			23	145	24	113	47	258
04:00			1		2		3		16:00			37		25		62	
04:15			1		1		2		16:15			32		20		52	
04:30			2		0		2		16:30			41		23		64	
04:45			1	5	4	7	5	12	16:45			40	150	26	94	66	244
05:00			1		5		6		17:00			34		32		66	
05:15			6		9		15		17:15			37		25		62	
05:30			3		9		12		17:30			25		17		42	
05:45			6	16	9	32	15	48	17:45			30	126	20	94	50	220
06:00			7		15		22		18:00			27		13		40	
06:15			7		14		21		18:15			26		17		43	
06:30			10		15		25		18:30			15		18		33	
06:45			12	36	38	82	50	118	18:45			18	86	15	63	33	149
07:00			19		73		92		19:00			12		14		26	
07:15			53		54		107		19:15			11		15		26	
07:30			44		34		78		19:30			9		8		17	
07:45			32	148	40	201	72	349	19:45			5	37	13	50	18	87
08:00			23		35		58		20:00			2		10		12	
08:15			46		50		96		20:15			3		7		10	
08:30			30		15		45		20:30			6		7		13	
08:45			20	119	37	137	57	256	20:45			5	16	5	29	10	45
09:00			33		16		49		21:00			6		6		12	
09:15			14		10		24		21:15			1		9		10	
09:30			10		9		19		21:30			4		8		12	
09:45			10	67	8	43	18	110	21:45			7	18	6	29	13	47
10:00			14		12		26		22:00			1		6		7	
10:15			10		15		25		22:15			3		4		7	
10:30			25		28		53		22:30			2		2		4	
10:45			14	63	13	68	27	131	22:45			3	9	3	15	6	24
11:00			11		10		21		23:00			1		7		8	
11:15			15		12		27		23:15			0		3		3	
11:30			15		11		26		23:30			0		4		4	
11:45			11	52	27	60	38	112	23:45			1	2	0	14	1	16
TOTALS				516		650		1166	TOTALS				906		769		1675
SPLIT %				44.3%		55.7%		41.0%	SPLIT %				54.1%		45.9%		59.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,422	1,419	2,841

AM Peak Hour	07:15	07:00	07:00	PM Peak Hour	14:30	14:15	14:30
AM Pk Volume	152	201	349	PM Pk Volume	179	139	309
Pk Hr Factor	0.717	0.688	0.815	Pk Hr Factor	0.799	0.739	0.909
7 - 9 Volume	267	338	605	4 - 6 Volume	276	188	464
7 - 9 Peak Hour	07:15	07:00	07:00	4 - 6 Peak Hour	16:30	16:30	16:30
7 - 9 Pk Volume	152	201	349	4 - 6 Pk Volume	152	106	258
Pk Hr Factor	0.717	0.688	0.815	Pk Hr Factor	0.927	0.828	0.977

Counts Unlimited, Inc.

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City of Fresno
Shields Avenue
W/ Clovis Avenue
24 Hour Directional Volume Count

FSO056
Site Code: 003-19024

Start Time	1/24/2019 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		12	101			8	91				
12:15		17	104			9	118				
12:30		5	99			10	122				
12:45		13	108	47	412	3	89	30	420	77	832
01:00		4	107			4	86				
01:15		7	101			5	98				
01:30		6	106			3	115				
01:45		6	111	23	425	5	101	17	400	40	825
02:00		0	102			6	111				
02:15		7	106			4	131				
02:30		3	144			1	157				
02:45		6	140	16	492	3	147	14	546	30	1038
03:00		6	**183**			2	149				
03:15		8	**173**			4	132				
03:30		4	**126**			5	**186**				
03:45		17	**183**	35	665	6	**186**	17	653	52	1318
04:00		7	125			7	**190**				
04:15		10	126			9	**165**				
04:30		27	166			11	150				
04:45		36	135	80	552	23	187	50	692	130	1244
05:00		25	142			24	189				
05:15		26	175			24	179				
05:30		44	152			33	136				
05:45		110	168	205	637	70	123	151	627	356	1264
06:00		50	114			88	100				
06:15		66	113			136	80				
06:30		95	93			78	80				
06:45		130	79	341	399	88	75	390	335	731	734
07:00		132	64			113	67				
07:15		97	72			**147**	43				
07:30		**109**	56			**208**	64				
07:45		**179**	45	517	237	**197**	55	665	229	1182	466
08:00		**125**	55			**177**	36				
08:15		**134**	74			134	33				
08:30		96	55			116	38				
08:45		92	48	447	232	88	37	515	144	962	376
09:00		66	46			77	45				
09:15		59	36			71	21				
09:30		58	21			74	27				
09:45		81	35	264	138	77	19	299	112	563	250
10:00		61	50			91	21				
10:15		63	53			86	26				
10:30		66	12			85	14				
10:45		82	17	272	132	87	19	349	80	621	212
11:00		72	13			84	10				
11:15		81	8			87	7				
11:30		89	11			101	15				
11:45		90	26	332	58	112	5	384	37	716	95
Total		2579	4379	2579	4379	2881	4275	2881	4275	5460	8654
Combined Total		6958		6958		7156		7156		14114	
AM Peak	-	07:30	-	-	-	07:15	-	-	-	-	-
Vol.	-	547	-	-	-	729	-	-	-	-	-
P.H.F.		0.764				0.876					
PM Peak	-	-	03:00	-	-	-	03:30	-	-	-	-
Vol.	-	-	665	-	-	-	727	-	-	-	-
P.H.F.			0.908				0.957				
Percentage		37.1%	62.9%			40.3%	59.7%				
ADT/AADT		ADT 14,114		AADT 14,114							

Prepared by NDS/ATD

VOLUME

N Locan Ave 600' N/O E Shields Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_001

DAILY TOTALS	NB	SB	EB	WB	Total
	1,912	2,135	0	0	4,047

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	5		3				8		12:00	21		25				46	
00:15	1		0				1		12:15	20		20				40	
00:30	3		1				4		12:30	19		22				41	
00:45	4	13	0	4			4	17	12:45	19	79	25	92			44	171
01:00	2		1				3		13:00	23		22				45	
01:15	1		3				4		13:15	29		30				59	
01:30	1		2				3		13:30	20		42				62	
01:45	4	8	2	8			6	16	13:45	61	133	37	131			98	264
02:00	2		3				5		14:00	38		27				65	
02:15	0		0				0		14:15	18		24				42	
02:30	2		1				3		14:30	28		33				61	
02:45	2	6	2	6			4	12	14:45	30	114	38	122			68	236
03:00	0		1				1		15:00	42		40				82	
03:15	0		0				0		15:15	27		33				60	
03:30	0		3				3		15:30	31		20				51	
03:45	1	1	6	10			7	11	15:45	43	143	33	126			76	269
04:00	1		3				4		16:00	42		38				80	
04:15	2		7				9		16:15	41		31				72	
04:30	1		7				8		16:30	66		28				94	
04:45	0	4	16	33			16	37	16:45	73	222	24	121			97	343
05:00	0		16				16		17:00	71		32				103	
05:15	1		13				14		17:15	50		38				88	
05:30	3		30				33		17:30	55		33				88	
05:45	2	6	23	82			25	88	17:45	49	225	26	129			75	354
06:00	7		28				35		18:00	39		24				63	
06:15	13		34				47		18:15	43		29				72	
06:30	18		58				76		18:30	31		26				57	
06:45	18	56	53	173			71	229	18:45	34	147	22	101			56	248
07:00	23		68				91		19:00	38		23				61	
07:15	27		91				118		19:15	25		22				47	
07:30	33		84				117		19:30	27		17				44	
07:45	42	125	88	331			130	456	19:45	30	120	31	93			61	213
08:00	32		81				113		20:00	31		12				43	
08:15	30		35				65		20:15	36		25				61	
08:30	16		36				52		20:30	35		19				54	
08:45	15	93	25	177			40	270	20:45	13	115	10	66			23	181
09:00	17		19				36		21:00	15		12				27	
09:15	10		19				29		21:15	16		8				24	
09:30	13		29				42		21:30	18		9				27	
09:45	9	49	18	85			27	134	21:45	9	58	9	38			18	96
10:00	11		19				30		22:00	9		8				17	
10:15	13		26				39		22:15	8		7				15	
10:30	16		22				38		22:30	7		5				12	
10:45	23	63	27	94			50	157	22:45	5	29	3	23			8	52
11:00	36		30				66		23:00	8		7				15	
11:15	15		19				34		23:15	3		1				4	
11:30	10		14				24		23:30	8		1				9	
11:45	19	80	16	79			35	159	23:45	4	23	2	11			6	34
TOTALS		504		1082				**1586**	**TOTALS**		1408		1053				**2461**
SPLIT %		31.8%		68.2%				**39.2%**	**SPLIT %**		57.2%		42.8%				**60.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	1,912	2,135	0	0	4,047

AM Peak Hour	07:30	07:15				**07:15**	**PM Peak Hour**	16:30	14:30				**16:30**
AM Pk Volume	137	344				**478**	**PM Pk Volume**	260	144				**382**
Pk Hr Factor	0.815	0.945				**0.919**	**Pk Hr Factor**	0.890	0.900				**0.927**
7 - 9 Volume	218	508	0	0		**726**	**4 - 6 Volume**	447	250	0	0		**697**
7 - 9 Peak Hour	07:30	07:15				**07:15**	**4 - 6 Peak Hour**	16:30	17:00				**16:30**
7 - 9 Pk Volume	137	344	0	0		**478**	**4 - 6 Pk Volume**	260	129	0	0		**382**
Pk Hr Factor	0.815	0.945	0.000	0.000		**0.919**	**Pk Hr Factor**	0.890	0.849	0.000	0.000		**0.927**

Prepared by NDS/ATD

VOLUME

E Shields Ave Bet. N Temperance Ave & N Locan Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,268	3,281	6,549

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			8		2		10		12:00			40		48		88	
00:15			6		1		7		12:15			33		33		66	
00:30			3		1		4		12:30			45		26		71	
00:45			4	21	1	5	5	26	12:45			45	163	35	142	80	305
01:00			4		3		7		13:00			38		30		68	
01:15			4		4		8		13:15			32		32		64	
01:30			2		1		3		13:30			55		41		96	
01:45			5	15	2	10	7	25	13:45			62	187	66	169	128	356
02:00			0		3		3		14:00			55		50		105	
02:15			2		1		3		14:15			65		33		98	
02:30			1		3		4		14:30			82		48		130	
02:45			2	5	2	9	4	14	14:45			69	271	103	234	172	505
03:00			3		1		4		15:00			78		77		155	
03:15			0		1		1		15:15			46		67		113	
03:30			1		6		7		15:30			49		49		98	
03:45			0	4	7	15	7	19	15:45			58	231	40	233	98	464
04:00			1		5		6		16:00			74		38		112	
04:15			3		8		11		16:15			60		50		110	
04:30			2		14		16		16:30			81		42		123	
04:45			0	6	24	51	24	57	16:45			107	322	44	174	151	496
05:00			1		26		27		17:00			104		49		153	
05:15			2		19		21		17:15			90		57		147	
05:30			5		37		42		17:30			84		53		137	
05:45			6	14	31	113	37	127	17:45			82	360	33	192	115	552
06:00			14		40		54		18:00			65		31		96	
06:15			30		49		79		18:15			63		35		98	
06:30			37		93		130		18:30			41		39		80	
06:45			54	135	89	271	143	406	18:45			40	209	32	137	72	346
07:00			75		108		183		19:00			44		24		68	
07:15			91		136		227		19:15			38		31		69	
07:30			94		130		224		19:30			29		20		49	
07:45			82	342	123	497	205	839	19:45			46	157	31	106	77	263
08:00			67		109		176		20:00			37		42		79	
08:15			45		63		108		20:15			40		35		75	
08:30			26		59		85		20:30			48		24		72	
08:45			24	162	41	272	65	434	20:45			26	151	16	117	42	268
09:00			20		34		54		21:00			27		15		42	
09:15			17		34		51		21:15			22		16		38	
09:30			18		37		55		21:30			23		13		36	
09:45			19	74	37	142	56	216	21:45			18	90	13	57	31	147
10:00			19		28		47		22:00			20		12		32	
10:15			31		40		71		22:15			10		10		20	
10:30			31		35		66		22:30			10		10		20	
10:45			29	110	36	139	65	249	22:45			9	49	9	41	18	90
11:00			43		41		84		23:00			11		7		18	
11:15			44		33		77		23:15			5		4		9	
11:30			33		26		59		23:30			7		6		13	
11:45			40	160	35	135	75	295	23:45			7	30	3	20	10	50
TOTALS				1048		1659		**2707**	**TOTALS**				2220		1622		**3842**
SPLIT %				38.7%		61.3%		**41.3%**	**SPLIT %**				57.8%		42.2%		**58.7%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	3,268	3,281	6,549

AM Peak Hour			07:00	07:15	**07:00**	**PM Peak Hour**			16:45	14:45	**16:45**
AM Pk Volume			342	498	**839**	**PM Pk Volume**			385	296	**588**
Pk Hr Factor			0.910	0.915	**0.924**	**Pk Hr Factor**			0.900	0.718	**0.961**
7 - 9 Volume	0	0	504	769	**1273**	**4 - 6 Volume**	0	0	682	366	**1048**
7 - 9 Peak Hour			07:00	07:15	**07:00**	**4 - 6 Peak Hour**			16:45	16:45	**16:45**
7 - 9 Pk Volume	0	0	342	498	**839**	**4 - 6 Pk Volume**	0	0	385	203	**588**
Pk Hr Factor	0.000	0.000	0.910	0.915	**0.924**	**Pk Hr Factor**	0.000	0.000	0.900	0.890	**0.961**

Prepared by NDS/ATD

VOLUME

E Shields Ave Bet. N Locan Ave & N De Wolf Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,192	1,937	4,129

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			4		2		6		12:00			25		25		50	
00:15			4		1		5		12:15			17		21		38	
00:30			2		1		3		12:30			36		16		52	
00:45			0	10	1	5	1	15	12:45			32	110	22	84	54	194
01:00			2		1		3		13:00			25		25		50	
01:15			3		1		4		13:15			18		28		46	
01:30			1		0		1		13:30			28		24		52	
01:45			1	7	0	2	1	9	13:45			48	119	29	106	77	225
02:00			0		0		0		14:00			37		30		67	
02:15			2		1		3		14:15			50		31		81	
02:30			1		1		2		14:30			71		40		111	
02:45			1	4	2	4	3	8	14:45			47	205	80	181	127	386
03:00			3		1		4		15:00			48		59		107	
03:15			0		1		1		15:15			32		42		74	
03:30			1		2		3		15:30			26		38		64	
03:45			0	4	1	5	1	9	15:45			40	146	30	169	70	315
04:00			1		2		3		16:00			41		20		61	
04:15			1		2		3		16:15			48		34		82	
04:30			2		9		11		16:30			47		26		73	
04:45			1	5	8	21	9	26	16:45			67	203	30	110	97	313
05:00			1		11		12		17:00			65		33		98	
05:15			5		9		14		17:15			64		34		98	
05:30			4		12		16		17:30			42		26		68	
05:45			7	17	14	46	21	63	17:45			60	231	27	120	87	351
06:00			15		17		32		18:00			37		15		52	
06:15			26		23		49		18:15			37		17		54	
06:30			27		44		71		18:30			21		17		38	
06:45			42	110	42	126	84	236	18:45			19	114	18	67	37	181
07:00			70		64		134		19:00			21		15		36	
07:15			80		67		147		19:15			21		18		39	
07:30			67		82		149		19:30			19		15		34	
07:45			79	296	83	296	162	592	19:45			24	85	13	61	37	146
08:00			50		80		130		20:00			20		17		37	
08:15			37		36		73		20:15			17		14		31	
08:30			23		34		57		20:30			16		11		27	
08:45			13	123	23	173	36	296	20:45			21	74	10	52	31	126
09:00			13		17		30		21:00			18		8		26	
09:15			12		24		36		21:15			9		15		24	
09:30			12		15		27		21:30			10		7		17	
09:45			19	56	21	77	40	133	21:45			7	44	4	34	11	78
10:00			15		19		34		22:00			14		3		17	
10:15			27		19		46		22:15			5		5		10	
10:30			21		23		44		22:30			5		6		11	
10:45			10	73	29	90	39	163	22:45			4	28	3	17	7	45
11:00			33		22		55		23:00			6		2		8	
11:15			29		18		47		23:15			4		3		7	
11:30			27		15		42		23:30			3		8		11	
11:45			22	111	21	76	43	187	23:45			4	17	2	15	6	32
TOTALS				816		921		**1737**	**TOTALS**				1376		1016		**2392**
SPLIT %				47.0%		53.0%		**42.1%**	**SPLIT %**				57.5%		42.5%		**57.9%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,192	1,937	4,129

AM Peak Hour			07:00	07:15	**07:00**	**PM Peak Hour**			16:30	14:30	**14:15**
AM Pk Volume			296	312	**592**	**PM Pk Volume**			243	221	**426**
Pk Hr Factor			0.925	0.940	**0.914**	**Pk Hr Factor**			0.907	0.691	**0.839**
7 - 9 Volume	0	0	419	469	**888**	**4 - 6 Volume**	0	0	434	230	**664**
7 - 9 Peak Hour			07:00	07:15	**07:00**	**4 - 6 Peak Hour**			16:30	16:15	**16:30**
7 - 9 Pk Volume	0	0	296	312	**592**	**4 - 6 Pk Volume**	0	0	243	123	**366**
Pk Hr Factor	0.000	0.000	0.925	0.940	**0.914**	**Pk Hr Factor**	0.000	0.000	0.907	0.904	**0.934**

Prepared by NDS/ATD

VOLUME

E Shields Ave Bet. N Locan Ave & N De Wolf Ave

Day: Wednesday
Date: 4/25/2018

City: Fresno
Project #: CA18_2051_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,192	1,937	4,129

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			4		2		6		12:00			25		25		50	
00:15			4		1		5		12:15			17		21		38	
00:30			2		1		3		12:30			36		16		52	
00:45			0	10	1	5	1	15	12:45			32	110	22	84	54	194
01:00			2		1		3		13:00			25		25		50	
01:15			3		1		4		13:15			18		28		46	
01:30			1		0		1		13:30			28		24		52	
01:45			1	7	0	2	1	9	13:45			48	119	29	106	77	225
02:00			0		0		0		14:00			37		30		67	
02:15			2		1		3		14:15			50		31		81	
02:30			1		1		2		14:30			71		40		111	
02:45			1	4	2	4	3	8	14:45			47	205	80	181	127	386
03:00			3		1		4		15:00			48		59		107	
03:15			0		1		1		15:15			32		42		74	
03:30			1		2		3		15:30			26		38		64	
03:45			0	4	1	5	1	9	15:45			40	146	30	169	70	315
04:00			1		2		3		16:00			41		20		61	
04:15			1		2		3		16:15			48		34		82	
04:30			2		9		11		16:30			47		26		73	
04:45			1	5	8	21	9	26	16:45			67	203	30	110	97	313
05:00			1		11		12		17:00			65		33		98	
05:15			5		9		14		17:15			64		34		98	
05:30			4		12		16		17:30			42		26		68	
05:45			7	17	14	46	21	63	17:45			60	231	27	120	87	351
06:00			15		17		32		18:00			37		15		52	
06:15			26		23		49		18:15			37		17		54	
06:30			27		44		71		18:30			21		17		38	
06:45			42	110	42	126	84	236	18:45			19	114	18	67	37	181
07:00			70		64		134		19:00			21		15		36	
07:15			80		67		147		19:15			21		18		39	
07:30			67		82		149		19:30			19		15		34	
07:45			79	296	83	296	162	592	19:45			24	85	13	61	37	146
08:00			50		80		130		20:00			20		17		37	
08:15			37		36		73		20:15			17		14		31	
08:30			23		34		57		20:30			16		11		27	
08:45			13	123	23	173	36	296	20:45			21	74	10	52	31	126
09:00			13		17		30		21:00			18		8		26	
09:15			12		24		36		21:15			9		15		24	
09:30			12		15		27		21:30			10		7		17	
09:45			19	56	21	77	40	133	21:45			7	44	4	34	11	78
10:00			15		19		34		22:00			14		3		17	
10:15			27		19		46		22:15			5		5		10	
10:30			21		23		44		22:30			5		6		11	
10:45			10	73	29	90	39	163	22:45			4	28	3	17	7	45
11:00			33		22		55		23:00			6		2		8	
11:15			29		18		47		23:15			4		3		7	
11:30			27		15		42		23:30			3		8		11	
11:45			22	111	21	76	43	187	23:45			4	17	2	15	6	32
TOTALS				816		921		**1737**	**TOTALS**				1376		1016		**2392**
SPLIT %				47.0%		53.0%		**42.1%**	**SPLIT %**				57.5%		42.5%		**57.9%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,192	1,937	4,129

AM Peak Hour			07:00	07:15	**07:00**	**PM Peak Hour**			16:30	14:30	**14:15**
AM Pk Volume			296	312	**592**	**PM Pk Volume**			243	221	**426**
Pk Hr Factor			0.925	0.940	**0.914**	**Pk Hr Factor**			0.907	0.691	**0.839**
7 - 9 Volume	0	0	419	469	**888**	**4 - 6 Volume**	0	0	434	230	**664**
7 - 9 Peak Hour			07:00	07:15	**07:00**	**4 - 6 Peak Hour**			16:30	16:15	**16:30**
7 - 9 Pk Volume	0	0	296	312	**592**	**4 - 6 Pk Volume**	0	0	243	123	**366**
Pk Hr Factor	0.000	0.000	0.925	0.940	**0.914**	**Pk Hr Factor**	0.000	0.000	0.907	0.904	**0.934**

Prepared by NDS/ATD

VOLUME

Clinton Ave Bet. Grantland & Bryan Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_007

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	222	258	480

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			1		0		1		12:00			1		5		6	
00:15			1		0		1		12:15			7		6		13	
00:30			1		0		1		12:30			5		5		10	
00:45			0	3	0		0	3	12:45			1	14	4	20	5	34
01:00			0		0		0		13:00			2		7		9	
01:15			0		0		0		13:15			1		6		7	
01:30			0		0		0		13:30			4		10		14	
01:45			0		0		0		13:45			2	9	1	24	3	33
02:00			0		0		0		14:00			4		7		11	
02:15			0		0		0		14:15			4		6		10	
02:30			1		0		1		14:30			4		4		8	
02:45			2	3	0		2	3	14:45			3	15	5	22	8	37
03:00			0		0		0		15:00			5		6		11	
03:15			0		0		0		15:15			4		8		12	
03:30			0		0		0		15:30			4		8		12	
03:45			0		0		0		15:45			6	19	9	31	15	50
04:00			0		0		0		16:00			10		7		17	
04:15			1		1		2		16:15			2		5		7	
04:30			0		1		1		16:30			6		7		13	
04:45			0	1	0	2	0	3	16:45			6	24	5	24	11	48
05:00			1		0		1		17:00			7		6		13	
05:15			0		0		0		17:15			4		6		10	
05:30			0		1		1		17:30			6		3		9	
05:45			0	1	0	1	0	2	17:45			5	22	5	20	10	42
06:00			1		0		1		18:00			4		3		7	
06:15			5		1		6		18:15			2		1		3	
06:30			2		3		5		18:30			4		6		10	
06:45			4	12	3	7	7	19	18:45			6	16	4	14	10	30
07:00			1		4		5		19:00			2		1		3	
07:15			4		6		10		19:15			3		4		7	
07:30			2		4		6		19:30			1		2		3	
07:45			8	15	6	20	14	35	19:45			3	9	2	9	5	18
08:00			3		5		8		20:00			0		1		1	
08:15			4		5		9		20:15			3		1		4	
08:30			4		1		5		20:30			1		0		1	
08:45			1	12	2	13	3	25	20:45			3	7	0	2	3	9
09:00			3		1		4		21:00			1		1		2	
09:15			3		0		3		21:15			1		0		1	
09:30			2		4		6		21:30			0		2		2	
09:45			5	13	2	7	7	20	21:45			2	4	5	8	7	12
10:00			0		5		5		22:00			2		2		4	
10:15			1		3		4		22:15			1		2		3	
10:30			3		5		8		22:30			0		1		1	
10:45			2	6	3	16	5	22	22:45			2	5	1	6	3	11
11:00			4		2		6		23:00			0		0		0	
11:15			3		4		7		23:15			1		2		3	
11:30			1		1		2		23:30			0		1		1	
11:45			3	11	2	9	5	20	23:45			0	1	0	3	0	4
TOTALS				77		75		**152**	**TOTALS**				145		183		**328**
SPLIT %				50.7%		49.3%		**31.7%**	**SPLIT %**				44.2%		55.8%		**68.3%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	222	258	480

AM Peak Hour				07:45	07:15	**07:15**	**PM Peak Hour**				15:15	15:15	**15:15**
AM Pk Volume				19	21	**38**	**PM Pk Volume**				24	32	**56**
Pk Hr Factor				0.594	0.875	**0.679**	**Pk Hr Factor**				0.600	0.889	**0.824**
7 - 9 Volume	0	0		27	33	**60**	**4 - 6 Volume**	0	0		46	44	**90**
7 - 9 Peak Hour				07:45	07:15	**07:15**	**4 - 6 Peak Hour**				16:00	16:00	**16:00**
7 - 9 Pk Volume	0	0		19	21	**38**	**4 - 6 Pk Volume**	0	0		24	24	**48**
Pk Hr Factor	0.000	0.000		0.594	0.875	**0.679**	**Pk Hr Factor**	0.000	0.000		0.600	0.857	**0.706**

Prepared by NDS/ATD

VOLUME

Clinton Ave 600' E/O Bryan Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_008

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	322	346	668

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00					0		0		0		12:00					4		4		8	
00:15					1		0		1		12:15					9		5		14	
00:30					1		0		1		12:30					7		6		13	
00:45					0	2	0		0	2	12:45					2	22	7	22	9	44
01:00					0		0		0		13:00					6		8		14	
01:15					1		0		1		13:15					4		9		13	
01:30					1		0		1		13:30					7		12		19	
01:45					1	3	0		1	3	13:45					6	23	4	33	10	56
02:00					0		1		1		14:00					6		6		12	
02:15					0		1		1		14:15					5		3		8	
02:30					1		0		1		14:30					5		7		12	
02:45					1	2	0	2	1	4	14:45					3	19	7	23	10	42
03:00					0		0		0		15:00					8		6		14	
03:15					0		0		0		15:15					8		9		17	
03:30					0		0		0		15:30					4		8		12	
03:45					0		0		0		15:45					6	26	9	32	15	58
04:00					0		1		1		16:00					14		8		22	
04:15					0		1		1		16:15					5		9		14	
04:30					0		1		1		16:30					7		4		11	
04:45					1	1	1	4	2	5	16:45					6	32	5	26	11	58
05:00					1		0		1		17:00					9		6		15	
05:15					0		1		1		17:15					5		5		10	
05:30					0		0		0		17:30					3		7		10	
05:45					1	2	0	1	1	3	17:45					9	26	8	26	17	52
06:00					1		0		1		18:00					9		3		12	
06:15					3		3		6		18:15					7		2		9	
06:30					2		3		5		18:30					6		7		13	
06:45					4	10	5	11	9	21	18:45					11	33	3	15	14	48
07:00					3		9		12		19:00					4		4		8	
07:15					6		7		13		19:15					4		6		10	
07:30					10		11		21		19:30					3		6		9	
07:45					11	30	8	35	19	65	19:45					4	15	1	17	5	32
08:00					5		7		12		20:00					1		2		3	
08:15					6		8		14		20:15					4		1		5	
08:30					6		2		8		20:30					1		1		2	
08:45					3	20	1	18	4	38	20:45					3	9	0	4	3	13
09:00					3		2		5		21:00					2		4		6	
09:15					2		1		3		21:15					1		1		2	
09:30					2		8		10		21:30					0		2		2	
09:45					5	12	6	17	11	29	21:45					3	6	8	15	11	21
10:00					3		5		8		22:00					0		5		5	
10:15					1		2		3		22:15					2		3		5	
10:30					5		5		10		22:30					1		1		2	
10:45					1	10	4	16	5	26	22:45					2	5	1	10	3	15
11:00					3		6		9		23:00					0		1		1	
11:15					2		5		7		23:15					1		2		3	
11:30					3		1		4		23:30					1		1		2	
11:45					4	12	3	15	7	27	23:45					0	2	0	4	0	6
TOTALS						104		119		**223**	**TOTALS**						218		227		**445**
SPLIT %						46.6%		53.4%		**33.4%**	**SPLIT %**						49.0%		51.0%		**66.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	322	346	668

AM Peak Hour			07:15	07:00	**07:30**	**PM Peak Hour**			18:00	12:45	**15:15**
AM Pk Volume			32	35	**66**	**PM Pk Volume**			33	36	**66**
Pk Hr Factor			0.727	0.795	**0.786**	**Pk Hr Factor**			0.750	0.750	**0.750**
7 - 9 Volume	0	0	50	53	**103**	**4 - 6 Volume**	0	0	58	52	**110**
7 - 9 Peak Hour			07:15	07:00	**07:30**	**4 - 6 Peak Hour**			16:00	16:00	**16:00**
7 - 9 Pk Volume	0	0	32	35	**66**	**4 - 6 Pk Volume**	0	0	32	26	**58**
Pk Hr Factor	0.000	0.000	0.727	0.795	**0.786**	**Pk Hr Factor**	0.000	0.000	0.571	0.722	**0.659**

Prepared by NDS/ATD

VOLUME

Clinton Ave Bet. Hayes Ave & Polk Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_009

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	450	603	1,053

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			0		0		0		12:00			6		7		13	
00:15			0		1		1		12:15			10		6		16	
00:30			1		2		3		12:30			5		8		13	
00:45			0	1	0	3	0	4	12:45			4	25	11	32	15	57
01:00			1		0		1		13:00			7		11		18	
01:15			1		0		1		13:15			7		16		23	
01:30			0		0		0		13:30			7		16		23	
01:45			0	2	0		0	2	13:45			7	28	9	52	16	80
02:00			0		1		1		14:00			8		7		15	
02:15			0		2		2		14:15			6		9		15	
02:30			1		0		1		14:30			7		11		18	
02:45			0	1	0	3	0	4	14:45			6	27	16	43	22	70
03:00			0		0		0		15:00			8		21		29	
03:15			0		0		0		15:15			8		10		18	
03:30			0		0		0		15:30			6		9		15	
03:45			0		0		0		15:45			11	33	12	52	23	85
04:00			1		0		1		16:00			7		12		19	
04:15			0		0		0		16:15			6		10		16	
04:30			1		0		1		16:30			18		9		27	
04:45			0	2	1	1	1	3	16:45			16	47	11	42	27	89
05:00			3		0		3		17:00			12		12		24	
05:15			1		3		4		17:15			8		11		19	
05:30			2		2		4		17:30			3		12		15	
05:45			2	8	1	6	3	14	17:45			8	31	15	50	23	81
06:00			4		2		6		18:00			8		11		19	
06:15			3		4		7		18:15			11		14		25	
06:30			8		4		12		18:30			6		19		25	
06:45			6	21	9	19	15	40	18:45			8	33	9	53	17	86
07:00			9		9		18		19:00			7		10		17	
07:15			11		9		20		19:15			5		12		17	
07:30			11		9		20		19:30			9		10		19	
07:45			8	39	11	38	19	77	19:45			6	27	5	37	11	64
08:00			12		8		20		20:00			5		9		14	
08:15			8		5		13		20:15			6		4		10	
08:30			5		7		12		20:30			4		8		12	
08:45			4	29	2	22	6	51	20:45			4	19	3	24	7	43
09:00			4		5		9		21:00			2		6		8	
09:15			5		4		9		21:15			1		6		7	
09:30			3		8		11		21:30			2		6		8	
09:45			6	18	7	24	13	42	21:45			2	7	7	25	9	32
10:00			4		6		10		22:00			2		7		9	
10:15			6		3		9		22:15			2		4		6	
10:30			5		11		16		22:30			1		3		4	
10:45			4	19	3	23	7	42	22:45			4	9	3	17	7	26
11:00			8		10		18		23:00			0		2		2	
11:15			4		7		11		23:15			1		2		3	
11:30			5		7		12		23:30			1		1		2	
11:45			4	21	8	32	12	53	23:45			1	3	0	5	1	8
TOTALS				161		171		332	TOTALS				289		432		721
SPLIT %				48.5%		51.5%		31.5%	SPLIT %				40.1%		59.9%		68.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	450	603	1,053

AM Peak Hour			07:15	07:00	07:15	PM Peak Hour			16:30	17:45	16:30
AM Pk Volume			42	38	79	PM Pk Volume			54	59	97
Pk Hr Factor			0.875	0.864	0.988	Pk Hr Factor			0.750	0.776	0.898
7 - 9 Volume	0	0	68	60	128	4 - 6 Volume	0	0	78	92	170
7 - 9 Peak Hour			07:15	07:00	07:15	4 - 6 Peak Hour			16:30	17:00	16:30
7 - 9 Pk Volume	0	0	42	38	79	4 - 6 Pk Volume	0	0	54	50	97
Pk Hr Factor	0.000	0.000	0.875	0.864	0.988	Pk Hr Factor	0.000	0.000	0.750	0.833	0.898

Prepared by NDS/ATD

VOLUME

Clinton Ave Bet. Polk Ave & Cornelia Ave

Day: Thursday
Date: 3/8/2018

City: Fresno
Project #: CA18_2030_010

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,894	2,018	3,912

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			6		4		10		12:00			25		25		50	
00:15			1		5		6		12:15			24		26		50	
00:30			4		8		12		12:30			27		18		45	
00:45			0	11	2	19	2	30	12:45			20	96	39	108	59	204
01:00			2		4		6		13:00			28		21		49	
01:15			3		1		4		13:15			30		33		63	
01:30			1		3		4		13:30			31		30		61	
01:45			0	6	4	12	4	18	13:45			17	106	24	108	41	214
02:00			2		5		7		14:00			27		26		53	
02:15			1		5		6		14:15			17		27		44	
02:30			2		2		4		14:30			36		46		82	
02:45			3	8	3	15	6	23	14:45			36	116	53	152	89	268
03:00			1		5		6		15:00			41		51		92	
03:15			1		2		3		15:15			53		48		101	
03:30			2		0		2		15:30			22		33		55	
03:45			1	5	0	7	1	12	15:45			31	147	43	175	74	322
04:00			0		1		1		16:00			23		37		60	
04:15			1		2		3		16:15			33		38		71	
04:30			4		0		4		16:30			50		41		91	
04:45			7	12	2	5	9	17	16:45			42	148	38	154	80	302
05:00			2		2		4		17:00			52		52		104	
05:15			6		5		11		17:15			34		45		79	
05:30			17		7		24		17:30			31		49		80	
05:45			10	35	8	22	18	57	17:45			39	156	43	189	82	345
06:00			16		15		31		18:00			34		36		70	
06:15			15		10		25		18:15			41		36		77	
06:30			19		16		35		18:30			30		42		72	
06:45			33	83	23	64	56	147	18:45			30	135	36	150	66	285
07:00			29		33		62		19:00			22		40		62	
07:15			68		46		114		19:15			25		31		56	
07:30			57		37		94		19:30			28		31		59	
07:45			41	195	48	164	89	359	19:45			20	95	25	127	45	222
08:00			43		46		89		20:00			19		21		40	
08:15			52		32		84		20:15			15		19		34	
08:30			39		27		66		20:30			17		23		40	
08:45			21	155	18	123	39	278	20:45			16	67	18	81	34	148
09:00			21		13		34		21:00			10		14		24	
09:15			17		12		29		21:15			8		21		29	
09:30			15		11		26		21:30			9		12		21	
09:45			18	71	13	49	31	120	21:45			10	37	15	62	25	99
10:00			12		20		32		22:00			7		13		20	
10:15			19		15		34		22:15			6		10		16	
10:30			23		30		53		22:30			9		11		20	
10:45			10	64	17	82	27	146	22:45			7	29	9	43	16	72
11:00			20		21		41		23:00			7		9		16	
11:15			29		21		50		23:15			7		10		17	
11:30			24		12		36		23:30			4		6		10	
11:45			19	92	25	79	44	171	23:45			7	25	3	28	10	53
TOTALS				737		641		**1378**	**TOTALS**				1157		1377		**2534**
SPLIT %				53.5%		46.5%		**35.2%**	**SPLIT %**				45.7%		54.3%		**64.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,894	2,018	3,912

AM Peak Hour			07:15	07:15	**07:15**	**PM Peak Hour**			16:30	14:30	**14:30**
AM Pk Volume			209	177	**386**	**PM Pk Volume**			178	198	**364**
Pk Hr Factor			0.768	0.922	**0.846**	**Pk Hr Factor**			0.856	0.934	**0.901**
7 - 9 Volume	0	0	350	287	**637**	**4 - 6 Volume**	0	0	304	343	**647**
7 - 9 Peak Hour			07:15	07:15	**07:15**	**4 - 6 Peak Hour**			16:30	17:00	**16:30**
7 - 9 Pk Volume	0	0	209	177	**386**	**4 - 6 Pk Volume**	0	0	178	189	**354**
Pk Hr Factor	0.000	0.000	0.768	0.922	**0.846**	**Pk Hr Factor**	0.000	0.000	0.856	0.909	**0.851**

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Fresno
Clinton Avenue
B/ Brawley Avenue - Blythe Avenue
24 Hour Directional Volume Count

FSO001
Site Code: 003-19185

Start Time	19-Mar-19 Tue	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		7	92			4	83				
12:15		6	96			5	89				
12:30		9	84			3	76				
12:45		7	89	29	361	9	78	21	326	50	687
01:00		10	106			7	76				
01:15		7	109			4	99				
01:30		14	110			5	**140**				
01:45		5	138	36	463	4	**126**	20	441	56	904
02:00		4	110			4	**108**				
02:15		7	98			11	**139**				
02:30		3	126			9	93				
02:45		4	121	18	455	7	92	31	432	49	887
03:00		4	114			11	92				
03:15		9	155			13	84				
03:30		5	132			24	137				
03:45		7	126	25	527	14	131	62	444	87	971
04:00		8	**143**			16	127				
04:15		14	**162**			32	110				
04:30		10	**163**			54	141				
04:45		10	**156**	42	624	47	112	149	490	191	1114
05:00		20	135			43	111				
05:15		26	129			50	98				
05:30		33	104			80	115				
05:45		47	102	126	470	97	83	270	407	396	877
06:00		80	104			**108**	107				
06:15		91	111			**182**	118				
06:30		92	118			**198**	84				
06:45		78	108	341	441	**135**	67	623	376	964	817
07:00		78	102			90	61				
07:15		86	86			98	73				
07:30		68	82			128	74				
07:45		58	84	290	354	89	57	405	265	695	619
08:00		53	77			81	40				
08:15		46	75			65	44				
08:30		59	59			72	48				
08:45		52	67	210	278	74	41	292	173	502	451
09:00		52	55			70	32				
09:15		59	42			61	22				
09:30		50	40			70	25				
09:45		60	25	221	162	85	27	286	106	507	268
10:00		69	23			86	21				
10:15		64	20			68	11				
10:30		70	17			86	10				
10:45		62	17	265	77	79	14	319	56	584	133
11:00		**75**	23			91	9				
11:15		**97**	16			92	11				
11:30		**85**	13			80	8				
11:45		**93**	8	350	60	76	4	339	32	689	92
Total		1953	4272	1953	4272	2817	3548	2817	3548	4770	7820
Combined Total		6225		6225		6365		6365		12590	
AM Peak	-	11:00	-	-	-	06:00	-	-	-	-	-
Vol.	-	350	-	-	-	623	-	-	-	-	-
P.H.F.		0.902				0.787					
PM Peak	-	-	04:00	-	-	-	01:30	-	-	-	-
Vol.	-	-	624	-	-	-	513	-	-	-	-
P.H.F.			0.957				0.916				
Percentage		31.4%	68.6%			44.3%	55.7%				
ADT/AADT		ADT 12,590		AADT 12,590							

Counts Unlimited, Inc.

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City of Fresno
Clinton Avenue
B/ Fruit Avenue - Palm Avenue
24 Hour Directional Volume Count

FSO002
Site Code: 003-19185

Start Time	19-Mar-19 Tue	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		46	90			58	84				
12:15		53	96			43	82				
12:30		38	125			33	80				
12:45		41	136	178	447	32	86	166	332	344	779
01:00		25	129			39	131				
01:15		29	103			33	121				
01:30		25	83			15	107				
01:45		27	93	106	408	17	117	104	476	210	884
02:00		17	106			20	108				
02:15		29	124			24	119				
02:30		6	122			14	124				
02:45		16	127	68	479	14	140	72	491	140	970
03:00		7	132			12	116				
03:15		5	122			11	107				
03:30		10	119			6	121				
03:45		6	145	28	518	9	119	38	463	66	981
04:00		15	130			2	189				
04:15		2	122			6	126				
04:30		4	157			11	136				
04:45		6	164	27	573	3	153	22	604	49	1177
05:00		5	178			3	159				
05:15		5	182			7	203				
05:30		6	146			5	174				
05:45		5	170	21	676	6	**194**	21	730	42	1406
06:00		7	142			8	**195**				
06:15		2	166			10	**188**				
06:30		7	139			6	**217**				
06:45		9	151	25	598	13	182	37	782	62	1380
07:00		12	169			6	168				
07:15		14	**163**			11	197				
07:30		25	**170**			27	220				
07:45		35	**187**	86	689	32	182	76	767	162	1456
08:00		32	**178**			51	192				
08:15		29	137			44	174				
08:30		56	119			39	134				
08:45		98	105	215	539	81	102	215	602	430	1141
09:00		128	90			54	137				
09:15		153	88			85	128				
09:30		**227**	98			107	138				
09:45		**327**	94	835	370	**139**	98	385	501	1220	871
10:00		**275**	76			**177**	87				
10:15		**215**	75			**182**	111				
10:30		158	82			**122**	77				
10:45		154	63	802	296	77	86	558	361	1360	657
11:00		147	60			89	99				
11:15		125	74			104	75				
11:30		90	54			104	75				
11:45		99	55	461	243	97	75	394	324	855	567
Total		2852	5836	2852	5836	2088	6433	2088	6433	4940	12269
Combined Total		8688		8688		8521		8521		17209	
AM Peak	-	09:30	-	-	-	09:45	-	-	-	-	-
Vol.	-	1044	-	-	-	620	-	-	-	-	-
P.H.F.		0.798				0.852					
PM Peak	-	-	07:15	-	-	-	05:45	-	-	-	-
Vol.	-	-	698	-	-	-	794	-	-	-	-
P.H.F.			0.933				0.915				
Percentage		32.8%	67.2%			24.5%	75.5%				
ADT/AADT		ADT 17,209		AADT 17,209							

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Site Code: UID#: CO25
Station ID: Mini-Tubes: 48-hour
Clinton E-O First

Date Start: 1/28/2019
Date End: 1/29/2019

Volume Report

Start	1/28/2019		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	West Boun	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou
12:00 AM	28	25	45	23	*	*	*	*	*	*	*	*	*	*	36	24
01:00	18	18	22	17	*	*	*	*	*	*	*	*	*	*	20	18
02:00	19	15	13	23	*	*	*	*	*	*	*	*	*	*	16	19
03:00	21	14	13	19	*	*	*	*	*	*	*	*	*	*	17	16
04:00	29	27	30	27	*	*	*	*	*	*	*	*	*	*	30	27
05:00	82	38	84	39	*	*	*	*	*	*	*	*	*	*	83	38
06:00	184	85	216	90	*	*	*	*	*	*	*	*	*	*	200	88
07:00	**496**	**284**	**460**	245	*	*	*	*	*	*	*	*	*	*	**478**	**264**
08:00	490	229	453	**288**	*	*	*	*	*	*	*	*	*	*	472	258
09:00	326	209	361	166	*	*	*	*	*	*	*	*	*	*	344	188
10:00	336	213	305	215	*	*	*	*	*	*	*	*	*	*	320	214
11:00	351	226	340	249	*	*	*	*	*	*	*	*	*	*	346	238
12:00 PM	367	284	363	302	*	*	*	*	*	*	*	*	*	*	365	293
01:00	393	291	394	272	*	*	*	*	*	*	*	*	*	*	394	282
02:00	415	364	434	402	*	*	*	*	*	*	*	*	*	*	424	383
03:00	496	417	526	375	*	*	*	*	*	*	*	*	*	*	511	396
04:00	546	371	552	385	*	*	*	*	*	*	*	*	*	*	549	378
05:00	**588**	**421**	**575**	**404**	*	*	*	*	*	*	*	*	*	*	**582**	**412**
06:00	398	276	373	261	*	*	*	*	*	*	*	*	*	*	386	268
07:00	215	180	233	174	*	*	*	*	*	*	*	*	*	*	224	177
08:00	185	158	176	187	*	*	*	*	*	*	*	*	*	*	180	172
09:00	158	156	139	145	*	*	*	*	*	*	*	*	*	*	148	150
10:00	80	77	81	62	*	*	*	*	*	*	*	*	*	*	80	70
11:00	56	49	43	35	*	*	*	*	*	*	*	*	*	*	50	42
Lane	6277	4427	6231	4405	0	0	0	0	0	0	0	0	0	0	6255	4415
Day	10704		10636		0		0		0		0		0		10670	
AM Peak	07:00	07:00	07:00	08:00	-	-	-	-	-	-	-	-	-	-	07:00	07:00
Vol.	496	284	460	288	-	-	-	-	-	-	-	-	-	-	478	264
PM Peak	17:00	17:00	17:00	17:00	-	-	-	-	-	-	-	-	-	-	17:00	17:00
Vol.	588	421	575	404	-	-	-	-	-	-	-	-	-	-	582	412

Comb. Total	10704		10636		0		0		0		0		0		10670	
ADT	ADT 10,670		AADT 10,670									

Prepared by NDS/ATD

VOLUME

Clinton Ave Bet. Fowler Ave & Armstrong Ave

Day: Thursday
Date: 1/25/2018

City: Fresno
Project #: CA18_2014_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,193	1,058	2,251

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			2	1	3	12:00			22	11	33
00:15			0	1	1	12:15			19	15	34
00:30			0	0	0	12:30			18	14	32
00:45			1 3	0 2	1 5	12:45			8 67	14 54	22 121
01:00			2	1	3	13:00			19	8	27
01:15			0	0	0	13:15			17	11	28
01:30			0	0	0	13:30			11	18	29
01:45			0 2	1 2	1 4	13:45			18 65	12 49	30 114
02:00			1	1	2	14:00			11	15	26
02:15			0	0	0	14:15			20	13	33
02:30			0	0	0	14:30			20	10	30
02:45			0 1	1 2	1 3	14:45			26 77	14 52	40 129
03:00			1	0	1	15:00			38	24	62
03:15			0	1	1	15:15			32	53	85
03:30			0	0	0	15:30			25	22	47
03:45			1 2	1 2	2 4	15:45			33 128	17 116	50 244
04:00			1	1	2	16:00			42	12	54
04:15			0	2	2	16:15			29	17	46
04:30			0	3	3	16:30			49	14	63
04:45			1 2	5 11	6 13	16:45			33 153	14 57	47 210
05:00			1	2	3	17:00			51	14	65
05:15			1	4	5	17:15			43	14	57
05:30			3	6	9	17:30			45	10	55
05:45			1 6	10 22	11 28	17:45			22 161	12 50	34 211
06:00			3	10	13	18:00			17	8	25
06:15			4	8	12	18:15			21	7	28
06:30			8	11	19	18:30			18	11	29
06:45			12 27	27 56	39 83	18:45			17 73	6 32	23 105
07:00			19	38	57	19:00			13	8	21
07:15			22	43	65	19:15			5	8	13
07:30			22	55	77	19:30			11	12	23
07:45			36 99	56 192	92 291	19:45			5 34	3 31	8 65
08:00			31	45	76	20:00			5	7	12
08:15			11	50	61	20:15			7	1	8
08:30			18	20	38	20:30			7	4	11
08:45			12 72	14 129	26 201	20:45			9 28	2 14	11 42
09:00			9	11	20	21:00			6	2	8
09:15			11	15	26	21:15			3	2	5
09:30			9	13	22	21:30			2	4	6
09:45			8 37	15 54	23 91	21:45			1 12	1 9	2 21
10:00			14	10	24	22:00			3	2	5
10:15			12	12	24	22:15			6	0	6
10:30			11	12	23	22:30			3	7	10
10:45			8 45	11 45	19 90	22:45			6 18	0 9	6 27
11:00			22	10	32	23:00			6	1	7
11:15			19	14	33	23:15			0	0	0
11:30			13	14	27	23:30			2	1	3
11:45			18 72	27 65	45 137	23:45			1 9	1 3	2 12
TOTALS			368	582	950	TOTALS			825	476	1301
SPLIT %			38.7%	61.3%	42.2%	SPLIT %			63.4%	36.6%	57.8%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	1,193	1,058	2,251

AM Peak Hour	07:15	07:30	07:15	PM Peak Hour	16:30	15:00	15:00
AM Pk Volume	111	206	310	PM Pk Volume	176	116	244
Pk Hr Factor	0.771	0.920	0.842	Pk Hr Factor	0.863	0.547	0.718
7 - 9 Volume	171	321	492	4 - 6 Volume	314	107	421
7 - 9 Peak Hour	07:15	07:30	07:15	4 - 6 Peak Hour	16:30	16:15	16:30
7 - 9 Pk Volume	111	206	310	4 - 6 Pk Volume	176	59	232
Pk Hr Factor	0.771	0.920	0.842	Pk Hr Factor	0.863	0.868	0.892

Prepared by NDS/ATD

VOLUME

Clinton Ave Bet. Armstrong Ave & Temperance Ave

Day: Thursday
Date: 1/25/2018

City: Fresno
Project #: CA18_2014_002

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	888	897	1,785

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			0	0	0	12:00			11	10	21
00:15			0	0	0	12:15			10	10	20
00:30			0	0	0	12:30			17	9	26
00:45			2	0	2	12:45			7	10	17
			2	0	2				45	39	84
01:00			1	0	1	13:00			8	4	12
01:15			1	0	1	13:15			11	8	19
01:30			0	0	0	13:30			10	14	24
01:45			0	2	2	13:45			10	11	21
			2	2	4				39	37	76
02:00			2	1	3	14:00			12	8	20
02:15			0	0	0	14:15			15	11	26
02:30			0	0	0	14:30			17	10	27
02:45			0	1	1	14:45			32	11	43
			2	2	4				76	40	116
03:00			1	0	1	15:00			34	17	51
03:15			0	1	1	15:15			24	68	92
03:30			0	0	0	15:30			28	15	43
03:45			1	1	2	15:45			21	12	33
			2	2	4				107	112	219
04:00			0	1	1	16:00			20	9	29
04:15			0	1	1	16:15			18	7	25
04:30			0	1	1	16:30			31	13	44
04:45			0	3	3	16:45			25	8	33
			0	6	6				94	37	131
05:00			0	1	1	17:00			37	10	47
05:15			1	5	6	17:15			27	11	38
05:30			3	4	7	17:30			32	7	39
05:45			2	11	13	17:45			25	11	36
			6	21	27				121	39	160
06:00			3	4	7	18:00			16	8	24
06:15			2	8	10	18:15			13	5	18
06:30			6	10	16	18:30			11	12	23
06:45			10	24	34	18:45			8	3	11
			21	46	67				48	28	76
07:00			16	26	42	19:00			12	4	16
07:15			13	51	64	19:15			4	11	15
07:30			22	45	67	19:30			5	12	17
07:45			29	53	82	19:45			4	4	8
			80	175	255				25	31	56
08:00			37	69	106	20:00			7	4	11
08:15			10	38	48	20:15			5	1	6
08:30			12	19	31	20:30			5	4	9
08:45			4	8	12	20:45			9	2	11
			63	134	197				26	11	37
09:00			9	8	17	21:00			4	1	5
09:15			9	7	16	21:15			2	1	3
09:30			5	12	17	21:30			1	2	3
09:45			6	10	16	21:45			2	1	3
			29	37	66				9	5	14
10:00			9	6	15	22:00			3	3	6
10:15			8	8	16	22:15			4	0	4
10:30			7	8	15	22:30			1	5	6
10:45			6	8	14	22:45			4	1	5
			30	30	60				12	9	21
11:00			15	10	25	23:00			0	1	1
11:15			11	9	20	23:15			1	0	1
11:30			12	13	25	23:30			2	1	3
11:45			8	19	27	23:45			0	1	1
			46	51	97				3	3	6
TOTALS			**283**	**506**	**789**	**TOTALS**			**605**	**391**	**996**
SPLIT %			**35.9%**	**64.1%**	**44.2%**	**SPLIT %**			**60.7%**	**39.3%**	**55.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	888	897	1,785

AM Peak Hour	07:15	07:15	07:15	**PM Peak Hour**	16:45	15:00	14:45
AM Pk Volume	101	218	319	**PM Pk Volume**	121	112	229
Pk Hr Factor	0.682	0.790	0.752	**Pk Hr Factor**	0.818	0.412	0.622
7 - 9 Volume	143	309	452	**4 - 6 Volume**	215	76	291
7 - 9 Peak Hour	07:15	07:15	07:15	**4 - 6 Peak Hour**	16:45	16:30	16:30
7 - 9 Pk Volume	101	218	319	**4 - 6 Pk Volume**	121	42	162
Pk Hr Factor	0.682	0.790	0.752	**Pk Hr Factor**	0.818	0.808	0.862

Counts Unlimited, Inc.

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email: counts@countsunlimited.com

City of Fresno
McKinley Avenue
W/ Valentine Avenue
24 Hour Directional Volume Count

FSO032
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		2	45			7	31				
12:15		5	42			7	53				
12:30		4	45			7	63				
12:45		3	38	14	170	5	47	26	194	40	364
01:00		3	49			4	54				
01:15		1	44			3	68				
01:30		2	**65**			2	52				
01:45		2	**87**	8	245	3	65	12	239	20	484
02:00		1	**64**			2	51				
02:15		3	**57**			4	59				
02:30		2	59			1	41				
02:45		3	57	9	237	3	52	10	203	19	440
03:00		2	39			3	58				
03:15		1	73			2	60				
03:30		4	63			5	66				
03:45		1	58	8	233	1	74	11	258	19	491
04:00		4	55			3	64				
04:15		4	51			1	58				
04:30		4	59			4	65				
04:45		16	75	28	240	1	54	9	241	37	481
05:00		12	52			2	**73**				
05:15		8	60			7	**80**				
05:30		17	70			6	**67**				
05:45		30	68	67	250	8	**89**	23	309	90	559
06:00		19	57			6	53				
06:15		22	54			7	64				
06:30		55	38			25	49				
06:45		73	49	169	198	21	34	59	200	228	398
07:00		**70**	29			40	42				
07:15		**103**	25			33	65				
07:30		**123**	27			39	29				
07:45		**119**	18	415	99	22	42	134	178	549	277
08:00		61	17			**37**	32				
08:15		70	26			**38**	47				
08:30		57	30			**33**	40				
08:45		58	18	246	91	**34**	30	142	149	388	240
09:00		40	23			31	26				
09:15		60	27			24	27				
09:30		39	21			41	24				
09:45		39	19	178	90	32	21	128	98	306	188
10:00		32	13			28	25				
10:15		41	9			29	17				
10:30		30	14			27	10				
10:45		34	12	137	48	26	11	110	63	247	111
11:00		46	7			27	19				
11:15		35	1			39	9				
11:30		33	5			33	9				
11:45		32	10	146	23	30	11	129	48	275	71
Total		1425	1924	1425	1924	793	2180	793	2180	2218	4104
Combined Total		3349		3349		2973		2973		6322	
AM Peak	-	07:00	-	-	-	08:00	-	-	-	-	-
Vol.	-	415	-	-	-	142	-	-	-	-	-
P.H.F.		0.843				0.934					
PM Peak	-	-	01:30	-	-	-	05:00	-	-	-	-
Vol.	-	-	273	-	-	-	309	-	-	-	-
P.H.F.			0.784				0.868				
Percentage		42.6%	57.4%			26.7%	73.3%				
ADT/AADT		ADT 6,322		AADT 6,322							

Counts Unlimited, Inc.

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City of Fresno
McKinley Avenue
E/ Fruit Avenue
24 Hour Directional Volume Count

FSO033
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		4	127			6	96				
12:15		3	113			5	105				
12:30		11	75			1	103				
12:45		1	97	19	412	8	91	20	395	39	807
01:00		2	98			4	82				
01:15		4	109			3	97				
01:30		7	112			4	84				
01:45		6	109	19	428	1	99	12	362	31	790
02:00		4	95			3	69				
02:15		3	89			2	112				
02:30		4	79			3	98				
02:45		3	**186**	14	449	1	125	9	404	23	853
03:00		0	**145**			4	73				
03:15		2	**116**			0	100				
03:30		2	**118**			3	113				
03:45		3	118	7	497	2	117	9	403	16	900
04:00		2	109			1	100				
04:15		4	149			4	123				
04:30		8	120			11	**120**				
04:45		5	140	19	518	9	**153**	25	496	44	1014
05:00		11	132			13	**91**				
05:15		15	138			15	**171**				
05:30		17	100			34	109				
05:45		14	123	57	493	19	82	81	453	138	946
06:00		13	98			47	62				
06:15		23	90			82	65				
06:30		43	59			120	60				
06:45		51	58	130	305	118	44	367	231	497	536
07:00		59	60			**198**	49				
07:15		**86**	46			**237**	39				
07:30		**131**	66			**215**	47				
07:45		**132**	60	408	232	**137**	41	787	176	1195	408
08:00		**89**	84			116	39				
08:15		69	71			113	32				
08:30		64	79			91	29				
08:45		70	64	292	298	97	27	417	127	709	425
09:00		77	59			108	33				
09:15		60	49			78	18				
09:30		65	40			87	9				
09:45		68	35	270	183	77	21	350	81	620	264
10:00		53	28			76	26				
10:15		70	12			89	17				
10:30		73	23			76	10				
10:45		83	20	279	83	56	15	297	68	576	151
11:00		64	11			81	8				
11:15		73	8			85	5				
11:30		99	13			81	8				
11:45		117	11	353	43	69	10	316	31	669	74
Total		1867	3941	1867	3941	2690	3227	2690	3227	4557	7168
Combined Total		5808		5808		5917		5917		11725	
AM Peak	-	07:15	-	-	-	07:00	-	-	-	-	-
Vol.	-	438	-	-	-	787	-	-	-	-	-
P.H.F.		0.830				0.830					
PM Peak	-	-	02:45	-	-	-	04:30	-	-	-	-
Vol.	-	-	565	-	-	-	535	-	-	-	-
P.H.F.			0.759				0.782				
Percentage		32.1%	67.9%			45.5%	54.5%				
ADT/AADT		ADT 11,725		AADT 11,725							

Counts Unlimited, Inc.

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City of Fresno
McKinley Avenue
E/ First Street
24 Hour Directional Volume Count

FSO034
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		25	191			20	139				
12:15		18	144			9	132				
12:30		12	152			11	136				
12:45		11	167	66	654	9	161	49	568	115	1222
01:00		12	153			10	125				
01:15		6	121			6	130				
01:30		7	152			1	141				
01:45		13	162	38	588	10	136	27	532	65	1120
02:00		4	167			8	137				
02:15		6	158			1	146				
02:30		6	146			2	130				
02:45		4	143	20	614	6	134	17	547	37	1161
03:00		7	165			8	168				
03:15		5	193			8	165				
03:30		4	192			8	164				
03:45		6	**183**	22	733	5	166	29	663	51	1396
04:00		10	**202**			8	149				
04:15		11	**205**			12	178				
04:30		15	**203**			15	145				
04:45		18	162	54	772	9	**161**	44	633	98	1405
05:00		9	193			19	**150**				
05:15		22	209			16	**224**				
05:30		32	175			27	**164**				
05:45		24	160	87	737	41	143	103	681	190	1418
06:00		22	163			36	132				
06:15		39	128			58	135				
06:30		43	109			88	91				
06:45		53	99	157	499	114	110	296	468	453	967
07:00		67	77			121	80				
07:15		78	88			**178**	81				
07:30		129	89			**224**	65				
07:45		115	81	389	335	**197**	64	720	290	1109	625
08:00		125	90			**206**	62				
08:15		104	80			162	58				
08:30		91	76			144	74				
08:45		111	67	431	313	152	63	664	257	1095	570
09:00		87	81			101	42				
09:15		91	66			101	55				
09:30		111	53			114	48				
09:45		97	51	386	251	110	41	426	186	812	437
10:00		118	40			119	42				
10:15		107	49			111	33				
10:30		110	34			118	24				
10:45		**133**	28	468	151	103	34	451	133	919	284
11:00		**138**	23			131	19				
11:15		**136**	19			126	21				
11:30		**139**	33			138	21				
11:45		127	20	540	95	123	19	518	80	1058	175
Total		2658	5742	2658	5742	3344	5038	3344	5038	6002	10780
Combined Total		8400		8400		8382		8382		16782	
AM Peak	-	10:45	-	-	-	07:15	-	-	-	-	-
Vol.	-	546	-	-	-	805	-	-	-	-	-
P.H.F.		0.982				0.898					
PM Peak	-	-	03:45	-	-	-	04:45	-	-	-	-
Vol.	-	-	793	-	-	-	699	-	-	-	-
P.H.F.			0.967				0.780				
Percentage		31.6%	68.4%			39.9%	60.1%				
ADT/AADT		ADT 16,782		AADT 16,782							

Counts Unlimited, Inc.

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City of Fresno
McKinley Avenue
W/ Clovis Avenue
24 Hour Directional Volume Count

FSO035
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		16	140			11	**93**				
12:15		18	119			2	**83**				
12:30		10	74			3	**104**				
12:45		13	97	57	430	4	**102**	20	382	77	812
01:00		9	90			3	88				
01:15		6	82			7	67				
01:30		2	85			3	73				
01:45		4	84	21	341	2	87	15	315	36	656
02:00		7	86			2	81				
02:15		1	93			2	66				
02:30		7	90			0	90				
02:45		2	93	17	362	2	98	6	335	23	697
03:00		1	81			12	94				
03:15		3	88			6	87				
03:30		5	99			7	98				
03:45		7	151	16	419	24	92	49	371	65	790
04:00		8	130			21	80				
04:15		13	139			27	86				
04:30		13	**149**			25	70				
04:45		15	**131**	49	549	34	91	107	327	156	876
05:00		19	**153**			27	70				
05:15		14	**167**			8	77				
05:30		31	121			12	83				
05:45		67	102	131	543	29	63	76	293	207	836
06:00		38	91			34	62				
06:15		39	53			59	59				
06:30		45	46			73	40				
06:45		88	67	210	257	109	53	275	214	485	471
07:00		65	58			120	38				
07:15		64	46			118	51				
07:30		77	44			**137**	44				
07:45		78	47	284	195	**202**	35	577	168	861	363
08:00		76	39			**182**	41				
08:15		57	41			**140**	41				
08:30		48	48			106	35				
08:45		46	52	227	180	102	47	530	164	757	344
09:00		45	37			77	39				
09:15		62	31			61	35				
09:30		67	29			51	25				
09:45		55	26	229	123	66	23	255	122	484	245
10:00		74	29			53	25				
10:15		60	24			63	24				
10:30		65	19			69	20				
10:45		**85**	13	284	85	65	19	250	88	534	173
11:00		**65**	20			71	14				
11:15		**96**	9			91	18				
11:30		**80**	24			86	15				
11:45		65	23	306	76	100	14	348	61	654	137
Total		1831	3560	1831	3560	2508	2840	2508	2840	4339	6400
Combined Total		5391		5391		5348		5348		10739	
AM Peak	-	10:45	-	-	-	07:30	-	-	-	-	-
Vol.	-	326	-	-	-	661	-	-	-	-	-
P.H.F.		0.849				0.818					
PM Peak	-	-	04:30	-	-	-	12:00	-	-	-	-
Vol.	-	-	600	-	-	-	382	-	-	-	-
P.H.F.			0.898				0.918				
Percentage		34.0%	66.0%			46.9%	53.1%				
ADT/AADT		ADT 10,739		AADT 10,739							

Counts Unlimited, Inc.

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City of Fresno
Olive Avenue
B/ First Street - Fresno Street
24 Hour Directional Volume Count

FSO008
Site Code: 003-19185

Start	19-Mar-19	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Tue	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		7	88			9	112				
12:15		7	93			5	90				
12:30		5	101			6	88				
12:45		7	96	26	378	4	113	24	403	50	781
01:00		6	106			7	78				
01:15		5	79			6	126				
01:30		6	89			2	102				
01:45		1	112	18	386	5	95	20	401	38	787
02:00		1	111			3	99				
02:15		2	108			2	108				
02:30		3	110			3	**123**				
02:45		1	114	7	443	0	**121**	8	451	15	894
03:00		3	101			1	**113**				
03:15		2	129			2	**119**				
03:30		2	113			0	112				
03:45		2	108	9	451	3	121	6	465	15	916
04:00		2	115			1	112				
04:15		0	126			3	116				
04:30		3	107			4	98				
04:45		4	**118**	9	466	6	126	14	452	23	918
05:00		4	**181**			1	107				
05:15		5	**146**			6	109				
05:30		12	**108**			12	79				
05:45		7	79	28	514	15	88	34	383	62	897
06:00		13	102			18	76				
06:15		17	82			19	68				
06:30		16	65			35	64				
06:45		25	62	71	311	44	61	116	269	187	580
07:00		25	55			45	46				
07:15		38	60			81	44				
07:30		72	53			**121**	58				
07:45		93	59	228	227	**184**	33	431	181	659	408
08:00		94	40			**120**	36				
08:15		71	40			**90**	38				
08:30		64	35			81	26				
08:45		83	39	312	154	94	37	385	137	697	291
09:00		65	38			71	31				
09:15		79	28			69	38				
09:30		64	32			68	29				
09:45		65	32	273	130	90	34	298	132	571	262
10:00		75	17			73	27				
10:15		61	19			73	13				
10:30		**99**	18			69	19				
10:45		**81**	15	316	69	88	14	303	73	619	142
11:00		**87**	18			74	12				
11:15		**69**	12			92	9				
11:30		79	7			85	9				
11:45		86	9	321	46	93	6	344	36	665	82
Total		1618	3575	1618	3575	1983	3383	1983	3383	3601	6958
Combined Total		5193		5193		5366		5366		10559	
AM Peak	-	10:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	336	-	-	-	515	-	-	-	-	-
P.H.F.		0.848				0.700					
PM Peak	-	-	04:45	-	-	-	02:30	-	-	-	-
Vol.	-	-	553	-	-	-	476	-	-	-	-
P.H.F.			0.764				0.967				
Percentage		31.2%	68.8%			37.0%	63.0%				
ADT/AADT		ADT 10,559		AADT 10,559							

Counts Unlimited, Inc.

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City of Fresno
Belmont Avenue
E/ Polk Avenue
24 Hour Directional Volume Count

FSO036
Site Code: 003-19024

Start	1/24/2019	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	13			0	16				
12:15		0	19			1	22				
12:30		0	10			1	8				
12:45		1	20	1	62	0	12	2	58	3	120
01:00		0	20			2	17				
01:15		0	16			0	10				
01:30		2	14			1	22				
01:45		2	16	4	66	0	16	3	65	7	131
02:00		1	26			0	18				
02:15		0	25			0	22				
02:30		0	22			1	31				
02:45		1	20	2	93	1	28	2	99	4	192
03:00		1	22			1	24				
03:15		0	24			0	15				
03:30		0	18			1	24				
03:45		1	24	2	88	0	28	2	91	4	179
04:00		1	20			1	28				
04:15		0	31			2	**32**				
04:30		3	26			6	**28**				
04:45		5	**24**	9	101	3	**42**	12	130	21	231
05:00		3	**18**			4	**44**				
05:15		3	**28**			2	25				
05:30		10	**42**			6	18				
05:45		8	20	24	108	11	27	23	114	47	222
06:00		9	20			13	17				
06:15		12	14			5	13				
06:30		20	10			20	5				
06:45		**43**	8	84	52	26	8	64	43	148	95
07:00		**22**	12			30	8				
07:15		**26**	9			**43**	8				
07:30		**26**	6			**47**	5				
07:45		20	5	94	32	**40**	3	160	24	254	56
08:00		16	5			**36**	13				
08:15		22	12			36	8				
08:30		10	4			25	4				
08:45		14	7	62	28	26	7	123	32	185	60
09:00		12	10			20	4				
09:15		12	6			14	1				
09:30		12	1			22	1				
09:45		8	1	44	18	16	0	72	6	116	24
10:00		10	3			11	1				
10:15		8	2			12	5				
10:30		12	5			22	2				
10:45		9	3	39	13	14	4	59	12	98	25
11:00		16	1			14	1				
11:15		22	0			18	0				
11:30		18	2			22	1				
11:45		16	3	72	6	19	3	73	5	145	11
Total		437	667	437	667	595	679	595	679	1032	1346
Combined Total		1104		1104		1274		1274		2378	
AM Peak	-	06:45	-	-	-	07:15	-	-	-	-	-
Vol.	-	117	-	-	-	166	-	-	-	-	-
P.H.F.		0.680				0.883					
PM Peak	-	-	04:45	-	-	-	04:15	-	-	-	-
Vol.	-	-	112	-	-	-	146	-	-	-	-
P.H.F.			0.667				0.830				
Percentage		39.6%	60.4%			46.7%	53.3%				
ADT/AADT		ADT 2,378		AADT 2,378							

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City of Fresno
Belmont Avenue
E/ Marks Avenue
24 Hour Directional Volume Count

FSO037
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		6	64			2	37				
12:15		3	52			5	63				
12:30		4	38			2	50				
12:45		4	40	17	194	1	43	10	193	27	387
01:00		1	51			0	32				
01:15		5	33			0	**59**				
01:30		3	68			2	**49**				
01:45		0	53	9	205	1	**66**	3	206	12	411
02:00		0	49			2	**48**				
02:15		0	42			2	49				
02:30		1	61			0	32				
02:45		1	52	2	204	2	39	6	168	8	372
03:00		2	59			1	43				
03:15		0	55			2	51				
03:30		1	62			3	41				
03:45		2	67	5	243	3	67	9	202	14	445
04:00		0	**74**			2	55				
04:15		6	**56**			3	53				
04:30		5	**73**			7	42				
04:45		8	**76**	19	279	6	61	18	211	37	490
05:00		3	63			8	50				
05:15		9	49			10	45				
05:30		29	36			8	30				
05:45		19	32	60	180	17	41	43	166	103	346
06:00		19	28			30	31				
06:15		29	30			30	21				
06:30		54	23			36	23				
06:45		**54**	20	156	101	15	18	111	93	267	194
07:00		**50**	14			26	13				
07:15		**82**	12			26	20				
07:30		**72**	13			27	16				
07:45		49	12	253	51	37	19	116	68	369	119
08:00		40	12			18	15				
08:15		46	14			36	11				
08:30		51	7			21	14				
08:45		29	6	166	39	26	16	101	56	267	95
09:00		48	4			31	5				
09:15		28	6			28	11				
09:30		39	5			28	6				
09:45		47	6	162	21	34	7	121	29	283	50
10:00		30	9			37	8				
10:15		42	2			30	6				
10:30		32	4			32	2				
10:45		43	7	147	22	38	5	137	21	284	43
11:00		32	3			**32**	5				
11:15		36	2			**47**	8				
11:30		56	4			**29**	4				
11:45		53	2	177	11	**49**	2	157	19	334	30
Total		1173	1550	1173	1550	832	1432	832	1432	2005	2982
Combined Total		2723		2723		2264		2264		4987	
AM Peak	-	06:45	-	-	-	11:00	-	-	-	-	-
Vol.	-	258	-	-	-	157	-	-	-	-	-
P.H.F.		0.787				0.801					
PM Peak	-	-	04:00	-	-	-	01:15	-	-	-	-
Vol.	-	-	279	-	-	-	222	-	-	-	-
P.H.F.			0.918				0.841				
Percentage		43.1%	56.9%			36.7%	63.3%				
ADT/AADT		ADT 4,987		AADT 4,987							

Counts Unlimited, Inc.

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City of Fresno
Belmont Avenue
W/ Fresno Street
24 Hour Directional Volume Count

FSO038
Site Code: 003-19024

Start Time	1/24/2019 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		17	128			11	83				
12:15		12	106			11	126				
12:30		10	81			6	111				
12:45		10	98	49	413	5	143	33	463	82	876
01:00		9	103			6	93				
01:15		9	120			7	118				
01:30		4	90			8	112				
01:45		4	115	26	428	6	123	27	446	53	874
02:00		7	125			6	123				
02:15		5	108			8	100				
02:30		10	113			5	102				
02:45		2	102	24	448	4	146	23	471	47	919
03:00		4	111			3	121				
03:15		3	132			4	121				
03:30		6	122			8	129				
03:45		5	113	18	478	5	135	20	506	38	984
04:00		5	139			3	110				
04:15		3	153			8	117				
04:30		7	109			12	135				
04:45		5	**147**	20	548	18	**132**	41	494	61	1042
05:00		9	**167**			13	**134**				
05:15		19	**140**			15	**150**				
05:30		30	**140**			41	**140**				
05:45		28	117	86	564	34	108	103	532	189	1096
06:00		34	116			23	105				
06:15		29	91			38	104				
06:30		43	83			32	69				
06:45		40	61	146	351	47	90	140	368	286	719
07:00		38	61			46	89				
07:15		42	65			53	60				
07:30		75	65			**80**	60				
07:45		79	68	234	259	**114**	67	293	276	527	535
08:00		99	45			**126**	44				
08:15		75	67			**98**	57				
08:30		81	57			79	51				
08:45		81	50	336	219	79	60	382	212	718	431
09:00		97	48			82	53				
09:15		66	43			71	59				
09:30		71	47			85	51				
09:45		78	34	312	172	84	39	322	202	634	374
10:00		85	42			80	39				
10:15		84	21			69	25				
10:30		67	27			71	24				
10:45		86	23	322	113	81	22	301	110	623	223
11:00		**73**	23			77	22				
11:15		**75**	20			98	17				
11:30		**121**	13			101	27				
11:45		**108**	5	377	61	97	18	373	84	750	145
Total		1950	4054	1950	4054	2058	4164	2058	4164	4008	8218
Combined Total		6004		6004		6222		6222		12226	
AM Peak	-	11:00	-	-	-	07:30	-	-	-	-	-
Vol.	-	377	-	-	-	418	-	-	-	-	-
P.H.F.		0.779				0.829					
PM Peak	-	-	04:45	-	-	-	04:45	-	-	-	-
Vol.	-	-	594	-	-	-	556	-	-	-	-
P.H.F.			0.889				0.927				
Percentage		32.5%	67.5%			33.1%	66.9%				
ADT/AADT		ADT 12,226		AADT 12,226							

Counts Unlimited, Inc.

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City of Fresno
Belmont Avenue
E/ De Wolf Avenue
24 Hour Directional Volume Count

FSO039
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		0	34			0	26				
12:15		0	28			0	31				
12:30		2	35			0	26				
12:45		2	37	4	134	1	39	1	122	5	256
01:00		1	32			2	24				
01:15		0	44			0	40				
01:30		0	34			0	46				
01:45		1	30	2	140	1	40	3	150	5	290
02:00		0	36			1	34				
02:15		0	42			0	30				
02:30		0	46			1	35				
02:45		1	28	1	152	2	48	4	147	5	299
03:00		0	31			0	40				
03:15		3	38			1	39				
03:30		0	39			0	42				
03:45		1	39	4	147	0	36	1	157	5	304
04:00		0	50			0	42				
04:15		1	56			1	44				
04:30		2	62			0	44				
04:45		4	**60**	7	228	16	**54**	17	184	24	412
05:00		2	**60**			8	**41**				
05:15		5	**73**			5	**58**				
05:30		6	**66**			8	**47**				
05:45		10	44	23	243	19	31	40	177	63	420
06:00		9	42			20	31				
06:15		21	27			22	32				
06:30		24	22			40	17				
06:45		36	34	90	125	40	22	122	102	212	227
07:00		32	44			**68**	12				
07:15		**32**	18			**95**	10				
07:30		**52**	21			**82**	6				
07:45		**48**	17	164	100	**90**	14	335	42	499	142
08:00		**48**	10			62	11				
08:15		30	16			56	7				
08:30		33	15			42	12				
08:45		28	8	139	49	36	8	196	38	335	87
09:00		24	15			28	14				
09:15		28	9			22	6				
09:30		24	8			27	4				
09:45		32	4	108	36	39	3	116	27	224	63
10:00		16	7			26	10				
10:15		23	5			13	1				
10:30		22	7			28	4				
10:45		30	5	91	24	28	4	95	19	186	43
11:00		40	3			38	2				
11:15		23	3			32	0				
11:30		14	3			28	0				
11:45		35	4	112	13	32	1	130	3	242	16
Total		745	1391	745	1391	1060	1168	1060	1168	1805	2559
Combined Total		2136		2136		2228		2228		4364	
AM Peak	-	07:15	-	-	-	07:00	-	-	-	-	-
Vol.	-	180	-	-	-	335	-	-	-	-	-
P.H.F.		0.865				0.882					
PM Peak	-	-	04:45	-	-	-	04:45	-	-	-	-
Vol.	-	-	259	-	-	-	200	-	-	-	-
P.H.F.			0.887				0.862				
Percentage		34.9%	65.1%			47.6%	52.4%				
ADT/AADT		ADT 4,364		AADT 4,364							

Counts Unlimited, Inc.

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City of Fresno
Fresno Street
E/ State Route 99
24 Hour Directional Volume Count

FSO040
Site Code: 003-19024

Start Time	1/24/2019 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		17	131			17	170				
12:15		11	134			12	146				
12:30		7	152			13	151				
12:45		10	**178**	45	595	8	157	50	624	95	1219
01:00		8	**158**			11	152				
01:15		12	**158**			2	149				
01:30		9	**166**			4	157				
01:45		6	142	35	624	20	172	37	630	72	1254
02:00		4	113			6	139				
02:15		8	111			12	158				
02:30		7	136			11	168				
02:45		7	142	26	502	9	188	38	653	64	1155
03:00		5	141			6	171				
03:15		7	169			11	178				
03:30		7	159			8	172				
03:45		11	128	30	597	5	192	30	713	60	1310
04:00		6	114			3	179				
04:15		9	135			7	**226**				
04:30		13	136			21	**220**				
04:45		26	168	54	553	12	**285**	43	910	97	1463
05:00		39	144			14	**228**				
05:15		39	153			17	188				
05:30		42	115			28	152				
05:45		65	119	185	531	52	132	111	700	296	1231
06:00		31	78			48	93				
06:15		48	74			37	83				
06:30		84	61			38	72				
06:45		119	74	282	287	44	84	167	332	449	619
07:00		126	82			64	69				
07:15		145	72			72	73				
07:30		**184**	68			81	61				
07:45		**287**	61	742	283	84	68	301	271	1043	554
08:00		**209**	49			77	53				
08:15		**202**	49			74	68				
08:30		140	44			99	55				
08:45		144	42	695	184	85	58	335	234	1030	418
09:00		136	41			86	51				
09:15		127	34			99	26				
09:30		147	28			121	25				
09:45		146	26	556	129	120	41	426	143	982	272
10:00		127	40			112	26				
10:15		147	26			158	33				
10:30		123	36			137	25				
10:45		122	26	519	128	125	26	532	110	1051	238
11:00		122	20			**139**	28				
11:15		123	14			**167**	29				
11:30		154	16			**168**	19				
11:45		137	13	536	63	**158**	15	632	91	1168	154
Total		3705	4476	3705	4476	2702	5411	2702	5411	6407	9887
Combined Total		8181		8181		8113		8113		16294	
AM Peak	-	07:30	-	-	-	11:00	-	-	-	-	-
Vol.	-	882	-	-	-	632	-	-	-	-	-
P.H.F.		0.768				0.940					
PM Peak	-	-	00:45	-	-	-	04:15	-	-	-	-
Vol.	-	-	660	-	-	-	959	-	-	-	-
P.H.F.			0.927				0.841				
Percentage		45.3%	54.7%			33.3%	66.7%				
ADT/AADT		ADT 16,294		AADT 16,294							

Counts Unlimited, Inc.

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City of Fresno
Tulare Street
E/ H Street
24 Hour Directional Volume Count

FSO041
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		0	33			0	**44**				
12:15		1	**33**			1	**40**				
12:30		0	**35**			0	**34**				
12:45		0	**28**	1	129	1	**39**	2	157	3	286
01:00		1	**36**			1	32				
01:15		1	33			2	27				
01:30		0	27			0	36				
01:45		0	33	2	129	1	34	4	129	6	258
02:00		2	27			0	35				
02:15		2	32			0	23				
02:30		0	22			0	40				
02:45		0	23	4	104	1	23	1	121	5	225
03:00		1	18			0	27				
03:15		0	27			2	29				
03:30		2	38			0	40				
03:45		2	36	5	119	1	36	3	132	8	251
04:00		1	28			1	38				
04:15		2	25			0	34				
04:30		1	30			2	31				
04:45		1	34	5	117	1	26	4	129	9	246
05:00		1	34			0	49				
05:15		2	25			3	44				
05:30		8	13			2	14				
05:45		11	17	22	89	2	20	7	127	29	216
06:00		6	9			4	14				
06:15		14	7			10	7				
06:30		22	12			13	8				
06:45		15	9	57	37	10	7	37	36	94	73
07:00		28	3			8	6				
07:15		37	10			18	6				
07:30		**48**	2			25	15				
07:45		**53**	15	166	30	**32**	4	83	31	249	61
08:00		**58**	7			**43**	4				
08:15		**48**	4			**52**	7				
08:30		34	8			**44**	3				
08:45		18	0	158	19	17	4	156	18	314	37
09:00		22	5			32	9				
09:15		14	4			22	4				
09:30		20	2			30	4				
09:45		22	4	78	15	27	2	111	19	189	34
10:00		31	2			28	3				
10:15		38	3			24	4				
10:30		23	1			22	0				
10:45		35	2	127	8	27	3	101	10	228	18
11:00		30	2			37	0				
11:15		38	3			41	1				
11:30		46	3			28	3				
11:45		28	3	142	11	45	1	151	5	293	16
Total		767	807	767	807	660	914	660	914	1427	1721
Combined Total		1574		1574		1574		1574		3148	
AM Peak	-	07:30	-	-	-	07:45	-	-	-	-	-
Vol.	-	207	-	-	-	171	-	-	-	-	-
P.H.F.		0.892				0.822					
PM Peak	-	-	00:15	-	-	-	12:00	-	-	-	-
Vol.	-	-	132	-	-	-	157	-	-	-	-
P.H.F.			0.917				0.892				
Percentage		48.7%	51.3%			41.9%	58.1%				
ADT/AADT		ADT 3,148		AADT 3,148							

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City of Fresno
Tulare Street
E/ Van Ness Avenue
24 Hour Directional Volume Count

FSO042
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		0	61			4	**87**				
12:15		1	**62**			5	**95**				
12:30		1	**71**			5	**75**				
12:45		1	**54**	3	248	5	**73**	19	330	22	578
01:00		4	**64**			4	74				
01:15		0	54			1	60				
01:30		1	48			3	91				
01:45		0	71	5	237	0	71	8	296	13	533
02:00		2	48			1	79				
02:15		3	53			5	79				
02:30		2	53			4	81				
02:45		1	37	8	191	1	74	11	313	19	504
03:00		3	42			3	55				
03:15		1	53			4	69				
03:30		2	60			5	82				
03:45		3	63	9	218	3	71	15	277	24	495
04:00		1	47			2	75				
04:15		3	56			2	57				
04:30		1	51			4	64				
04:45		0	49	5	203	3	77	11	273	16	476
05:00		3	37			5	99				
05:15		2	43			8	46				
05:30		3	31			7	28				
05:45		9	24	17	135	14	38	34	211	51	346
06:00		5	28			14	39				
06:15		9	25			15	22				
06:30		16	16			28	36				
06:45		27	13	57	82	24	26	81	123	138	205
07:00		33	20			37	30				
07:15		37	12			62	25				
07:30		45	15			72	29				
07:45		59	22	174	69	**90**	18	261	102	435	171
08:00		79	12			**97**	13				
08:15		46	11			**115**	16				
08:30		55	13			**99**	10				
08:45		35	6	215	42	87	12	398	51	613	93
09:00		46	13			87	15				
09:15		34	9			72	13				
09:30		24	10			67	15				
09:45		43	5	147	37	76	9	302	52	449	89
10:00		58	8			74	12				
10:15		51	3			56	8				
10:30		55	7			76	10				
10:45		51	4	215	22	80	9	286	39	501	61
11:00		**60**	2			78	14				
11:15		**63**	6			104	9				
11:30		**73**	5			67	14				
11:45		**55**	9	251	22	91	4	340	41	591	63
Total		1106	1506	1106	1506	1766	2108	1766	2108	2872	3614
Combined Total		2612		2612		3874		3874		6486	
AM Peak	-	11:00	-	-	-	07:45	-	-	-	-	-
Vol.	-	251	-	-	-	401	-	-	-	-	-
P.H.F.		0.860				0.872					
PM Peak	-	-	00:15	-	-	-	12:00	-	-	-	-
Vol.	-	-	251	-	-	-	330	-	-	-	-
P.H.F.			0.884				0.868				
Percentage		42.3%	57.7%			45.6%	54.4%				
ADT/AADT		ADT 6,486		AADT 6,486							

Counts Unlimited, Inc.

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City of Fresno
Ventura Street
E/ State Route 99
24 Hour Directional Volume Count

FSO043
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		6	103			23	126				
12:15		10	106			17	115				
12:30		6	126			10	120				
12:45		8	115	30	450	12	133	62	494	92	944
01:00		14	88			10	130				
01:15		12	118			12	161				
01:30		7	131			11	149				
01:45		13	108	46	445	9	132	42	572	88	1017
02:00		9	112			11	157				
02:15		2	113			10	142				
02:30		7	150			10	167				
02:45		6	127	24	502	15	176	46	642	70	1144
03:00		10	119			13	156				
03:15		8	118			15	97				
03:30		11	131			9	240				
03:45		8	140	37	508	16	159	53	652	90	1160
04:00		17	133			12	170				
04:15		26	**137**			8	**203**				
04:30		42	**143**			12	**219**				
04:45		19	**152**	104	565	28	**227**	60	819	164	1384
05:00		22	**144**			22	**202**				
05:15		40	133			25	131				
05:30		52	91			31	149				
05:45		30	86	144	454	42	123	120	605	264	1059
06:00		61	70			41	95				
06:15		91	85			54	110				
06:30		102	54			48	79				
06:45		93	58	347	267	80	84	223	368	570	635
07:00		**143**	46			124	89				
07:15		**192**	63			125	63				
07:30		**181**	49			103	75				
07:45		**158**	32	674	190	113	54	465	281	1139	471
08:00		111	37			102	62				
08:15		149	30			111	59				
08:30		102	40			77	49				
08:45		100	29	462	136	97	68	387	238	849	374
09:00		90	17			94	43				
09:15		76	34			110	39				
09:30		121	29			108	41				
09:45		94	19	381	99	115	44	427	167	808	266
10:00		125	31			107	36				
10:15		103	18			115	30				
10:30		112	14			113	29				
10:45		93	8	433	71	101	27	436	122	869	193
11:00		97	20			**122**	18				
11:15		92	13			**140**	28				
11:30		110	14			**132**	21				
11:45		115	7	414	54	**129**	20	523	87	937	141
Total		3096	3741	3096	3741	2844	5047	2844	5047	5940	8788
Combined Total		6837		6837		7891		7891		14728	
AM Peak	-	07:00	-	-	-	11:00	-	-	-	-	-
Vol.	-	674	-	-	-	523	-	-	-	-	-
P.H.F.		0.878				0.934					
PM Peak	-	-	04:15	-	-	-	04:15	-	-	-	-
Vol.	-	-	576	-	-	-	851	-	-	-	-
P.H.F.			0.947				0.937				
Percentage		45.3%	54.7%			36.0%	64.0%				
ADT/AADT		ADT 14,728		AADT 14,728							

Counts Unlimited, Inc.

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City of Fresno
Ventura Street
W/ Broadway Street
24 Hour Directional Volume Count

FSO044
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		14	130			13	152				
12:15		11	123			17	126				
12:30		6	119			13	114				
12:45		8	134	39	506	11	114	54	506	93	1012
01:00		3	131			14	151				
01:15		7	116			4	123				
01:30		14	132			8	139				
01:45		4	141	28	520	8	133	34	546	62	1066
02:00		7	125			6	148				
02:15		10	92			2	150				
02:30		6	135			9	140				
02:45		4	134	27	486	8	157	25	595	52	1081
03:00		3	154			6	162				
03:15		6	117			7	163				
03:30		4	89			5	124				
03:45		6	151	19	511	5	181	23	630	42	1141
04:00		9	149			11	149				
04:15		18	**148**			10	161				
04:30		10	**151**			7	157				
04:45		25	**152**	62	600	10	**211**	38	678	100	1278
05:00		20	**167**			18	**225**				
05:15		21	148			23	**177**				
05:30		23	136			16	**180**				
05:45		42	138	106	589	34	127	91	709	197	1298
06:00		32	101			35	106				
06:15		42	74			40	126				
06:30		71	92			47	90				
06:45		79	56	224	323	59	85	181	407	405	730
07:00		89	64			60	81				
07:15		113	57			102	82				
07:30		**179**	60			119	81				
07:45		**193**	61	574	242	116	62	397	306	971	548
08:00		**159**	51			109	55				
08:15		**125**	34			123	59				
08:30		133	49			107	56				
08:45		122	34	539	168	79	52	418	222	957	390
09:00		92	35			95	49				
09:15		108	25			96	49				
09:30		96	34			113	31				
09:45		114	23	410	117	115	32	419	161	829	278
10:00		109	20			120	33				
10:15		95	25			111	37				
10:30		114	15			107	22				
10:45		130	10	448	70	123	33	461	125	909	195
11:00		117	18			**119**	23				
11:15		92	12			**114**	19				
11:30		129	14			**144**	19				
11:45		118	11	456	55	**134**	19	511	80	967	135
Total		2932	4187	2932	4187	2652	4965	2652	4965	5584	9152
Combined Total		7119		7119		7617		7617		14736	
AM Peak	-	07:30	-	-	-	11:00	-	-	-	-	-
Vol.	-	656	-	-	-	511	-	-	-	-	-
P.H.F.		0.850				0.887					
PM Peak	-	-	04:15	-	-	-	04:45	-	-	-	-
Vol.	-	-	618	-	-	-	793	-	-	-	-
P.H.F.			0.925				0.881				
Percentage		41.2%	58.8%			34.8%	65.2%				
ADT/AADT		ADT 14,736		AADT 14,736							

Counts Unlimited, Inc.

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City of Fresno
Ventura Street
E/ Van Ness Avenue
24 Hour Directional Volume Count

FSO045
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		9	103			5	96				
12:15		8	116			11	83				
12:30		10	125			3	112				
12:45		4	114	31	458	8	121	27	412	58	870
01:00		12	129			6	110				
01:15		2	116			2	127				
01:30		2	107			5	88				
01:45		6	108	22	460	5	111	18	436	40	896
02:00		6	102			4	107				
02:15		3	84			3	108				
02:30		2	122			1	111				
02:45		5	116	16	424	5	128	13	454	29	878
03:00		4	129			4	129				
03:15		2	95			3	174				
03:30		9	**144**			3	110				
03:45		2	**135**	17	503	4	119	14	532	31	1035
04:00		11	**129**			3	**116**				
04:15		12	**123**			7	**150**				
04:30		15	132			8	**151**				
04:45		12	134	50	518	10	**194**	28	611	78	1129
05:00		16	134			14	115				
05:15		30	119			19	99				
05:30		31	99			25	93				
05:45		25	86	102	438	22	85	80	392	182	830
06:00		39	62			33	71				
06:15		68	68			32	61				
06:30		91	47			45	43				
06:45		65	55	263	232	49	64	159	239	422	471
07:00		112	45			54	63				
07:15		**170**	39			77	54				
07:30		**211**	46			84	48				
07:45		**139**	35	632	165	106	38	321	203	953	368
08:00		**126**	37			73	37				
08:15		117	48			81	39				
08:30		117	31			70	25				
08:45		93	22	453	138	82	43	306	144	759	282
09:00		94	17			70	25				
09:15		104	34			88	26				
09:30		160	21			88	19				
09:45		148	23	506	95	76	17	322	87	828	182
10:00		101	18			83	28				
10:15		102	9			68	17				
10:30		113	15			96	17				
10:45		98	13	414	55	92	20	339	82	753	137
11:00		109	12			**98**	6				
11:15		107	14			**149**	13				
11:30		121	8			**118**	11				
11:45		109	8	446	42	**107**	14	472	44	918	86
Total		2952	3528	2952	3528	2099	3636	2099	3636	5051	7164
Combined Total		6480		6480		5735		5735		12215	
AM Peak	-	07:15	-	-	-	11:00	-	-	-	-	-
Vol.	-	646	-	-	-	472	-	-	-	-	-
P.H.F.		0.765				0.792					
PM Peak	-	-	03:30	-	-	-	04:00	-	-	-	-
Vol.	-	-	531	-	-	-	611	-	-	-	-
P.H.F.			0.922				0.787				
Percentage		45.6%	54.4%			36.6%	63.4%				
ADT/AADT		ADT 12,215		AADT 12,215							

Counts Unlimited, Inc.

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City of Fresno
California Avenue
S/ West Avenue
24 Hour Directional Volume Count

FSO046
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		8	19			3	25				
12:15		7	22			6	18				
12:30		2	20			0	22				
12:45		2	25	19	86	0	16	9	81	28	167
01:00		1	14			0	29				
01:15		0	25			0	32				
01:30		0	26			2	25				
01:45		0	31	1	96	1	26	3	112	4	208
02:00		0	14			3	21				
02:15		0	31			1	33				
02:30		0	30			2	28				
02:45		1	18	1	93	2	41	8	123	9	216
03:00		0	20			1	33				
03:15		1	30			1	16				
03:30		1	38			3	30				
03:45		0	28	2	116	1	32	6	111	8	227
04:00		5	25			1	33				
04:15		3	**39**			4	**48**				
04:30		5	**33**			2	**46**				
04:45		1	**31**	14	128	3	**42**	10	169	24	297
05:00		2	**30**			8	**50**				
05:15		5	29			13	27				
05:30		8	22			12	25				
05:45		4	16	19	97	23	25	56	127	75	224
06:00		4	25			25	21				
06:15		19	13			24	12				
06:30		17	24			14	9				
06:45		18	14	58	76	19	9	82	51	140	127
07:00		28	5			24	16				
07:15		**47**	10			**31**	20				
07:30		**39**	7			**39**	14				
07:45		**29**	11	143	33	**35**	15	129	65	272	98
08:00		**37**	6			**29**	4				
08:15		19	7			31	12				
08:30		35	9			13	7				
08:45		21	6	112	28	11	15	84	38	196	66
09:00		15	6			14	6				
09:15		17	6			19	6				
09:30		16	5			24	11				
09:45		14	10	62	27	14	7	71	30	133	57
10:00		14	6			17	7				
10:15		15	8			19	5				
10:30		11	1			16	7				
10:45		18	4	58	19	28	1	80	20	138	39
11:00		19	7			28	2				
11:15		23	1			21	6				
11:30		21	7			21	3				
11:45		16	7	79	22	18	2	88	13	167	35
Total		568	821	568	821	626	940	626	940	1194	1761
Combined Total		1389		1389		1566		1566		2955	
AM Peak	-	07:15	-	-	-	07:15	-	-	-	-	-
Vol.	-	152	-	-	-	134	-	-	-	-	-
P.H.F.		0.809				0.859					
PM Peak	-	-	04:15	-	-	-	04:15	-	-	-	-
Vol.	-	-	133	-	-	-	186	-	-	-	-
P.H.F.			0.853				0.930				
Percentage		40.9%	59.1%			40.0%	60.0%				
ADT/AADT		ADT 2,955		AADT 2,955							

Counts Unlimited, Inc.

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City of Fresno
Fresno Street
N/ California Avenue
24 Hour Directional Volume Count

FSO047
Site Code: 003-19024

Start	1/24/2019	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		11	37			15	53				
12:15		19	43			16	45				
12:30		9	48			4	33				
12:45		7	39	46	167	1	45	36	176	82	343
01:00		12	32			2	45				
01:15		7	38			0	34				
01:30		2	28			3	44				
01:45		2	33	23	131	3	40	8	163	31	294
02:00		3	39			3	42				
02:15		2	46			1	40				
02:30		3	27			3	58				
02:45		0	51	8	163	1	56	8	196	16	359
03:00		1	44			0	63				
03:15		1	37			3	37				
03:30		7	**53**			2	**66**				
03:45		3	**42**	12	176	5	**57**	10	223	22	399
04:00		2	**49**			8	**39**				
04:15		9	**48**			5	**65**				
04:30		11	51			6	41				
04:45		10	39	32	187	5	51	24	196	56	383
05:00		8	14			8	52				
05:15		16	0			9	49				
05:30		11	0			22	48				
05:45		9	27	44	41	14	35	53	184	97	225
06:00		17	28			25	54				
06:15		27	27			23	45				
06:30		22	26			26	34				
06:45		31	29	97	110	20	27	94	160	191	270
07:00		**40**	36			20	29				
07:15		**49**	39			37	21				
07:30		**49**	20			54	18				
07:45		**33**	18	171	113	52	19	163	87	334	200
08:00		36	16			32	26				
08:15		38	13			**53**	21				
08:30		29	11			**50**	11				
08:45		35	10	138	50	**56**	24	191	82	329	132
09:00		26	11			**37**	31				
09:15		42	20			27	23				
09:30		46	14			38	26				
09:45		40	19	154	64	25	20	127	100	281	164
10:00		33	10			23	16				
10:15		35	5			29	15				
10:30		25	5			25	12				
10:45		32	3	125	23	32	11	109	54	234	77
11:00		40	1			30	7				
11:15		38	5			34	14				
11:30		33	7			38	20				
11:45		26	12	137	25	46	17	148	58	285	83
Total		987	1250	987	1250	971	1679	971	1679	1958	2929
Combined Total		2237		2237		2650		2650		4887	
AM Peak	-	07:00	-	-	-	08:15	-	-	-	-	-
Vol.	-	171	-	-	-	196	-	-	-	-	-
P.H.F.		0.872				0.875					
PM Peak	-	-	03:30	-	-	-	03:30	-	-	-	-
Vol.	-	-	192	-	-	-	227	-	-	-	-
P.H.F.			0.906				0.860				
Percentage		44.1%	55.9%			36.6%	63.4%				
ADT/AADT		ADT 4,887		AADT 4,887							

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Station ID: Mini-Tubes: 7-day
Church E/O Marks
SIN#: 1619
Date Start: 29-Jan-18
Date End: 04-Feb-18

Volume Report

Start	29-Jan-18		Tue		Wed		Thu		Fri		Weekday Average		Sat		Sun	
Time	East Bound	West Bound	East Bound	West Bound	East Bound	West Bound	East Bound	West Bound	East Bound	West Bound	East Bound	West Bound	East Bound	West Bound	East Bound	West Bound
12:00 AM	18	3	15	5	17	4	22	13	16	5	18	6	17	8	7	8
01:00	7	5	6	4	5	5	5	16	4	6	5	7	3	19	4	2
02:00	2	3	3	4	3	4	4	8	1	1	3	4	1	4	3	1
03:00	4	3	5	4	6	1	3	2	5	3	5	3	4	5	2	2
04:00	5	1	5	4	3	4	7	4	6	4	5	3	5	9	2	0
05:00	13	11	10	9	11	11	16	14	18	13	14	12	6	3	2	5
06:00	28	25	25	36	36	23	39	36	35	27	33	29	13	27	6	3
07:00	55	44	**61**	47	46	39	48	42	50	44	52	43	17	28	6	10
08:00	**58**	35	52	26	47	36	**62**	**44**	**71**	44	**58**	37	30	29	16	19
09:00	47	**51**	40	**49**	**54**	**48**	47	36	60	**51**	50	**47**	28	23	40	26
10:00	41	38	28	38	34	38	32	35	28	36	33	37	**51**	31	46	**36**
11:00	42	35	48	40	39	35	34	21	45	42	42	35	32	**44**	**55**	29
12:00 PM	31	26	31	38	41	34	52	34	41	48	39	36	38	37	42	**62**
01:00	37	39	39	37	40	53	46	43	61	40	45	42	44	45	40	30
02:00	55	54	52	40	52	39	40	38	45	49	49	44	44	34	**43**	34
03:00	48	48	54	51	62	**65**	58	**69**	63	56	57	58	**57**	49	40	25
04:00	**74**	49	**78**	**65**	**70**	60	**77**	69	**86**	70	**77**	**63**	50	34	34	27
05:00	66	**56**	46	48	63	57	71	60	78	**73**	65	59	46	**53**	38	28
06:00	29	37	31	41	31	36	40	53	41	43	34	42	39	31	29	19
07:00	21	28	24	30	42	25	24	37	34	30	29	30	22	32	18	24
08:00	12	23	10	15	21	34	18	26	27	37	18	27	13	20	19	37
09:00	15	11	18	15	24	17	15	12	34	23	21	16	18	22	15	17
10:00	16	8	7	8	11	16	13	12	15	12	12	11	13	10	11	11
11:00	10	8	14	8	12	3	10	4	10	16	11	8	12	7	8	5
Total	734	641	702	662	770	687	783	728	874	773	775	699	603	604	526	460
Day	1375		1364		1457		1511		1647		1474		1207		986	
AM Peak	08:00	09:00	07:00	09:00	09:00	09:00	08:00	08:00	08:00	09:00	08:00	09:00	10:00	11:00	11:00	10:00
Vol.	58	51	61	49	54	48	62	44	71	51	58	47	51	44	55	36
PM Peak	16:00	17:00	16:00	16:00	16:00	15:00	16:00	15:00	16:00	17:00	16:00	16:00	15:00	17:00	14:00	12:00
Vol.	74	56	78	65	70	65	77	69	86	73	77	63	57	53	43	62

Comb. Total	1375	1364	1457	1511	1647	1474	1207	986

ADT 1,364 AADT 1,364

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Site Code: UID#: CO24
Station ID: Mini-Tubes: 48-hour
Church E-O Cedar
SIN#: 1604
Date Start: 1/29/2019
Date End: 1/30/2019

Volume Report

Start	1/28/2019		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	West Boun	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou
12:00 AM	*	*	47	40	38	36	*	*	*	*	*	*	*	*	42	38
01:00	*	*	24	8	21	14	*	*	*	*	*	*	*	*	22	11
02:00	*	*	20	24	16	29	*	*	*	*	*	*	*	*	18	26
03:00	*	*	14	30	16	23	*	*	*	*	*	*	*	*	15	26
04:00	*	*	17	66	19	61	*	*	*	*	*	*	*	*	18	64
05:00	*	*	54	131	54	165	*	*	*	*	*	*	*	*	54	148
06:00	*	*	79	209	90	206	*	*	*	*	*	*	*	*	84	208
07:00	*	*	216	**431**	**251**	**477**	*	*	*	*	*	*	*	*	234	**454**
08:00	*	*	230	358	236	327	*	*	*	*	*	*	*	*	233	342
09:00	*	*	217	227	197	197	*	*	*	*	*	*	*	*	207	212
10:00	*	*	235	211	230	201	*	*	*	*	*	*	*	*	232	206
11:00	*	*	**248**	250	245	252	*	*	*	*	*	*	*	*	**246**	251
12:00 PM	*	*	304	245	321	229	*	*	*	*	*	*	*	*	312	237
01:00	*	*	286	270	306	270	*	*	*	*	*	*	*	*	296	270
02:00	*	*	379	315	379	313	*	*	*	*	*	*	*	*	379	314
03:00	*	*	426	356	413	344	*	*	*	*	*	*	*	*	420	350
04:00	*	*	475	**370**	**523**	**352**	*	*	*	*	*	*	*	*	**499**	**361**
05:00	*	*	**502**	265	490	329	*	*	*	*	*	*	*	*	496	297
06:00	*	*	315	277	346	289	*	*	*	*	*	*	*	*	330	283
07:00	*	*	222	196	239	198	*	*	*	*	*	*	*	*	230	197
08:00	*	*	172	148	174	174	*	*	*	*	*	*	*	*	173	161
09:00	*	*	93	100	79	102	*	*	*	*	*	*	*	*	86	101
10:00	*	*	78	67	72	63	*	*	*	*	*	*	*	*	75	65
11:00	*	*	55	40	51	34	*	*	*	*	*	*	*	*	53	37
Lane	0	0	4708	4634	4806	4685	0	0	0	0	0	0	0	0	4754	4659
Day	0		9342		9491		0		0		0		0		9413	
AM Peak	-	-	11:00	07:00	07:00	07:00	-	-	-	-	-	-	-	-	11:00	07:00
Vol.	-	-	248	431	251	477	-	-	-	-	-	-	-	-	246	454
PM Peak	-	-	17:00	16:00	16:00	16:00	-	-	-	-	-	-	-	-	16:00	16:00
Vol.	-	-	502	370	523	352	-	-	-	-	-	-	-	-	499	361

Comb. Total	0	9342	9491	0	0	0	0	9413

ADT ADT 9,416 AADT 9,416

Counts Unlimited, Inc.

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City of Fresno
Jensen Avenue
E/ West Avenue
24 Hour Directional Volume Count

FSO048
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		0	50			6	52				
12:15		4	46			12	48				
12:30		0	44			9	50				
12:45		0	50	4	190	1	44	28	194	32	384
01:00		4	20			2	49				
01:15		2	33			1	44				
01:30		2	56			4	69				
01:45		11	36	19	145	3	42	10	204	29	349
02:00		11	42			4	66				
02:15		4	64			4	36				
02:30		6	51			3	64				
02:45		6	84	27	241	7	47	18	213	45	454
03:00		2	56			4	38				
03:15		6	62			4	50				
03:30		6	60			6	47				
03:45		8	80	22	258	10	62	24	197	46	455
04:00		6	70			4	56				
04:15		8	**68**			3	40				
04:30		18	**88**			6	68				
04:45		20	**98**	52	324	10	**71**	23	235	75	559
05:00		14	**74**			10	**46**				
05:15		9	68			16	**74**				
05:30		34	72			54	**72**				
05:45		18	35	75	249	44	32	124	224	199	473
06:00		24	37			**52**	26				
06:15		30	26			**88**	28				
06:30		30	28			**144**	28				
06:45		39	22	123	113	**102**	24	386	106	509	219
07:00		15	18			48	20				
07:15		**36**	18			62	14				
07:30		**37**	11			51	17				
07:45		**66**	15	154	62	79	16	240	67	394	129
08:00		**67**	11			61	24				
08:15		26	9			46	20				
08:30		30	15			48	20				
08:45		26	14	149	49	44	13	199	77	348	126
09:00		28	17			47	14				
09:15		52	7			53	10				
09:30		25	15			48	8				
09:45		24	16	129	55	38	8	186	40	315	95
10:00		22	9			52	14				
10:15		18	10			47	9				
10:30		24	6			72	9				
10:45		40	8	104	33	66	8	237	40	341	73
11:00		58	5			84	6				
11:15		48	3			54	4				
11:30		34	3			44	5				
11:45		34	4	174	15	44	8	226	23	400	38
Total		1032	1734	1032	1734	1701	1620	1701	1620	2733	3354
Combined Total		2766		2766		3321		3321		6087	
AM Peak	-	07:15	-	-	-	06:00	-	-	-	-	-
Vol.	-	206	-	-	-	386	-	-	-	-	-
P.H.F.		0.769				0.670					
PM Peak	-	-	04:15	-	-	-	04:45	-	-	-	-
Vol.	-	-	328	-	-	-	263	-	-	-	-
P.H.F.			0.837				0.889				
Percentage		37.3%	62.7%			51.2%	48.8%				
ADT/AADT		ADT 6,087		AADT 6,087							

Counts Unlimited, Inc.

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City of Fresno
Jensen Avenue
E/ Walnut Avenue
24 Hour Directional Volume Count

FSO001
Site Code: 003-19024

Start Time	1/8/2019 Tue	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		15	60			26	61				
12:15		13	57			10	58				
12:30		12	55			10	52				
12:45		7	52	47	224	4	67	50	238	97	462
01:00		5	53			5	40				
01:15		12	64			4	78				
01:30		7	56			5	59				
01:45		11	57	35	230	15	51	29	228	64	458
02:00		6	62			6	65				
02:15		4	86			5	84				
02:30		5	86			10	69				
02:45		7	79	22	313	11	97	32	315	54	628
03:00		4	90			10	67				
03:15		8	71			10	86				
03:30		8	73			11	77				
03:45		14	100	34	334	14	75	45	305	79	639
04:00		11	**94**			14	**75**				
04:15		11	**87**			17	**77**				
04:30		14	**103**			14	**92**				
04:45		16	**112**	52	396	27	**93**	72	337	124	733
05:00		33	70			46	73				
05:15		39	58			46	67				
05:30		42	65			55	58				
05:45		53	52	167	245	**77**	54	224	252	391	497
06:00		29	43			**111**	48				
06:15		49	39			**117**	38				
06:30		56	35			**67**	36				
06:45		47	37	181	154	55	40	350	162	531	316
07:00		**82**	35			67	30				
07:15		**105**	29			49	36				
07:30		**118**	23			81	31				
07:45		**69**	27	374	114	74	28	271	125	645	239
08:00		55	25			73	26				
08:15		78	18			58	26				
08:30		52	25			59	30				
08:45		59	19	244	87	55	18	245	100	489	187
09:00		34	19			46	28				
09:15		78	21			60	27				
09:30		67	11			42	30				
09:45		59	21	238	72	42	24	190	109	428	181
10:00		38	22			39	22				
10:15		54	13			64	23				
10:30		49	10			46	11				
10:45		57	13	198	58	59	19	208	75	406	133
11:00		70	18			60	17				
11:15		54	8			38	17				
11:30		52	9			59	23				
11:45		46	16	222	51	54	18	211	75	433	126
Total		1814	2278	1814	2278	1927	2321	1927	2321	3741	4599
Combined Total		4092		4092		4248		4248		8340	
AM Peak	-	07:00	-	-	-	05:45	-	-	-	-	-
Vol.	-	374	-	-	-	372	-	-	-	-	-
P.H.F.		0.792				0.795					
PM Peak	-	-	04:00	-	-	-	04:00	-	-	-	-
Vol.	-	-	396	-	-	-	337	-	-	-	-
P.H.F.			0.884				0.906				
Percentage		44.3%	55.7%			45.4%	54.6%				
ADT/AADT		ADT 8,340		AADT 8,340							

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City of Fresno
Jensen Avenue Bypass
E/ Cedar Avenue
24 Hour Directional Volume Count

FSO049
Site Code: 003-19024

Start	1/23/2019	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Wed	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		28	148			25	140				
12:15		41	122			30	105				
12:30		29	144			24	133				
12:45		20	127	118	541	17	131	96	509	214	1050
01:00		24	126			9	128				
01:15		6	132			10	120				
01:30		17	119			9	160				
01:45		12	132	59	509	18	158	46	566	105	1075
02:00		25	147			9	104				
02:15		18	140			15	148				
02:30		16	180			16	148				
02:45		12	207	71	674	13	155	53	555	124	1229
03:00		30	195			23	160				
03:15		24	204			16	146				
03:30		24	197			18	150				
03:45		35	221	113	817	39	144	96	600	209	1417
04:00		24	196			34	**170**				
04:15		27	230			55	**147**				
04:30		24	**264**			55	**204**				
04:45		62	**232**	137	922	87	**152**	231	673	368	1595
05:00		45	**263**			69	164				
05:15		46	**247**			91	125				
05:30		77	198			150	121				
05:45		115	183	283	891	184	143	494	553	777	1444
06:00		81	172			118	112				
06:15		105	165			135	119				
06:30		113	132			202	93				
06:45		**190**	144	489	613	197	89	652	413	1141	1026
07:00		**143**	125			**216**	86				
07:15		**126**	92			**239**	70				
07:30		**175**	87			**286**	79				
07:45		164	109	608	413	**298**	63	1039	298	1647	711
08:00		167	84			212	52				
08:15		120	84			176	57				
08:30		121	77			188	49				
08:45		173	62	581	307	148	56	724	214	1305	521
09:00		118	74			140	45				
09:15		147	72			101	74				
09:30		106	45			129	78				
09:45		117	61	488	252	112	64	482	261	970	513
10:00		119	59			96	33				
10:15		110	65			113	27				
10:30		109	57			120	42				
10:45		112	56	450	237	109	29	438	131	888	368
11:00		133	36			113	27				
11:15		97	40			107	33				
11:30		130	38			157	42				
11:45		142	34	502	148	94	28	471	130	973	278
Total		3899	6324	3899	6324	4822	4903	4822	4903	8721	11227
Combined Total		10223		10223		9725		9725		19948	
AM Peak	-	06:45	-	-	-	07:00	-	-	-	-	-
Vol.	-	634	-	-	-	1039	-	-	-	-	-
P.H.F.		0.834				0.872					
PM Peak	-	-	04:30	-	-	-	04:00	-	-	-	-
Vol.	-	-	1006	-	-	-	673	-	-	-	-
P.H.F.			0.953				0.825				
Percentage		38.1%	61.9%			49.6%	50.4%				
ADT/AADT		ADT 19,948		AADT 19,948							

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City of Fresno
Jensen Avenue
E/ WIllow Avenue
24 Hour Directional Volume Count

FSO050
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		15	104			17	91				
12:15		21	98			15	90				
12:30		30	78			12	98				
12:45		18	91	84	371	7	98	51	377	135	748
01:00		8	81			5	107				
01:15		4	62			5	104				
01:30		4	87			8	84				
01:45		9	93	25	323	13	125	31	420	56	743
02:00		9	75			5	84				
02:15		7	103			6	116				
02:30		5	120			9	97				
02:45		13	148	34	446	8	134	28	431	62	877
03:00		15	128			8	105				
03:15		8	143			17	97				
03:30		11	118			19	113				
03:45		10	154	44	543	35	**121**	79	436	123	979
04:00		12	135			20	**132**				
04:15		20	186			28	**100**				
04:30		11	**194**			29	**132**				
04:45		13	**221**	56	736	74	117	151	481	207	1217
05:00		16	**209**			53	118				
05:15		33	**241**			62	93				
05:30		40	151			105	109				
05:45		60	118	149	719	146	106	366	426	515	1145
06:00		35	120			78	94				
06:15		75	111			111	82				
06:30		69	94			137	61				
06:45		64	91	243	416	193	58	519	295	762	711
07:00		72	77			169	52				
07:15		69	69			**212**	59				
07:30		**107**	54			**252**	49				
07:45		**81**	55	329	255	**325**	45	958	205	1287	460
08:00		**101**	44			**205**	44				
08:15		**76**	49			145	44				
08:30		67	44			119	39				
08:45		83	32	327	169	95	55	564	182	891	351
09:00		72	39			94	31				
09:15		74	44			70	49				
09:30		78	30			73	39				
09:45		87	24	311	137	87	40	324	159	635	296
10:00		68	38			85	26				
10:15		63	35			59	23				
10:30		71	43			66	28				
10:45		49	36	251	152	63	21	273	98	524	250
11:00		72	25			80	23				
11:15		61	30			65	37				
11:30		85	26			91	21				
11:45		72	27	290	108	69	22	305	103	595	211
Total		2143	4375	2143	4375	3649	3613	3649	3613	5792	7988
Combined Total		6518		6518		7262		7262		13780	
AM Peak	-	07:30	-	-	-	07:15	-	-	-	-	-
Vol.	-	365	-	-	-	994	-	-	-	-	-
P.H.F.		0.853				0.765					
PM Peak	-	-	04:30	-	-	-	03:45	-	-	-	-
Vol.	-	-	865	-	-	-	485	-	-	-	-
P.H.F.			0.897				0.919				
Percentage		32.9%	67.1%			50.2%	49.8%				
ADT/AADT		ADT 13,780		AADT 13,780							

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City of Fresno
Jensen Avenue
E/ Clovis Avenue
24 Hour Directional Volume Count

FSO051
Site Code: 003-19024

Start Time	1/23/2019 Wed	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		17	63			9	93				
12:15		20	72			8	67				
12:30		26	88			7	76				
12:45		17	80	80	303	10	80	34	316	114	619
01:00		6	86			4	98				
01:15		3	76			6	122				
01:30		3	83			8	94				
01:45		6	75	18	320	10	75	28	389	46	709
02:00		3	88			6	113				
02:15		6	102			5	93				
02:30		5	93			9	100				
02:45		6	139	20	422	10	95	30	401	50	823
03:00		15	112			8	85				
03:15		7	120			12	104				
03:30		6	111			12	116				
03:45		7	144	35	487	27	108	59	413	94	900
04:00		8	124			23	109				
04:15		9	146			17	110				
04:30		8	**159**			22	114				
04:45		16	**194**	41	623	59	99	121	432	162	1055
05:00		11	**173**			67	**102**				
05:15		30	**211**			61	**116**				
05:30		36	153			89	**137**				
05:45		51	129	128	666	129	**106**	346	461	474	1127
06:00		39	129			94	77				
06:15		56	96			99	79				
06:30		68	92			134	60				
06:45		73	73	236	390	186	59	513	275	749	665
07:00		72	65			143	52				
07:15		**74**	62			**211**	57				
07:30		**99**	48			**242**	49				
07:45		**119**	64	364	239	**230**	53	826	211	1190	450
08:00		**75**	49			**169**	44				
08:15		64	41			135	47				
08:30		75	38			89	36				
08:45		85	36	299	164	87	54	480	181	779	345
09:00		79	32			70	28				
09:15		72	43			83	42				
09:30		69	37			84	36				
09:45		75	24	295	136	81	26	318	132	613	268
10:00		66	30			77	32				
10:15		65	32			67	23				
10:30		67	23			75	22				
10:45		66	37	264	122	72	21	291	98	555	220
11:00		31	19			83	19				
11:15		75	26			67	21				
11:30		49	27			86	13				
11:45		87	21	242	93	59	10	295	63	537	156
Total		2022	3965	2022	3965	3341	3372	3341	3372	5363	7337
Combined Total		5987		5987		6713		6713		12700	
AM Peak	-	07:15	-	-	-	07:15	-	-	-	-	-
Vol.	-	367	-	-	-	852	-	-	-	-	-
P.H.F.		0.771				0.880					
PM Peak	-	-	04:30	-	-	-	05:00	-	-	-	-
Vol.	-	-	737	-	-	-	461	-	-	-	-
P.H.F.			0.873				0.841				
Percentage		33.8%	66.2%			49.8%	50.2%				
ADT/AADT		ADT 12,700		AADT 12,700							

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City of Fresno
North Avenue
W/ Elm Avenue
24 Hour Directional Volume Count

FSO052
Site Code: 003-19024

Start	1/23/2019	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Wed	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		19	42			12	36				
12:15		16	38			4	28				
12:30		10	40			6	42				
12:45		8	36	53	156	11	29	33	135	86	291
01:00		3	37			4	48				
01:15		6	51			5	58				
01:30		0	53			2	66				
01:45		6	34	15	175	5	50	16	222	31	397
02:00		14	53			5	60				
02:15		3	75			8	44				
02:30		8	80			2	60				
02:45		21	**104**	46	312	13	46	28	210	74	522
03:00		12	**113**			10	52				
03:15		11	**102**			3	**67**				
03:30		8	**88**			10	**57**				
03:45		4	67	35	370	22	**54**	45	230	80	600
04:00		10	67			**44**	**71**				
04:15		8	66			**61**	49				
04:30		15	82			**96**	61				
04:45		25	88	58	303	**75**	65	276	246	334	549
05:00		10	71			31	57				
05:15		13	57			43	59				
05:30		19	66			24	52				
05:45		28	53	70	247	32	63	130	231	200	478
06:00		26	56			20	36				
06:15		35	42			37	51				
06:30		30	24			43	31				
06:45		42	34	133	156	43	49	143	167	276	323
07:00		42	23			69	34				
07:15		55	31			63	25				
07:30		53	20			59	26				
07:45		69	11	219	85	48	26	239	111	458	196
08:00		39	30			42	28				
08:15		34	16			31	19				
08:30		43	18			40	16				
08:45		33	22	149	86	30	26	143	89	292	175
09:00		**44**	17			36	32				
09:15		**63**	17			43	23				
09:30		**61**	24			52	31				
09:45		**83**	14	251	72	31	22	162	108	413	180
10:00		41	18			46	20				
10:15		25	14			36	16				
10:30		26	10			34	15				
10:45		39	16	131	58	31	14	147	65	278	123
11:00		30	30			40	7				
11:15		46	16			24	12				
11:30		35	17			46	6				
11:45		20	21	131	84	40	11	150	36	281	120
Total		1291	2104	1291	2104	1512	1850	1512	1850	2803	3954
Combined Total		3395		3395		3362		3362		6757	
AM Peak	-	09:00	-	-	-	04:00	-	-	-	-	-
Vol.	-	251	-	-	-	276	-	-	-	-	-
P.H.F.		0.756				0.719					
PM Peak	-	-	02:45	-	-	-	03:15	-	-	-	-
Vol.	-	-	407	-	-	-	249	-	-	-	-
P.H.F.			0.900				0.877				
Percentage		38.0%	62.0%			45.0%	55.0%				
ADT/AADT		ADT 6,757		AADT 6,757							

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City of Fresno
North Avenue
W/ Golden State Boulevard
24 Hour Directional Volume Count

FSO003
Site Code: 003-19024

Start	1/8/2019	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Tue	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		12	78			5	56				
12:15		11	64			8	72				
12:30		5	74			10	56				
12:45		7	102	35	318	3	78	26	262	61	580
01:00		6	72			5	70				
01:15		14	72			4	74				
01:30		15	65			3	58				
01:45		6	60	41	269	10	75	22	277	63	546
02:00		8	85			6	88				
02:15		6	70			1	57				
02:30		7	100			3	74				
02:45		4	71	25	326	4	100	14	319	39	645
03:00		7	66			16	111				
03:15		8	46			12	27				
03:30		12	74			4	67				
03:45		10	76	37	262	11	**79**	43	284	80	546
04:00		7	86			12	**93**				
04:15		9	**81**			9	**108**				
04:30		34	**116**			22	**88**				
04:45		23	**86**	73	369	29	66	72	355	145	724
05:00		20	**101**			28	85				
05:15		29	69			34	81				
05:30		28	49			36	70				
05:45		29	40	106	259	26	44	124	280	230	539
06:00		33	45			18	61				
06:15		38	32			51	33				
06:30		50	32			56	29				
06:45		**83**	24	204	133	60	15	185	138	389	271
07:00		**46**	17			87	15				
07:15		**75**	11			**66**	28				
07:30		**85**	24			**94**	10				
07:45		66	21	272	73	**86**	15	333	68	605	141
08:00		57	17			**88**	17				
08:15		53	17			64	21				
08:30		67	13			57	20				
08:45		59	11	236	58	66	3	275	61	511	119
09:00		67	8			62	11				
09:15		61	14			61	12				
09:30		59	14			67	1				
09:45		68	6	255	42	70	8	260	32	515	74
10:00		79	8			57	7				
10:15		43	7			29	5				
10:30		78	16			70	7				
10:45		72	5	272	36	63	8	219	27	491	63
11:00		66	6			76	7				
11:15		51	7			81	5				
11:30		77	12			76	4				
11:45		66	8	260	33	64	8	297	24	557	57
Total		1816	2178	1816	2178	1870	2127	1870	2127	3686	4305
Combined Total		3994		3994		3997		3997		7991	
AM Peak	-	06:45	-	-	-	07:15	-	-	-	-	-
Vol.	-	289	-	-	-	334	-	-	-	-	-
P.H.F.		0.850				0.888					
PM Peak	-	-	04:15	-	-	-	03:45	-	-	-	-
Vol.	-	-	384	-	-	-	368	-	-	-	-
P.H.F.			0.828				0.852				
Percentage		45.5%	54.5%			46.8%	53.2%				
ADT/AADT		ADT 7,991		AADT 7,991							

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City of Fresno
North Avenue
W/ East Avenue
24 Hour Directional Volume Count

FSO053
Site Code: 003-19024

Start Time	1/24/2019 Thu	Eastbound Morning	Eastbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Westbound Morning	Westbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		20	68			15	86				
12:15		11	91			7	74				
12:30		24	97			6	91				
12:45		8	66	63	322	7	84	35	335	98	657
01:00		7	74			17	89				
01:15		2	90			7	86				
01:30		10	90			13	86				
01:45		9	84	28	338	5	81	42	342	70	680
02:00		6	74			7	77				
02:15		6	71			1	73				
02:30		4	83			8	**153**				
02:45		6	87	22	315	10	**107**	26	410	48	725
03:00		6	101			8	**94**				
03:15		13	**114**			8	**86**				
03:30		13	**119**			12	111				
03:45		59	**99**	91	433	22	128	50	419	141	852
04:00		28	**105**			19	96				
04:15		14	103			27	100				
04:30		25	110			19	106				
04:45		34	77	101	395	39	74	104	376	205	771
05:00		32	96			34	113				
05:15		29	77			57	73				
05:30		38	82			36	69				
05:45		76	60	175	315	52	58	179	313	354	628
06:00		53	53			59	58				
06:15		34	52			37	77				
06:30		57	26			64	36				
06:45		67	30	211	161	55	41	215	212	426	373
07:00		79	38			74	27				
07:15		63	19			65	29				
07:30		63	15			101	31				
07:45		88	15	293	87	89	37	329	124	622	211
08:00		**102**	27			74	28				
08:15		**101**	20			78	18				
08:30		**83**	23			90	24				
08:45		**92**	20	378	90	**84**	21	326	91	704	181
09:00		76	19			**76**	17				
09:15		73	19			**107**	23				
09:30		53	8			**91**	38				
09:45		56	18	258	64	69	23	343	101	601	165
10:00		66	15			74	24				
10:15		85	14			60	19				
10:30		73	17			81	11				
10:45		79	14	303	60	62	14	277	68	580	128
11:00		84	16			90	15				
11:15		61	13			74	18				
11:30		69	13			73	13				
11:45		53	13	267	55	99	13	336	59	603	114
Total		2190	2635	2190	2635	2262	2850	2262	2850	4452	5485
Combined Total		4825		4825		5112		5112		9937	
AM Peak	-	08:00	-	-	-	08:45	-	-	-	-	-
Vol.	-	378	-	-	-	358	-	-	-	-	-
P.H.F.		0.926				0.836					
PM Peak	-	-	03:15	-	-	-	02:30	-	-	-	-
Vol.	-	-	437	-	-	-	440	-	-	-	-
P.H.F.			0.918				0.719				
Percentage		45.4%	54.6%			44.2%	55.8%				
ADT/AADT		ADT 9,937		AADT 9,937							

County of Fresno

2220 Tulare St.
Fresno, CA 93721

Station ID: Mini-Tubes: 7-day
North E/O Maple
SIN#: 5963
Date Start: 25-Apr-18
Date End: 02-May-18

Volume Report

Start	23-Apr-18		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	West Boun	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou	West Bo	East Bou
12:00 AM	*	*	*	*	17	23	18	18	20	17	26	19	13	13	19	18
01:00	*	*	*	*	15	14	21	20	20	15	14	18	8	14	16	16
02:00	*	*	*	*	55	23	54	27	46	24	23	15	4	8	36	19
03:00	*	*	*	*	47	35	56	48	59	41	22	24	8	5	38	31
04:00	*	*	*	*	120	91	129	93	126	96	51	60	16	18	88	72
05:00	*	*	*	*	181	166	188	138	186	174	63	60	17	19	127	111
06:00	*	*	*	*	**260**	**253**	**275**	**258**	**257**	252	69	85	34	25	**179**	175
07:00	*	*	*	*	234	224	238	210	226	215	121	117	46	40	173	161
08:00	*	*	*	*	221	191	224	230	207	204	120	143	49	62	164	166
09:00	*	*	*	*	178	186	174	195	212	197	**163**	140	**62**	69	158	157
10:00	*	*	*	*	200	246	235	221	233	249	113	138	61	61	168	183
11:00	*	*	*	*	204	230	227	220	229	**256**	141	**169**	54	**87**	171	**192**
12:00 PM	*	*	*	*	206	215	227	239	193	219	107	**163**	52	71	157	181
01:00	*	*	*	*	243	244	223	267	**282**	253	105	122	49	**90**	180	195
02:00	*	*	*	*	231	**288**	266	307	247	300	**117**	136	48	80	182	**222**
03:00	*	*	*	*	**306**	274	**270**	**336**	243	299	72	101	**66**	69	**191**	216
04:00	*	*	*	*	225	254	230	286	235	**321**	65	89	45	75	160	205
05:00	*	*	*	*	128	143	129	137	124	139	53	83	44	46	96	110
06:00	*	*	*	*	83	92	65	93	101	102	47	66	40	51	67	81
07:00	*	*	*	*	59	63	75	74	64	81	30	39	41	42	54	60
08:00	*	*	*	*	53	51	49	44	54	47	54	35	29	29	48	41
09:00	*	*	*	*	32	36	38	35	34	43	31	33	22	26	31	35
10:00	*	*	*	*	34	33	34	27	30	41	25	26	15	20	28	29
11:00	*	*	*	*	19	32	18	42	14	31	19	24	9	17	16	29
Lane	0	0	0	0	3351	3407	3463	3565	3442	3616	1651	1905	832	1037	2547	2705
Day	0		0		6758		7028		7058		3556		1869		5252	
AM Peak	-	-	-	-	06:00	06:00	06:00	06:00	06:00	11:00	09:00	11:00	09:00	11:00	06:00	11:00
Vol.	-	-	-	-	260	253	275	258	257	256	163	169	62	87	179	192
PM Peak	-	-	-	-	15:00	14:00	15:00	15:00	13:00	16:00	14:00	12:00	15:00	13:00	15:00	14:00
Vol.	-	-	-	-	306	288	270	336	282	321	117	163	66	90	191	222

Counts Unlimited, Inc.

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City of Fresno
Golden State Boulevard
N/ North Avenue
24 Hour Directional Volume Count

FSO054
Site Code: 003-19024

Start	1/24/2019	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		3	43			1	50				
12:15		2	34			2	41				
12:30		2	42			3	43				
12:45		2	36	9	155	1	48	7	182	16	337
01:00		2	35			4	54				
01:15		7	37			3	43				
01:30		3	42			1	51				
01:45		0	36	12	150	2	59	10	207	22	357
02:00		1	42			1	60				
02:15		1	49			3	46				
02:30		2	43			0	49				
02:45		4	43	8	177	2	46	6	201	14	378
03:00		1	54			4	47				
03:15		0	62			1	59				
03:30		0	**67**			1	50				
03:45		2	**53**	3	236	3	49	9	205	12	441
04:00		4	**57**			5	**61**				
04:15		5	**70**			2	**56**				
04:30		3	40			3	**54**				
04:45		5	66	17	233	2	**61**	12	232	29	465
05:00		4	52			7	44				
05:15		8	33			16	42				
05:30		13	16			12	19				
05:45		4	16	29	117	12	21	47	126	76	243
06:00		11	16			28	24				
06:15		21	11			32	29				
06:30		25	10			42	16				
06:45		16	3	73	40	25	15	127	84	200	124
07:00		**27**	7			28	12				
07:15		**28**	6			32	7				
07:30		**55**	5			38	5				
07:45		**30**	7	140	25	43	9	141	33	281	58
08:00		23	9			44	8				
08:15		31	8			41	10				
08:30		28	5			36	3				
08:45		26	3	108	25	34	9	155	30	263	55
09:00		32	8			38	4				
09:15		24	8			42	10				
09:30		30	2			39	7				
09:45		31	1	117	19	31	11	150	32	267	51
10:00		34	5			40	6				
10:15		32	2			41	1				
10:30		32	9			45	5				
10:45		33	4	131	20	42	3	168	15	299	35
11:00		34	2			**55**	7				
11:15		30	2			**47**	2				
11:30		35	4			**46**	5				
11:45		37	4	136	12	**50**	3	198	17	334	29
Total		783	1209	783	1209	1030	1364	1030	1364	1813	2573
Combined Total		1992		1992		2394		2394		4386	
AM Peak	-	07:00	-	-	-	11:00	-	-	-	-	-
Vol.	-	140	-	-	-	198	-	-	-	-	-
P.H.F.		0.636				0.900					
PM Peak	-	-	03:30	-	-	-	04:00	-	-	-	-
Vol.	-	-	247	-	-	-	232	-	-	-	-
P.H.F.			0.882				0.951				
Percentage		39.3%	60.7%			43.0%	57.0%				
ADT/AADT		ADT 4,386		AADT 4,386							

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City of Fresno
Golden State Boulevard
N/ Jensen Avenue
24 Hour Directional Volume Count

FSO055
Site Code: 003-19024

Start	1/24/2019	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		9	69			4	61				
12:15		6	86			7	33				
12:30		7	81			10	46				
12:45		7	74	29	310	7	54	28	194	57	504
01:00		7	76			5	46				
01:15		5	79			3	44				
01:30		4	66			4	64				
01:45		2	81	18	302	2	47	14	201	32	503
02:00		2	68			3	67				
02:15		1	66			0	55				
02:30		4	106			1	51				
02:45		2	126	9	366	5	99	9	272	18	638
03:00		9	72			6	57				
03:15		5	85			4	55				
03:30		4	80			5	70				
03:45		10	94	28	331	8	57	23	239	51	570
04:00		8	116			8	**98**				
04:15		8	95			3	**78**				
04:30		15	**108**			9	**69**				
04:45		11	**104**	42	423	29	**63**	49	308	91	731
05:00		8	**127**			8	71				
05:15		16	**96**			14	74				
05:30		25	70			25	78				
05:45		45	62	94	355	36	34	83	257	177	612
06:00		29	62			45	43				
06:15		41	52			49	43				
06:30		54	54			46	29				
06:45		71	53	195	221	80	31	220	146	415	367
07:00		62	29			**63**	18				
07:15		**134**	25			**80**	19				
07:30		**136**	26			**105**	21				
07:45		**130**	34	462	114	**81**	15	329	73	791	187
08:00		**120**	21			59	14				
08:15		90	14			42	23				
08:30		63	23			45	36				
08:45		77	25	350	83	55	18	201	91	551	174
09:00		77	15			59	28				
09:15		50	23			37	11				
09:30		58	25			42	7				
09:45		52	9	237	72	67	13	205	59	442	131
10:00		65	7			41	10				
10:15		49	12			37	21				
10:30		50	11			50	11				
10:45		37	15	201	45	53	9	181	51	382	96
11:00		54	7			41	5				
11:15		64	4			36	7				
11:30		69	8			44	15				
11:45		72	6	259	25	35	3	156	30	415	55
Total		1924	2647	1924	2647	1498	1921	1498	1921	3422	4568
Combined Total		4571		4571		3419		3419		7990	
AM Peak	-	07:15	-	-	-	07:00	-	-	-	-	-
Vol.	-	520	-	-	-	329	-	-	-	-	-
P.H.F.		0.956				0.783					
PM Peak	-	-	04:30	-	-	-	04:00	-	-	-	-
Vol.	-	-	435	-	-	-	308	-	-	-	-
P.H.F.			0.856				0.786				
Percentage		42.1%	57.9%			43.8%	56.2%				

ADT/AADT	ADT 7,990	AADT 7,990

APPENDIX B
VOLUME DEVELOPMENT WORKSHEETS

Table A: AM Link Volume

Roadway	#	Segment	AM				
			Existing Traffic Volumes	Base Year (2019) Modeled Link Volume	Future Year (2035) Modeled Link Volume	Base to Future Year Modeled Link Volume Change	Future Traffic Volumes
Garfield Avenue	1	Shaw Avenue and Barstow Avenue	160	32	43	11	170
	2	Fairmont Avenue and Shaw Avenue	10	21	85	64	70
Grantland Avenue	3	Shields Avenue and Dakota Avenue	340	Growth applied from nearest adjacent			360
	4	Ashlan Avenue and Shaw Avenue	710	Growth applied from nearest adjacent			800
	5	Barstow Avenue and Bullard Avenue	790	Growth applied from nearest adjacent			880
	6	Bullard Avenue and Parkway Drive	1,750	Growth applied from nearest adjacent			1,880
Bryan Avenue	7	Ashlan Avenue and Gettysburg Avenue	390	272	805	533	920
	8	Shields Avenue and Ashlan Avenue	220	255	349	94	310
	9	Gettysburg Avenue and Shaw Avenue	290	272	695	423	710
Hayes Avenue	10	Clinton Avenue and Shields Avenue	180	231	757	526	710
	11	McKinley Avenue and Clinton Avenue	180	195	756	561	740
	12	Ashlan Avenue and Gettysburg Avenue	290	205	783	578	870
	13	Gettysburg Avenue and Shaw Avenue	310	194	781	587	900
Veterans Boulevard	14	Barstow Avenue and Bullard Avenue	0	0	3040	3040	3,040
Polk Avenue	15	McKinley Avenue and Clinton Avenue	500	388	533	145	650
	16	Clinton Avenue and Shields Avenue	500	330	491	161	660
	17	Dakota Avenue and Ashlan Avenue	810	337	805	468	1,280
	18	Ashlan Avenue and Gettysburg Avenue	650	570	941	371	1,020
	19	Olive Avenue and McKinley Avenue	200	Growth applied from nearest adjacent			260
Cornelia Avenue	20	Ashlan Avenue and Griffith Way	1,170	577	681	104	1,270
	21	Griffith Way and Dakota Avenue	1,170	295	427	132	1,300
	22	Dakota Avenue and Cortland Avenue	1,120	242	443	201	1,320
	23	Cortland Avenue and Clinton Avenue	1,120	207	562	355	1,480
Blythe Avenue	24	McKinley Avenue and Clinton Avenue	280	98	298	200	480
Brawley Avenue	25	Olive Avenue and McKinley Avenue	860	321	551	230	1,090
	26	Nielson Avenue and Belmont Avenue	590	352	949	597	1,190
	27	Clinton Avenue and Shields Avenue	540	586	696	110	650
	28	Dakota Avenue and Parkway Drive	640	663	932	269	910
	29	Shaw Avenue and San Jose Avenue	1,480	1,931	2218	287	1,770
Marty Avenue	30	San Jose Avenue and Shaw Avenue	700	0	0	0	740
Valentine Avenue	31	Olive Avenue and McKinley Avenue	120	30	126	96	220
	32	McKinley Avenue and Clinton Avenue	300	64	163	99	400
Marks Avenue	33	Jensen Avenue and Church Avenue	170	Growth applied from nearest adjacent			250
	34	Church Avenue and California Avenue	160	Growth applied from nearest adjacent			230
	35	Kearney Avenue and Whitesbridge Avenue	660	731	1031	300	960
	36	SR-180 WB ramps and Nielson Avenue	690	709	1060	351	1,040
	37	Ashlan Avenue and Emerson Avenue	1,410	Growth applied from nearest adjacent			1,420
	38	Emerson Avenue and Shaw Avenue	1,280	2,133	2212	79	1,360
	39	Dakota Avenue and Weber Avenue	1,410	716	973	257	1,670
	40	Whitesbridge Avenue and SR-180 EB ramps	420	967	1571	604	1,020
West Avenue	41	California Avenue and Kearney Avenue	50	158	431	273	320
	42	McKinley Avenue and Clinton Avenue	1,140	1,813	2071	258	1,400
	43	Ashlan Avenue and Shaw Avenue	1,640	1,822	2246	424	2,060
Fruit Avenue	44	Barstow Avenue and Bullard Avenue	40	1,120	1208	88	130

Table A: AM Link Volume

Roadway	#	Segment	AM				
			Existing Traffic Volumes	Base Year (2019) Modeled Link Volume	Future Year (2035) Modeled Link Volume	Base to Future Year Modeled Link Volume Change	Future Traffic Volumes
Palm Avenue	45	Alluvial Avenue and Nees Avenue	1,900	1,604	2206	602	2,500
	46	Locust Avenue and Remington Avenue	2,100	1,496	2102	606	2,710
	47	Shields Avenue and Dakota Avenue	1,140	1,871	1880	9	1,150
	48	Ashlan Avenue and Gettysburg Avenue	1,010	Growth applied from nearest adjacent			1,020
Maroa Avenue	49	Sample Avenue and Bullard Avenue	2,790	Growth applied from nearest adjacent			2,810
	50	Dakota Avenue and Fedora Avenue	1,340	827	854	27	1,370
	51	Gettysburg Avenue and Holland Avenue	1,340	381	390	9	1,350
Elm Avenue	52	North Avenue and Jensen Avenue	280	404	618	214	490
	53	Jensen Avenue and Church Avenue	440	386	589	203	640
G Street	54	Tulare Street and Fresno Street	150	672	1094	422	570
	55	Fresno Street and Tuolumne Street	190	519	1043	524	710
Fulton Street	56	Tulare Street and Fresno Street	80	452	564	112	190
Van Ness Avenue	57	Los Angeles Street & SR-41 ramps	380	618	863	245	630
	58	Tulare Street and Fresno Street	440	141	325	184	620
	59	Fresno Street and Tuolumne Street	430	492	686	194	620
O Street	60	Tulare Street and Fresno Street	190	559	824	265	460
	61	Fresno Street and Tuolumne Street	150	207	589	382	530
Blackstone Avenue	62	Olive Avenue and McKinley Avenue	1,470	2,494	2829	335	1,810
	63	McKinley Avenue and Clinton Avenue	1,190	1,954	2461	507	1,700
	64	Dakota Avenue and Ashlan Avenue	1,510	2,006	2432	426	1,940
	65	Gettysburg Avenue and Shaw Avenue	960	2,146	2686	540	1,500
	66	Bullard Avenue and Sierra Avenue	1,340	2,339	3010	671	2,010
	67	Alluvial Avenue and Nees Avenue	860	1,991	2275	284	1,140
Friant Road	68	Willow Avenue and Copper Avenue	790	1,263	2255	992	1,780
	69	Audubon Drive and Shepherd Avenue	5,120	4,177	4940	763	5,880
	70	SR-41 SB off-ramp and SR-41 NB off-ramp	5,100	3,409	3726	317	5,420
	71	SR-41 NB off-ramp and Audubon Drive	5,100	4,177	4799	622	5,720
First Street	72	McKinley Avenue and Clinton Avenue	1,700	1,791	2213	422	2,120
	73	Shields Avenue and Dakota Avenue	1,050	1,440	1710	270	1,320
	74	Ashlan Avenue and Gettysburg Avenue	1,230	1,562	1569	7	1,310
	75	Barstow Avenue and Bullard Avenue	1,280	Growth applied from nearest adjacent			1,350
	76	Bullard Avenue and Herndon Avenue	1,150	1,513	1591	78	1,230
	77	Herndon Avenue and Alluvial Avenue	1,620	1,644	1935	291	1,910
	78	Nees Avenue and Friant Road	1,220	849	924	75	1,300
East Avenue	79	North Avenue and Jensen Avenue	200	29	45	16	220
Cedar Avenue	80	American Avenue and Central Avenue	190	563	756	193	380
	81	Jensen Avenue and Church Avenue	510	456	759	303	810
	82	Church Avenue and California Avenue	910	975	1303	328	1,240
	83	Tulare Avenue and Belmont Avenue	2,010	1,910	2177	267	2,280
	84	Olive Avenue and McKinley Avenue	1,520	2,089	2520	431	1,950
	85	Dakota Avenue and Ashlan Avenue	1,590	1,726	2356	630	2,220
	86	Ashlan Avenue and Gettysburg Avenue	1,430	2,067	2462	395	1,830
	87	Shaw Avenue and Barstow Avenue	1,530	2,186	2720	534	2,060
	88	Nees Avenue and Teague Avenue	1,490	1,371	1480	109	1,600
Maple Avenue	89	North Avenue and Jensen Avenue	320	305	637	332	650
	90	Jensen Avenue and Church Avenue	610	762	996	234	840

Table A: AM Link Volume

Roadway	#	Segment	AM				
			Existing Traffic Volumes	Base Year (2019) Modeled Link Volume	Future Year (2035) Modeled Link Volume	Base to Future Year Modeled Link Volume Change	Future Traffic Volumes
Chestnut Avenue	91	Jensen Avenue and Church Avenue	530	1,393	1844	451	980
	92	Kings Canyon Road and Tulare Avenue	1,340	2,019	2421	402	1,740
	93	Tulare Avenue and Belmont Avenue	1,690	2,100	2438	338	2,030
	94	Clinton Avenue and Shields Avenue	1,280	1,583	1804	221	1,500
	95	Bullard Avenue and Herndon Avenue	1,150	1,239	1378	139	1,290
	96	Herndon Avenue and Alluvial Avenue	1,110	1,376	1765	389	1,500
	97	Alluvial Avenue and Nees Avenue	1,470	831	1100	269	1,740
	98	Nees Avenue and Teague Avenue	830	992	1069	77	910
	99	Teague Avenue and Shepherd Avenue	1,300	785	788	3	1,400
Willow Avenue	100	Herndon Avenue and Nees Avenue	2,000	2,814	3295	481	2,480
	101	Copper Avenue and Behymer Avenue	1,260	1,199	1979	780	2,040
	102	Behymer Avenue and Shepherd Avenue	1,540	2,013	2693	680	2,220
	103	Shepherd Avenue and Teague Avenue	1,220	1,824	2805	981	2,200
	104	Friant Road and Copper Avenue	410	427	530	103	510
Peach Avenue	105	Butler Avenue and Kings Canyon Road	1,820	908	1110	202	2,020
	106	Tulare Avenue and Belmont Avenue	1,830	3,552	3802	250	2,080
	107	Olive Avenue and McKinley Avenue	1,180	965	1042	77	1,260
	108	North Avenue and Jensen Avenue	180	132	422	290	470
Minnewawa Avenue	109	Kings Canyon Road and Tulare Avenue	130	306	340	34	160
Clovis Avenue	110	North Avenue and Jensen Avenue	1,380	1,797	1987	190	1,570
	111	Church Avenue and Butler Avenue	2,100	1,815	2086	271	2,370
	112	Kings Canyon Road and Tulare Avenue	2,670	3,699	4286	587	3,260
	113	Clinton Avenue and Shields Avenue	2,610	3,363	3763	400	3,010
Fowler Avenue	114	Jensen Avenue and Kings Canyon Road	600	656	914	258	860
	115	Kings Canyon Road and Belmont Avenue	1,860	1,135	1428	293	2,150
	116	SR-180 WB ramps and Olive Avenue	1,390	1,407	2266	859	2,250
	117	Olive Avenue and Clinton Avenue	870	1,122	1641	519	1,390
	118	Shields Avenue and Dakota Avenue	1,140	1,078	1254	176	1,320
Armstrong Avenue	119	McKinley Avenue and Clinton Avenue	690	570	870	300	990
	120	Jenson Avenue and Church Avenue	300	96	129	33	330
	121	Hamilton Avenue and Butler Avenue	450	59	101	42	490
	122	Butler Avenue and Lane Avenue	520	85	113	28	550
	123	Belmont Avenue and Clinton Avenue	490	545	827	282	770
	124	Shields Avenue and Dakota Avenue	750	527	1108	581	1,330
Temperance Avenue	125	California Avenue and Hamilton Avenue	430	879	2362	1483	1,910
	126	Belmont Avenue and Olive Avenue	940	864	1874	1010	1,950
	127	Shields Avenue and Dakota Avenue	830	1,293	1799	506	1,340
	128	Dakota Avenue and Ashlan Avenue	1,050	1,432	1916	484	1,530
	129	McKinley Avenue and Shields Avenue	2,420	1,114	2029	915	3,340
	130	Kings Canyon Road and SR-180 EB ramps	2,110	1,430	3253	1823	3,930
	131	Butler Avenue and Lowe Avenue	2,270	941	2537	1596	3,870
De Wolf Avenue	132	Church Avenue and Butler Avenue	330	Growth applied from nearest adjacent			350
Copper Avenue	133	Friant Road and Millbrook Avenue	710	741	1279	538	1,250
	134	Millbrook Avenue and Cedar Avenue	940	718	1832	1114	2,050
	135	Cedar Avenue and Maple Avenue	850	1,056	1590	534	1,380
	136	Maple Avenue and Chestnut Avenue	870	753	1021	268	1,140

Table A: AM Link Volume

Roadway	#	Segment	AM				
			Existing Traffic Volumes	Base Year (2019) Modeled Link Volume	Future Year (2035) Modeled Link Volume	Base to Future Year Modeled Link Volume Change	Future Traffic Volumes
Nees Avenue	137	Audubon Avenue and Millbrook Avenue	950	1,977	2307	330	1,280
	138	Cedar Avenue and Maple Avenue	1,590	2,242	2276	34	1,620
	139	Jordan Avenue and Paula Avenue	1,110	1,734	1857	123	1,230
Shepherd Avenue	140	Millbrook Avenue and Cedar Avenue	1,520	1,260	1693	433	1,950
	141	Cedar Avenue and Maple Avenue	1,660	1,005	1807	802	2,460
	142	Chestnut Avenue and Willow Avenue	940	820	1881	1061	2,000
Audubon Drive	143	Del Mar Avenue and Nees Avenue	1,260	648	689	41	1,300
Alluvial Avenue	144	Mansionette Drive and Pinedale Avenue	720	924	931	7	730
	145	Pinedale Avenue and Chestnut Avenue	690	361	376	15	710
	146	Chestnut Avenue and Willow Avenue	660	530	555	25	690
Herndon Avenue	147	Fruit Avenue and Palm Avenue	4,290	4,423	5303	880	5,170
	148	Blackstone Avenue and SR-41 SB ramps	4,170	4,616	5359	743	4,910
	149	First Street and Cedar Avenue	4,290	3,198	3674	476	4,770
	150	Cedar Avenue and Maple Avenue	3,420	1,707	1815	108	3,530
	151	Fruit Avenue and West Avenue	4,250	Growth applied from nearest adjacent			5,120
	152	Milburn Avenue and Polk Avenue	1,680	2,703	3858	1155	2,840
Sierra Avenue	153	Marks Avenue and Van Ness Avenue	270	818	916	98	370
	154	West Avenue and Fruit Avenue	410	900	1175	275	690
	155	Throne Avenue and Palm Avenue	410	887	969	82	490
Bullard Avenue	156	Garfield Avenue and Grantland Avenue	40	Growth applied from nearest adjacent			50
	157	Grantland Avenue and Caspian Avenue	310	Growth applied from nearest adjacent			330
	158	West Avenue and Fruit Avenue	1,910	2,262	2522	260	2,170
	159	Fruit Avenue and Palm Avenue	1,300	2,200	2427	227	1,530
	160	Maroa Avenue and Blackstone Avenue	1,780	2,466	2829	363	2,140
	161	SR-41 NB ramps and Fresno Street	2,560	2,227	2617	390	2,950
	162	First Street and Cedar Avenue	1,970	2,377	2619	242	2,210
Figarden Drive	163	San Jose Avenue and Bullard Avenue	1,680	1,437	1663	226	1,910
Barstow Avenue	164	Garfield Avenue and Grantland Avenue	50	34	141	107	160
	165	Van Ness Boulevard and West Avenue	310	434	521	87	400
	166	Fruit Avenue and Palm Avenue	440	649	678	29	470
Shaw Avenue	167	Garfield Avenue and Grantland Avenue	490	970	1592	622	1,110
	168	Bryan Avenue and Hayes Avenue	820	847	1316	469	1,290
	169	Hayes Avenue and Polk Avenue	870	952	1331	379	1,250
	170	Brawley Avenue and Marks Avenue	1,950	3,640	4003	363	2,310
	171	West Avenue and Fruit Avenue	3,140	3,340	3912	572	3,710
	172	Maroa Avenue and Blackstone Avenue	4,360	3,969	4319	350	4,710
	173	First Street and Cedar Avenue	2,340	3,353	3824	471	2,810
	174	Fresno Street and First Street	2,180	3,253	3616	363	2,540
	175	SR-99 NB ramps and Cornelia Avenue	2,170	Growth applied from nearest adjacent			2,990
	176	Cornelia Avenue and Jennifer Avenue	2,170	3,034	3854	820	2,990
Gettysburg Avenue	177	Maple Avenue and Winery Avenue	3,780	1,289	1535	246	4,030

Table A: AM Link Volume

Roadway	#	Segment	AM				
			Existing Traffic Volumes	Base Year (2019) Modeled Link Volume	Future Year (2035) Modeled Link Volume	Base to Future Year Modeled Link Volume Change	Future Traffic Volumes
Ashlan Avenue	178	Bryan Avenue and Hayes Avenue	670	444	564	120	790
	179	Hayes Avenue and Polk Avenue	480	Growth applied from nearest adjacent			570
	180	Cornelia Avenue and Blythe Avenue	2,430	Growth applied from nearest adjacent			2,870
	181	Weber Avenue and Valentine Avenue	1,810	2,957	3237	280	2,090
	182	Fruit Avenue and Palm Avenue	1,020	1,230	1492	262	1,280
	183	Del Mar Avenue and Blackstone Avenue	1,350	1,296	1465	169	1,520
	184	Fresno Street and First Street	1,810	1,842	2193	351	2,160
	185	Barton Avenue and SR-168 SB ramps	2,400	2,514	2639	125	2,530
	186	SR-168 NB ramps and Chestnut Avenue	1,950	1,577	1715	138	2,090
	187	Palm Avenue and Maroa Avenue	830	1,024	1313	289	1,120
	188	Maroa Avenue and Del Mar Avenue	1,090	1,150	1313	163	1,250
	189	SR-99 SB ramps and Golden State Boulevard	2,110	2,957	3237	280	2,390
Dakota Avenue	190	Marks Avenue and Hughes Avenue	140	777	804	27	170
	191	West Avenue and Fruit Avenue	70	648	877	229	300
	192	First Street and Millbrook Avenue	130	1,016	1117	101	230
	193	Millbrook Avenue and Cedar Avenue	970	Growth applied from nearest adjacent			1,720
	194	Fruit Avenue and Palm Avenue	70	922	998	76	150
	195	Maroa Avenue and Del Mar Avenue	330	671	676	5	340
	196	Angus Street and First Street	330	696	965	269	600
Shields Avenue	197	Garfield Avenue and Grantland Avenue	330	Growth applied from nearest adjacent			370
	198	Grantland Avenue and Bryan Avenue	320	Growth applied from nearest adjacent			340
	199	Brawley Avenue and Valentine Avenue	1,280	Growth applied from nearest adjacent			1,310
	200	Fruit Avenue and Palm Avenue	1,030	1,936	2094	158	1,190
	201	Peach Avenue and Clovis Avenue	1,180	1,806	2264	458	1,640
	202	Clovis Avenue and Fowler Avenue	1,520	1,654	1986	332	1,850
	203	Temperance Avenue and Locan Avenue	860	491	779	288	1,150
	204	Locan Avenue and De Wolf Avenue	610	357	621	264	870
Clinton Avenue	205	Grantland Avenue and Bryan Avenue	40	12	13	1	40
	206	Bryan Avenue and Hayes Avenue	80	50	268	218	300
	207	Hayes Avenue and Polk Avenue	90	63	189	126	220
	208	Polk Avenue and Cornelia Avenue	360	120	150	30	390
	209	Blythe Avenue and Brawley Avenue	700	607	771	164	860
	210	Fruit Avenue and Palm Avenue	160	1,565	1893	328	490
	211	Maroa Avenue and Blackstone Avenue	190	1,894	2109	215	410
	212	Weber Avenue and West Avenue	230	1,821	2312	491	720
	213	Valentine Avenue and Marks Avenue	900	858	1082	224	1,120
	214	First Street and Cedar Avenue	710	1,595	1705	110	820
	215	Fowler Avenue and Armstrong Avenue	300	439	603	164	460
	216	Armstrong Avenue and Temperance Avenue	270	384	465	81	350
McKinley Avenue	217	Blythe Avenue and Valentine Avenue	550	936	1633	697	1,250
	218	Marks Avenue and Hughes Avenue	820	906	1856	950	1,770
	219	Fruit Avenue and Palm Avenue	1,200	1,625	2006	381	1,580
	220	First Street and Cedar Avenue	1,110	1,811	2244	433	1,540
	221	Peach Avenue and Clovis Avenue	860	1,471	1742	271	1,130

Table A: AM Link Volume

Roadway	#	Segment	AM				
			Existing Traffic Volumes	Base Year (2019) Modeled Link Volume	Future Year (2035) Modeled Link Volume	Base to Future Year Modeled Link Volume Change	Future Traffic Volumes
Olive Avenue	222	Valentine Avenue and Marks Avenue	330	216	364	148	480
	223	SR-99 NB ramps and West Avenue	810	1,271	1341	70	880
	224	Van Ness Avenue and Blackstone Avenue	590	558	901	343	930
	225	Fresno Street and First Street	660	1,572	1822	250	910
	226	Peach Avenue and Clovis Avenue	700	585	665	80	780
Belmont Avenue	227	Polk Avenue and Cornelia Avenue	250	145	434	289	540
	228	Marks Avenue and Hughes Avenue	370	350	632	282	650
	229	Weber Avenue and Palm Avenue	410	935	1309	374	780
	230	Abby Street and Fresno Street	530	1,598	1831	233	760
	231	Orchard Street and First Street	780	1,474	1762	288	1,070
	232	First Street and Cedar Avenue	970	1,483	1701	218	1,190
	233	Willow Avenue and Peach Avenue	930	752	946	194	1,120
	234	Peach Avenue and Clovis Avenue	520	1,001	1231	230	750
	235	Clovis Avenue and Fowler Avenue	520	729	1015	286	810
	236	De Wolf Avenue and Fancher Avenue	500	170	317	147	650
	237	Pacific Avenue and Fruit Avenue	440	454	609	155	600
	238	Palm Avenue and Roosevelt Avenue	530	1,116	1742	626	1,160
Divisadero Avenue	239	Roosevelt Avenue and H Street	280	244	304	60	340
	240	Fulton Street and Van Ness Avenue	670	604	718	114	780
	241	San Pablo Avenue and Glen Avenue	480	338	718	380	860
Fresno Street	242	Herndon Avenue and Palo Alto Avenue	1,020	1,315	1375	60	1,080
	243	SR-99 NB ramps and E Street	1,040	1,259	1494	235	1,280
Tulare Street	244	H Street and Van Ness Avenue	250	903	1063	160	410
	245	Van Ness Avenue and M Street	440	569	931	362	800
Ventura Street	246	SR-99 NB ramps and G Street	1,140	1,947	2333	386	1,530
	247	G Street and Broadway Street	970	1,853	2602	749	1,720
	248	Van Ness Avenue and M Street	950	1,623	2463	840	1,790
	249	SR-41 and First Street	1,240	2,030	2661	631	1,870
California Avenue	250	Marks Avenue and Hughes Avenue	130	171	447	276	410
	251	Hughes Avenue and West Avenue	270	186	541	355	630
Fresno Street	252	California Avenue and SR-99 SB ramps	330	1,016	1595	579	910
Kings Canyon Road	253	Maple Avenue and Chestnut Avenue	1,160	1,293	1660	367	1,530
	254	Chestnut Avenue and Willow Avenue	1,240	2,270	2547	277	1,520
	255	Peach Avenue and Clovis Avenue	1,570	1,858	2292	434	2,000
	256	Clovis Avenue and Fowler Avenue	950	1,596	2015	419	1,370
	257	Armstrong Avenue and Temperance Avenue	750	679	1236	557	1,310
	258	Fowler Avenue and Armstrong Avenue	1,190	775	1350	575	1,770
Butler Avenue	259	Hazelwood Boulevard and Orange Avenue	700	867	1018	151	850
Church Avenue	260	Marks Avenue and Hughes Avenue	100	28	135	107	210
	261	Orange Avenue and Cedar Avenue	740	876	1025	149	890
	262	Cedar Avenue and Maple Avenue	730	962	1045	83	810
	263	Minnewawa Avenue and Clovis Avenue	860	216	261	45	910

Table A: AM Link Volume

Roadway	#	Segment	AM				
			Existing Traffic Volumes	Base Year (2019) Modeled Link Volume	Future Year (2035) Modeled Link Volume	Base to Future Year Modeled Link Volume Change	Future Traffic Volumes
Jensen Avenue	264	West Avenue and Fruit Avenue	390	657	1037	380	770
	265	Elm Avenue and SR-41 SB ramps	1,490	1,171	1688	517	2,010
	266	Walnut Avenue and MLK Boulevard	650	620	1079	459	1,110
	267	Cedar Avenue and Maple Avenue	1,650	1,927	3146	1219	2,870
	268	Willow Avenue and Peach Avenue	1,290	1,803	3023	1220	2,510
	269	Clovis Avenue and Fowler Avenue	1,190	1,705	2636	931	2,120
	270	Maple Avenue and Chestnut Avenue	1,110	2,263	3737	1474	2,580
	271	Chestnut Avenue and Willow Avenue	750	1,816	3327	1511	2,260
North Avenue	272	MLK Boulevard and Elm Avenue	460	323	358	35	500
	273	SR-99 NB ramp and Cedar Avenue	760	899	1361	462	1,220
	274	Cedar Avenue and Golden State Boulevard	610	862	1331	469	1,080
	275	Elm Avenue and SR-41 SB ramps	540	532	1225	693	1,230
	276	Cherry Avenue and East Avenue	620	398	651	253	870
	277	Maple Avenue and Chestnut Avenue	470	866	1228	362	830
Central Avenue	278	East Avenue and Orange Avenue	210	225	606	381	590
Golden State Boulevard	279	North Avenue and Cedar Avenue	280	939	1699	760	1,040
	280	Jensen Avenue and Church Avenue	790	1,010	1493	483	1,270
	281	Shaw Avenue and Swift Avenue	700	1,200	2311	1111	1,810
	282	Motel Drive and Ashlan Avenue	700	750	1355	605	1,310

Table B: PM Link Volume

Roadway	#	Segment	PM				
			Existing Traffic Volumes	Base Year (2019) Modeled Link Volume	Future Year (2035) Modeled Link Volume	Base to Future Year Modeled Link Volume Change	Future Traffic Volumes
Garfield Avenue	1	Shaw Avenue and Barstow Avenue	140	33	51	18	160
	2	Fairmont Avenue and Shaw Avenue	30	21	136	115	150
Grantland Avenue	3	Shields Avenue and Dakota Avenue	300	Growth applied from nearest adjacent			320
	4	Ashlan Avenue and Shaw Avenue	580	Growth applied from nearest adjacent			720
	5	Barstow Avenue and Bullard Avenue	870	Growth applied from nearest adjacent			980
	6	Bullard Avenue and Parkway Drive	1,800	Growth applied from nearest adjacent			1,890
Bryan Avenue	7	Ashlan Avenue and Gettysburg Avenue	250	309	861	552	800
	8	Shields Avenue and Ashlan Avenue	90	210	479	269	360
	9	Gettysburg Avenue and Shaw Avenue	230	309	738	429	660
Hayes Avenue	10	Clinton Avenue and Shields Avenue	180	334	796	462	640
	11	McKinley Avenue and Clinton Avenue	190	297	761	464	650
	12	Ashlan Avenue and Gettysburg Avenue	220	185	886	701	920
	13	Gettysburg Avenue and Shaw Avenue	270	183	830	647	920
Veterans Boulevard	14	Barstow Avenue and Bullard Avenue	0	0	3642	3642	3,640
Polk Avenue	15	McKinley Avenue and Clinton Avenue	350	322	847	525	880
	16	Clinton Avenue and Shields Avenue	370	352	726	374	740
	17	Dakota Avenue and Ashlan Avenue	710	323	1119	796	1,510
	18	Ashlan Avenue and Gettysburg Avenue	580	472	1137	665	1,250
	19	Olive Avenue and McKinley Avenue	130	Growth applied from nearest adjacent			330
Cornelia Avenue	20	Ashlan Avenue and Griffith Way	910	615	664	49	960
	21	Griffith Way and Dakota Avenue	910	312	561	249	1,160
	22	Dakota Avenue and Cortland Avenue	970	299	535	236	1,210
	23	Cortland Avenue and Clinton Avenue	970	338	638	300	1,270
Blythe Avenue	24	McKinley Avenue and Clinton Avenue	500	163	302	139	640
Brawley Avenue	25	Olive Avenue and McKinley Avenue	890	421	765	344	1,230
	26	Nielson Avenue and Belmont Avenue	620	473	1074	601	1,220
	27	Clinton Avenue and Shields Avenue	1,020	608	768	160	1,180
	28	Dakota Avenue and Parkway Drive	870	771	813	42	910
	29	Shaw Avenue and San Jose Avenue	1,780	2,178	2428	250	2,030
Marty Avenue	30	San Jose Avenue and Shaw Avenue	790	0	0	0	830
Valentine Avenue	31	Olive Avenue and McKinley Avenue	160	46	225	179	340
	32	McKinley Avenue and Clinton Avenue	340	97	262	165	510
Marks Avenue	33	Jensen Avenue and Church Avenue	190	Growth applied from nearest adjacent			250
	34	Church Avenue and California Avenue	220	Growth applied from nearest adjacent			290
	35	Kearney Avenue and Whitesbridge Avenue	830	815	1076	261	1,090
	36	SR-180 WB ramps and Nielson Avenue	940	755	1197	442	1,380
	37	Ashlan Avenue and Emerson Avenue	1,520	2,236	2244	8	1,530
	38	Emerson Avenue and Shaw Avenue	1,750	2,463	2657	194	1,940
	39	Dakota Avenue and Weber Avenue	2,370	724	1106	382	2,750
	40	Whitesbridge Avenue and SR-180 EB ramps	740	1,140	1684	544	1,280
West Avenue	41	California Avenue and Kearney Avenue	80	188	522	334	410
	42	McKinley Avenue and Clinton Avenue	1,110	2,073	2429	356	1,470
	43	Ashlan Avenue and Shaw Avenue	1,600	2,211	2537	326	1,930
Fruit Avenue	44	Barstow Avenue and Bullard Avenue	890	1,505	1552	47	940

Table B: PM Link Volume

Roadway	#	Segment	PM				
			Existing Traffic Volumes	Base Year (2019) Modeled Link Volume	Future Year (2035) Modeled Link Volume	Base to Future Year Modeled Link Volume Change	Future Traffic Volumes
Palm Avenue	45	Alluvial Avenue and Nees Avenue	2,500	1,917	2087	170	2,670
	46	Locust Avenue and Remington Avenue	2,800	2,344	2526	182	2,980
	47	Shields Avenue and Dakota Avenue	1,400	1,972	2303	331	1,730
	48	Ashlan Avenue and Gettysburg Avenue	1,240	2,103	2550	447	1,690
Maroa Avenue	49	Sample Avenue and Bullard Avenue	1,230	461	923	462	1,690
	50	Dakota Avenue and Fedora Avenue	790	846	955	109	900
	51	Gettysburg Avenue and Holland Avenue	790	435	729	294	1,080
Elm Avenue	52	North Avenue and Jensen Avenue	480	534	885	351	830
	53	Jensen Avenue and Church Avenue	680	466	692	226	910
G Street	54	Tulare Street and Fresno Street	260	776	1223	447	710
	55	Fresno Street and Tuolumne Street	170	547	922	375	550
Fulton Street	56	Tulare Street and Fresno Street	140	Growth applied from nearest adjacent			200
Van Ness Avenue	57	Los Angeles Street & SR-41 ramps	340	499	816	317	660
	58	Tulare Street and Fresno Street	750	210	529	319	1,070
	59	Fresno Street and Tuolumne Street	520	649	793	144	660
O Street	60	Tulare Street and Fresno Street	200	424	795	371	570
	61	Fresno Street and Tuolumne Street	260	375	672	297	560
Blackstone Avenue	62	Olive Avenue and McKinley Avenue	2,440	2,613	3291	678	3,120
	63	McKinley Avenue and Clinton Avenue	1,880	3,576	4059	483	2,360
	64	Dakota Avenue and Ashlan Avenue	2,420	2,486	3231	745	3,170
	65	Gettysburg Avenue and Shaw Avenue	2,230	2,933	3456	523	2,750
	66	Bullard Avenue and Sierra Avenue	2,650	3,157	3253	96	2,750
	67	Alluvial Avenue and Nees Avenue	2,140	2,538	2722	184	2,320
Friant Road	68	Willow Avenue and Copper Avenue	810	1,186	1623	437	1,250
	69	Audubon Drive and Shepherd Avenue	5,800	4,715	5555	840	6,640
	70	SR-41 SB off-ramp and SR-41 NB off-ramp	5,820	3,277	3816	539	6,360
	71	SR-41 NB off-ramp and Audubon Drive	5,820	4,685	5514	829	6,650
First Street	72	McKinley Avenue and Clinton Avenue	2,070	2,147	2422	275	2,350
	73	Shields Avenue and Dakota Avenue	1,960	1,709	2036	327	2,290
	74	Ashlan Avenue and Gettysburg Avenue	1,730	1,732	2169	437	2,170
	75	Barstow Avenue and Bullard Avenue	1,860	1,107	1580	473	2,330
	76	Bullard Avenue and Herndon Avenue	1,790	1,401	1756	355	2,150
	77	Herndon Avenue and Alluvial Avenue	2,250	2,011	2385	374	2,620
	78	Nees Avenue and Friant Road	1,410	774	1120	346	1,760
East Avenue	79	North Avenue and Jensen Avenue	130	57	93	36	170
Cedar Avenue	80	American Avenue and Central Avenue	190	565	755	190	380
	81	Jensen Avenue and Church Avenue	590	557	899	342	930
	82	Church Avenue and California Avenue	870	1,115	1467	352	1,220
	83	Tulare Avenue and Belmont Avenue	2,100	1,984	2204	220	2,320
	84	Olive Avenue and McKinley Avenue	1,470	2,347	2527	180	1,650
	85	Dakota Avenue and Ashlan Avenue	2,780	2,145	2408	263	3,040
	86	Ashlan Avenue and Gettysburg Avenue	1,830	2,303	2490	187	2,020
	87	Shaw Avenue and Barstow Avenue	2,180	2,730	2876	146	2,330
	88	Nees Avenue and Teague Avenue	1,840	1,573	1657	84	1,920
Maple Avenue	89	North Avenue and Jensen Avenue	440	370	729	359	800
	90	Jensen Avenue and Church Avenue	830	857	1045	188	1,020

Table B: PM Link Volume

Roadway	#	Segment	PM				
			Existing Traffic Volumes	Base Year (2019) Modeled Link Volume	Future Year (2035) Modeled Link Volume	Base to Future Year Modeled Link Volume Change	Future Traffic Volumes
Chestnut Avenue	91	Jensen Avenue and Church Avenue	720	1,608	1968	360	1,080
	92	Kings Canyon Road and Tulare Avenue	1,780	Growth applied from nearest adjacent			1,880
	93	Tulare Avenue and Belmont Avenue	1,880	2,273	2387	114	1,990
	94	Clinton Avenue and Shields Avenue	1,360	1,801	1979	178	1,540
	95	Bullard Avenue and Herndon Avenue	1,440	1,445	1836	391	1,830
	96	Herndon Avenue and Alluvial Avenue	1,320	1,677	1894	217	1,540
	97	Alluvial Avenue and Nees Avenue	1,610	1,082	1140	58	1,770
	98	Nees Avenue and Teague Avenue	940	Growth applied from nearest adjacent			1,030
	99	Teague Avenue and Shepherd Avenue	1,710	1,044	1049	5	1,860
Willow Avenue	100	Herndon Avenue and Nees Avenue	2,210	3,160	3898	738	2,950
	101	Copper Avenue and Behymer Avenue	1,390	917	1778	861	2,250
	102	Behymer Avenue and Shepherd Avenue	1,700	1,730	2825	1095	2,800
	103	Shepherd Avenue and Teague Avenue	1,350	1,644	2599	955	2,310
	104	Friant Road and Copper Avenue	390	598	1213	615	1,010
Peach Avenue	105	Butler Avenue and Kings Canyon Road	1,680	930	1126	196	1,880
	106	Tulare Avenue and Belmont Avenue	1,870	3,848	4192	344	2,210
	107	Olive Avenue and McKinley Avenue	1,280	1,133	1354	221	1,500
	108	North Avenue and Jensen Avenue	170	127	440	313	480
Minnewawa Avenue	109	Kings Canyon Road and Tulare Avenue	170	258	380	122	290
Clovis Avenue	110	North Avenue and Jensen Avenue	1,400	1,912	2022	110	1,510
	111	Church Avenue and Butler Avenue	2,200	1,883	2083	200	2,400
	112	Kings Canyon Road and Tulare Avenue	3,440	3,889	4435	546	3,990
	113	Clinton Avenue and Shields Avenue	2,770	3,706	3889	183	2,950
Fowler Avenue	114	Jensen Avenue and Kings Canyon Road	390	793	993	200	590
	115	Kings Canyon Road and Belmont Avenue	1,590	1,267	1486	219	1,810
	116	SR-180 WB ramps and Olive Avenue	1,230	1,390	2090	700	1,930
	117	Olive Avenue and Clinton Avenue	1,030	1,200	1499	299	1,330
	118	Shields Avenue and Dakota Avenue	1,050	1,211	1265	54	1,100
Armstrong Avenue	119	McKinley Avenue and Clinton Avenue	460	696	1191	495	960
	120	Jenson Avenue and Church Avenue	190	110	144	34	220
	121	Hamilton Avenue and Butler Avenue	280	90	135	45	330
	122	Butler Avenue and Lane Avenue	370	111	119	8	380
	123	Belmont Avenue and Clinton Avenue	220	688	967	279	500
	124	Shields Avenue and Dakota Avenue	500	624	1357	733	1,230
Temperance Avenue	125	California Avenue and Hamilton Avenue	340	987	2628	1641	1,980
	126	Belmont Avenue and Olive Avenue	720	963	2294	1331	2,050
	127	Shields Avenue and Dakota Avenue	720	1,381	1747	366	1,090
	128	Dakota Avenue and Ashlan Avenue	520	1,579	1901	322	840
	129	McKinley Avenue and Shields Avenue	2,230	1,158	2379	1221	3,450
	130	Kings Canyon Road and SR-180 EB ramps	2,700	1,744	3970	2226	4,930
	131	Butler Avenue and Lowe Avenue	1,830	1,100	2852	1752	3,580
De Wolf Avenue	132	Church Avenue and Butler Avenue	250	Growth applied from nearest adjacent			260
Copper Avenue	133	Friant Road and Millbrook Avenue	600	1,171	1558	387	990
	134	Millbrook Avenue and Cedar Avenue	950	1,114	1789	675	1,630
	135	Cedar Avenue and Maple Avenue	720	1,238	1461	223	940
	136	Maple Avenue and Chestnut Avenue	760	654	809	155	920

Table B: PM Link Volume

Roadway	#	Segment	PM				
			Existing Traffic Volumes	Base Year (2019) Modeled Link Volume	Future Year (2035) Modeled Link Volume	Base to Future Year Modeled Link Volume Change	Future Traffic Volumes
Nees Avenue	137	Audubon Avenue and Millbrook Avenue	1,150	2,246	2603	357	1,510
	138	Cedar Avenue and Maple Avenue	2,020	2,469	2587	118	2,140
	139	Jordan Avenue and Paula Avenue	2,060	1,893	2130	237	2,300
Shepherd Avenue	140	Millbrook Avenue and Cedar Avenue	2,000	1,221	1679	458	2,460
	141	Cedar Avenue and Maple Avenue	2,050	1,078	1764	686	2,740
	142	Chestnut Avenue and Willow Avenue	1,130	997	1908	911	2,040
Audubon Drive	143	Del Mar Avenue and Nees Avenue	1,480	791	958	167	1,650
Alluvial Avenue	144	Mansionette Drive and Pinedale Avenue	1,080	1,127	1251	124	1,200
	145	Pinedale Avenue and Chestnut Avenue	1,210	392	721	329	1,540
	146	Chestnut Avenue and Willow Avenue	1,200	591	826	235	1,440
Herndon Avenue	147	Fruit Avenue and Palm Avenue	4,960	5,082	5497	415	5,380
	148	Blackstone Avenue and SR-41 SB ramps	4,380	5,537	5859	322	4,700
	149	First Street and Cedar Avenue	4,660	3,684	3949	265	4,930
	150	Cedar Avenue and Maple Avenue	2,900	2,407	2566	159	3,060
	151	Fruit Avenue and West Avenue	5,020	Growth applied from nearest adjacent			5,450
	152	Milburn Avenue and Polk Avenue	2,330	2,853	3737	884	3,210
Sierra Avenue	153	Marks Avenue and Van Ness Avenue	460	798	871	73	530
	154	West Avenue and Fruit Avenue	700	844	957	113	810
	155	Throne Avenue and Palm Avenue	700	876	982	106	810
Bullard Avenue	156	Garfield Avenue and Grantland Avenue	50	Growth applied from nearest adjacent			40
	157	Grantland Avenue and Caspian Avenue	210	131	169	38	250
	158	West Avenue and Fruit Avenue	1,750	2,450	2689	239	1,990
	159	Fruit Avenue and Palm Avenue	1,410	2,488	2728	240	1,650
	160	Maroa Avenue and Blackstone Avenue	2,250	2,744	2880	136	2,390
	161	SR-41 NB ramps and Fresno Street	2,620	2,500	2686	186	2,810
	162	First Street and Cedar Avenue	2,370	2,484	2583	99	2,470
Figarden Drive	163	San Jose Avenue and Bullard Avenue	3,490	1,752	2086	334	3,820
Barstow Avenue	164	Garfield Avenue and Grantland Avenue	50	53	127	74	120
	165	Van Ness Boulevard and West Avenue	390	430	793	363	750
	166	Fruit Avenue and Palm Avenue	510	673	934	261	770
Shaw Avenue	167	Garfield Avenue and Grantland Avenue	580	1,114	1794	680	1,260
	168	Bryan Avenue and Hayes Avenue	890	969	1392	423	1,310
	169	Hayes Avenue and Polk Avenue	840	1,128	1387	259	1,100
	170	Brawley Avenue and Marks Avenue	2,940	4,011	4410	399	3,340
	171	West Avenue and Fruit Avenue	3,630	3,803	4213	410	4,040
	172	Maroa Avenue and Blackstone Avenue	5,150	4,202	4619	417	5,570
	173	First Street and Cedar Avenue	3,590	3,406	3622	216	3,810
	174	Fresno Street and First Street	2,900	3,782	3927	145	3,050
	175	SR-99 NB ramps and Cornelia Avenue	2,550	2,742	2917	175	2,920
	176	Cornelia Avenue and Jennifer Avenue	2,550	3,432	3801	369	2,920
Gettysburg Avenue	177	Maple Avenue and Winery Avenue	4,050	1,565	1844	279	4,330

Table B: PM Link Volume

Roadway	#	Segment	PM				
			Existing Traffic Volumes	Base Year (2019) Modeled Link Volume	Future Year (2035) Modeled Link Volume	Base to Future Year Modeled Link Volume Change	Future Traffic Volumes
Ashlan Avenue	178	Bryan Avenue and Hayes Avenue	340	444	680	236	580
	179	Hayes Avenue and Polk Avenue	420	Growth applied from nearest adjacent			720
	180	Cornelia Avenue and Blythe Avenue	2,580	Growth applied from nearest adjacent			4,400
	181	Weber Avenue and Valentine Avenue	2,260	3,325	3605	280	2,540
	182	Fruit Avenue and Palm Avenue	990	1,315	1433	118	1,110
	183	Del Mar Avenue and Blackstone Avenue	1,530	1,387	1484	97	1,630
	184	Fresno Street and First Street	2,340	2,084	2362	278	2,620
	185	Barton Avenue and SR-168 SB ramps	2,970	2,741	2877	136	3,110
	186	SR-168 NB ramps and Chestnut Avenue	2,280	1,579	1701	122	2,400
	187	Palm Avenue and Maroa Avenue	1,000	1,137	1155	18	1,020
	188	Maroa Avenue and Del Mar Avenue	1,160	1,218	1244	26	1,190
	189	SR-99 SB ramps and Golden State Boulevard	2,270	3,325	3605	280	2,550
Dakota Avenue	190	Marks Avenue and Hughes Avenue	1,110	897	899	2	1,170
	191	West Avenue and Fruit Avenue	560	857	913	56	620
	192	First Street and Millbrook Avenue	1,010	1,022	1069	47	1,060
	193	Millbrook Avenue and Cedar Avenue	1,200	823	936	113	1,310
	194	Fruit Avenue and Palm Avenue	630	1,011	1114	103	730
	195	Maroa Avenue and Del Mar Avenue	2,000	657	808	151	2,150
	196	Angus Street and First Street	2,000	855	924	69	2,070
Shields Avenue	197	Garfield Avenue and Grantland Avenue	200	Growth applied from nearest adjacent			240
	198	Grantland Avenue and Bryan Avenue	240	Growth applied from nearest adjacent			250
	199	Brawley Avenue and Valentine Avenue	960	616	640	24	980
	200	Fruit Avenue and Palm Avenue	1,340	2,219	2674	455	1,800
	201	Peach Avenue and Clovis Avenue	1,260	2,130	2391	261	1,520
	202	Clovis Avenue and Fowler Avenue	1,470	1,861	2223	362	1,830
	203	Temperance Avenue and Locan Avenue	570	613	868	255	830
	204	Locan Avenue and De Wolf Avenue	360	450	662	212	570
Clinton Avenue	205	Grantland Avenue and Bryan Avenue	40	Growth applied from nearest adjacent			150
	206	Bryan Avenue and Hayes Avenue	60	137	309	172	230
	207	Hayes Avenue and Polk Avenue	90	186	342	156	250
	208	Polk Avenue and Cornelia Avenue	350	Growth applied from nearest adjacent			380
	209	Blythe Avenue and Brawley Avenue	880	796	870	74	950
	210	Fruit Avenue and Palm Avenue	1,410	1,810	2002	192	1,600
	211	Maroa Avenue and Blackstone Avenue	1,660	2,280	2528	248	1,910
	212	Weber Avenue and West Avenue	2,040	1,913	2298	385	2,430
	213	Valentine Avenue and Marks Avenue	1,130	Growth applied from nearest adjacent			1,220
	214	First Street and Cedar Avenue	980	1,759	1843	84	1,060
	215	Fowler Avenue and Armstrong Avenue	220	307	408	101	320
	216	Armstrong Avenue and Temperance Avenue	170	341	507	166	340
McKinley Avenue	217	Blythe Avenue and Valentine Avenue	560	952	1666	714	1,270
	218	Marks Avenue and Hughes Avenue	740	1,026	1945	919	1,660
	219	Fruit Avenue and Palm Avenue	950	1,982	2342	360	1,310
	220	First Street and Cedar Avenue	1,320	2,198	2350	152	1,470
	221	Peach Avenue and Clovis Avenue	840	1,706	1876	170	1,010

Table B: PM Link Volume

Roadway	#	Segment	PM				
			Existing Traffic Volumes	Base Year (2019) Modeled Link Volume	Future Year (2035) Modeled Link Volume	Base to Future Year Modeled Link Volume Change	Future Traffic Volumes
Olive Avenue	222	Valentine Avenue and Marks Avenue	470	228	431	203	670
	223	SR-99 NB ramps and West Avenue	1,160	1,185	1742	557	1,720
	224	Van Ness Avenue and Blackstone Avenue	840	759	1055	296	1,140
	225	Fresno Street and First Street	900	1,664	1992	328	1,230
	226	Peach Avenue and Clovis Avenue	500	673	773	100	600
Belmont Avenue	227	Polk Avenue and Cornelia Avenue	220	165	725	560	780
	228	Marks Avenue and Hughes Avenue	350	408	850	442	790
	229	Weber Avenue and Palm Avenue	700	1,373	1678	305	1,010
	230	Abby Street and Fresno Street	1,100	1,689	2191	502	1,600
	231	Orchard Street and First Street	1,230	1,567	1895	328	1,560
	232	First Street and Cedar Avenue	1,540	1,604	1975	371	1,910
	233	Willow Avenue and Peach Avenue	870	806	1009	203	1,070
	234	Peach Avenue and Clovis Avenue	550	1,030	1306	276	830
	235	Clovis Avenue and Fowler Avenue	480	1,035	1416	381	860
	236	De Wolf Avenue and Fancher Avenue	420	153	354	201	620
	237	Pacific Avenue and Fruit Avenue	760	509	863	354	1,110
	238	Palm Avenue and Roosevelt Avenue	900	1,466	1949	483	1,380
Divisadero Avenue	239	Roosevelt Avenue and H Street	310	Growth applied from nearest adjacent			390
	240	Fulton Street and Van Ness Avenue	830	713	928	215	1,050
	241	San Pablo Avenue and Glen Avenue	630	559	767	208	840
Fresno Street	242	Herndon Avenue and Palo Alto Avenue	1,460	1,399	1432	33	1,490
	243	SR-99 NB ramps and E Street	1,230	1,367	1788	421	1,650
Tulare Street	244	H Street and Van Ness Avenue	220	984	1253	269	490
	245	Van Ness Avenue and M Street	350	742	1001	259	610
Ventura Street	246	SR-99 NB ramps and G Street	1,060	2,031	2511	480	1,540
	247	G Street and Broadway Street	1,300	2,099	2734	635	1,940
	248	Van Ness Avenue and M Street	830	2,209	2399	190	1,020
	249	SR-41 and First Street	1,760	2,346	2871	525	2,290
California Avenue	250	Marks Avenue and Hughes Avenue	190	212	644	432	620
	251	Hughes Avenue and West Avenue	220	223	771	548	770
Fresno Street	252	California Avenue and SR-99 SB ramps	180	1,244	1881	637	820
Kings Canyon Road	253	Maple Avenue and Chestnut Avenue	1,570	1,478	2061	583	2,150
	254	Chestnut Avenue and Willow Avenue	1,810	2,574	2787	213	2,020
	255	Peach Avenue and Clovis Avenue	2,550	2,109	2605	496	3,050
	256	Clovis Avenue and Fowler Avenue	1,520	1,683	2181	498	2,020
	257	Armstrong Avenue and Temperance Avenue	810	833	1482	649	1,460
	258	Fowler Avenue and Armstrong Avenue	1,640	956	1599	643	2,280
Butler Avenue	259	Hazelwood Boulevard and Orange Avenue	940	931	1087	156	1,100
Church Avenue	260	Marks Avenue and Hughes Avenue	140	30	151	121	260
	261	Orange Avenue and Cedar Avenue	830	950	1135	185	1,020
	262	Cedar Avenue and Maple Avenue	820	1,073	1311	238	1,060
	263	Minnewawa Avenue and Clovis Avenue	610	295	333	38	650

Table B: PM Link Volume

Roadway	#	Segment	PM				
			Existing Traffic Volumes	Base Year (2019) Modeled Link Volume	Future Year (2035) Modeled Link Volume	Base to Future Year Modeled Link Volume Change	Future Traffic Volumes
Jensen Avenue	264	West Avenue and Fruit Avenue	470	828	1197	369	840
	265	Elm Avenue and SR-41 SB ramps	1,290	1,331	1946	615	1,910
	266	Walnut Avenue and MLK Boulevard	500	745	1276	531	1,030
	267	Cedar Avenue and Maple Avenue	1,440	2,170	3544	1374	2,810
	268	Willow Avenue and Peach Avenue	1,150	2,003	3556	1553	2,700
	269	Clovis Avenue and Fowler Avenue	1,130	1,879	2931	1052	2,180
	270	Maple Avenue and Chestnut Avenue	1,070	2,371	3651	1280	2,350
	271	Chestnut Avenue and Willow Avenue	890	2,065	3651	1586	2,480
North Avenue	272	MLK Boulevard and Elm Avenue	480	345	423	78	560
	273	SR-99 NB ramp and Cedar Avenue	660	900	1447	547	1,210
	274	Cedar Avenue and Golden State Boulevard	540	979	1579	600	1,140
	275	Elm Avenue and SR-41 SB ramps	570	641	1392	751	1,320
	276	Cherry Avenue and East Avenue	630	523	892	369	1,000
	277	Maple Avenue and Chestnut Avenue	300	982	1386	404	700
Central Avenue	278	East Avenue and Orange Avenue	170	316	768	452	620
Golden State Boulevard	279	North Avenue and Cedar Avenue	240	1,247	2109	862	1,100
	280	Jensen Avenue and Church Avenue	610	1,342	1671	329	940
	281	Shaw Avenue and Swift Avenue	1,020	1,451	2315	864	1,880
	282	Motel Drive and Ashlan Avenue	1,020	926	1476	550	1,570